



Peirce Island WWTF Upgrade Construction  
Public Information Meeting  
January 20, 2021

# Topics of Discussion

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- Introductions
- Work Completed Since Last Meeting
- Work to be Completed in Coming Month
- Work Anticipated in Next 6 Months
- Project Construction Costs
- Project Schedule
- Effluent Results
- Events & Recreation
- Force Main Update
- Public Input/Comments/Concerns
- Next Meeting



# Introductions

- City Staff:

- Terry Desmarais, City Engineer, 603-766-1421  
tldesmarais@cityofportsmouth.com

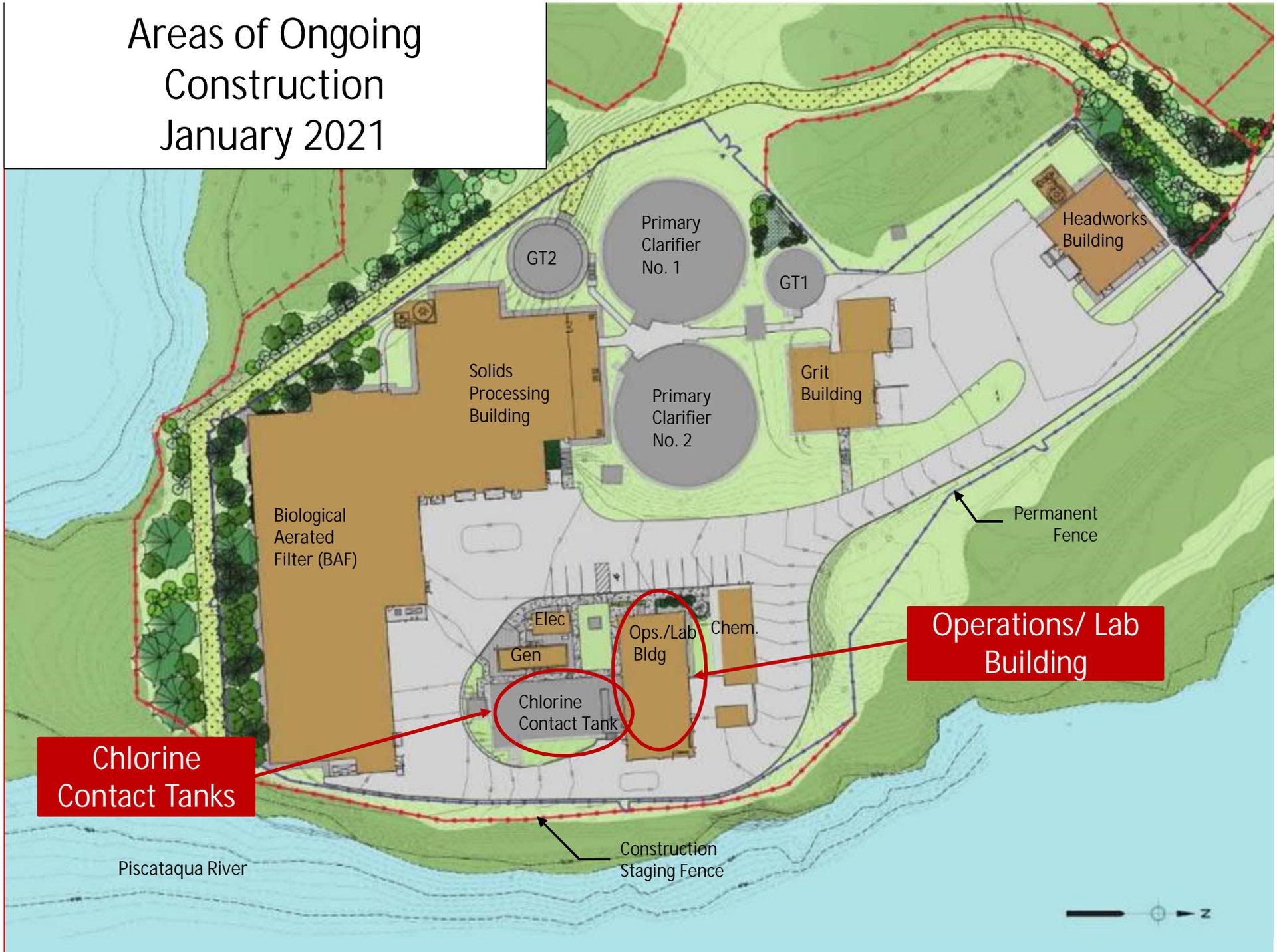
- Website:

<https://www.cityofportsmouth.com/publicworks/wastewater/peirce-island-wastewater-facility/peirce-island-wastewater-facility-upgrade-project>

- News and Updates
- Recreational Info
- Project Info
- Report Form
- Etc.



# Areas of Ongoing Construction January 2021



# Site Overview November 2016



January 20, 2021



Peirce Island WWTF Upgrade Construction

5

# Work Completed Since Last Meeting



Chlorine  
Contact Tanks

Operations/Lab  
Building

January 20, 2021



Peirce Island WWTF Upgrade Construction

# Work Completed Since Last Meeting



Ops/Lab Building

January 20, 2021



Peirce Island WWTF Upgrade Construction

# Work Completed Since Last Meeting



Ops/Lab Building

January 20, 2021



Peirce Island WWTF Upgrade Construction

# Work Completed Since Last Meeting



Ops/Lab Building

January 20, 2021



Peirce Island WWTF Upgrade Construction

9

# Work Completed Since Last Meeting



Ops/Lab Building

January 20, 2021



Peirce Island WWTF Upgrade Construction

10

# Work Completed Since Last Meeting



Ops/Lab Building

January 20, 2021



Peirce Island WWTF Upgrade Construction

11

# Work Completed Since Last Meeting



Ops/Lab Building

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Peirce Island WWTF Upgrade Construction

12

# Work Completed Since Last Meeting



Ops/Lab Building



# Work Completed Since Last Meeting



Chlorine Contact Tanks



# Work to be Completed in Coming Month

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- Continue minor finish work at the Grit Building, Solids Building, and BAF Building
- Continue optimization of the BAF Building process
- Continue integration of the BAF control system with the plant's SCADA system
- Complete installation of architectural finishes, laboratory equipment, laboratory wiremold, and acoustic ceiling tiles at the Operations/Lab Building



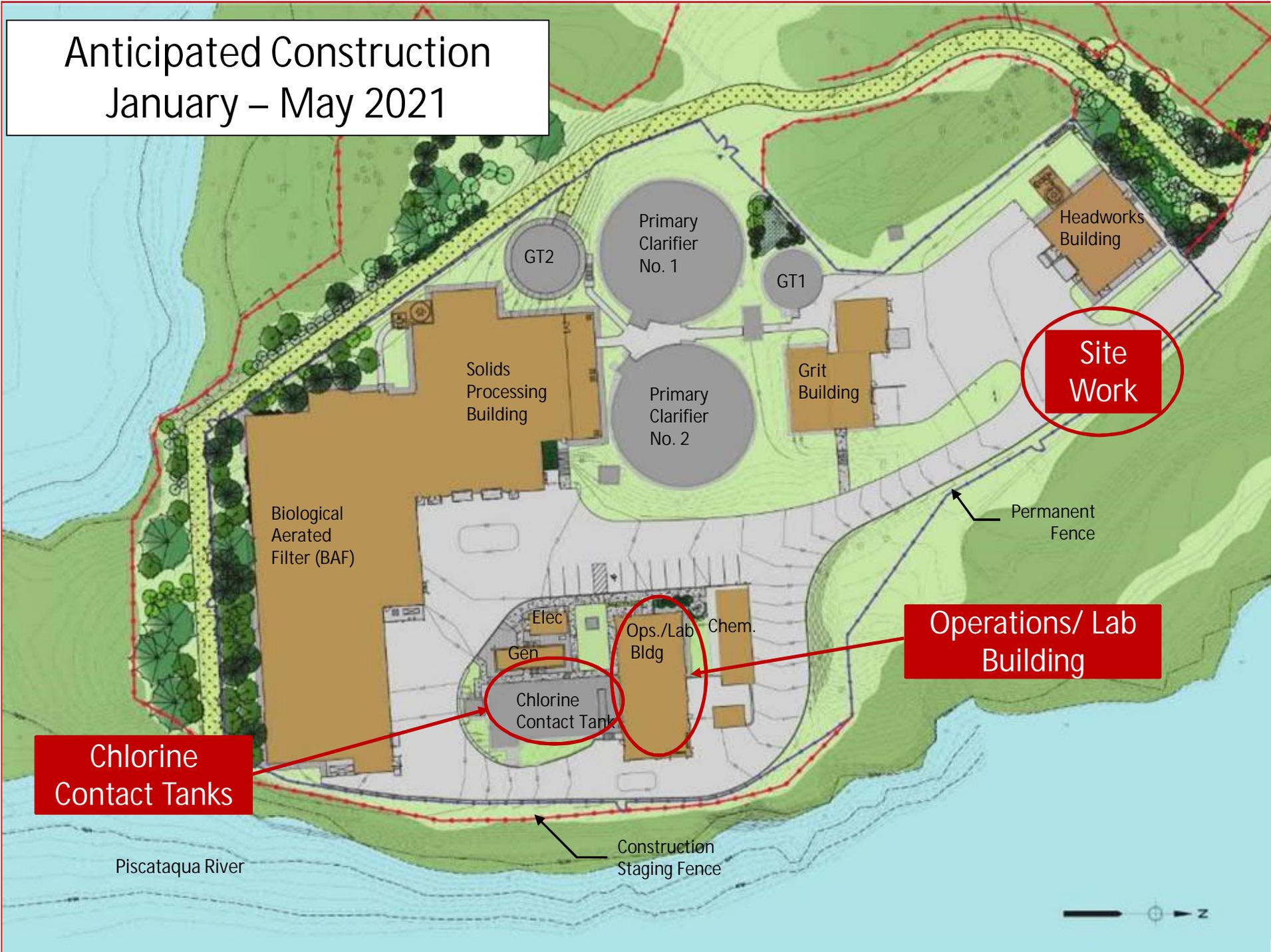
# Work to be Completed in Coming Month

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- Continue HVAC, plumbing, fire protection and electrical finish work in the Operations/Lab Building
- Continue chlorine analyzer work at the Chlorine Contact Tanks
- Continue site cleanup, removal of materials and equipment, and demobilization



Anticipated Construction  
January – May 2021



Site Work

Operations/ Lab Building

Chlorine Contact Tanks

Piscataqua River

Construction Staging Fence

Permanent Fence

# Project Construction Costs

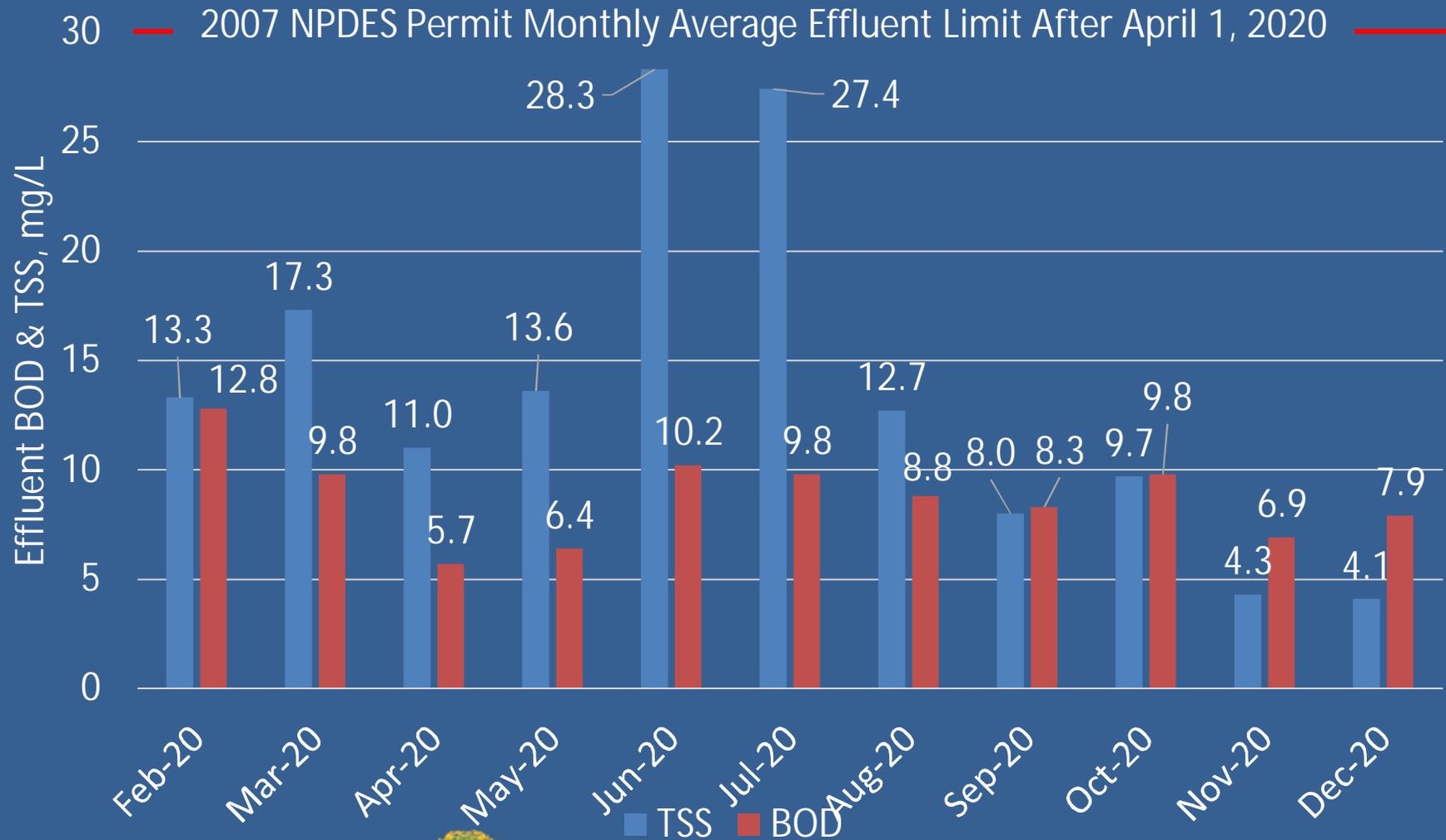
- Original Contract: \$72.786 million
  - Change Order No. 1: \$0.367 million
  - Change Order No. 2: \$0.547 million
  - Change Order No. 3: \$0.093 million
  - Change Order No. 4: \$0.163 million
  - Change Order No. 5: \$0.250 million
  - Change Order No. 6: \$0.292 million
  - Change Order No. 7: \$0.169 million
  - Change Order No. 8: \$0.113 million
  - Change Order No. 9: \$0.242 million
  - Change Order No. 10: \$0.123 million
  - Change Order No. 11: \$0.139 million
- Total Contract: \$75.284 million



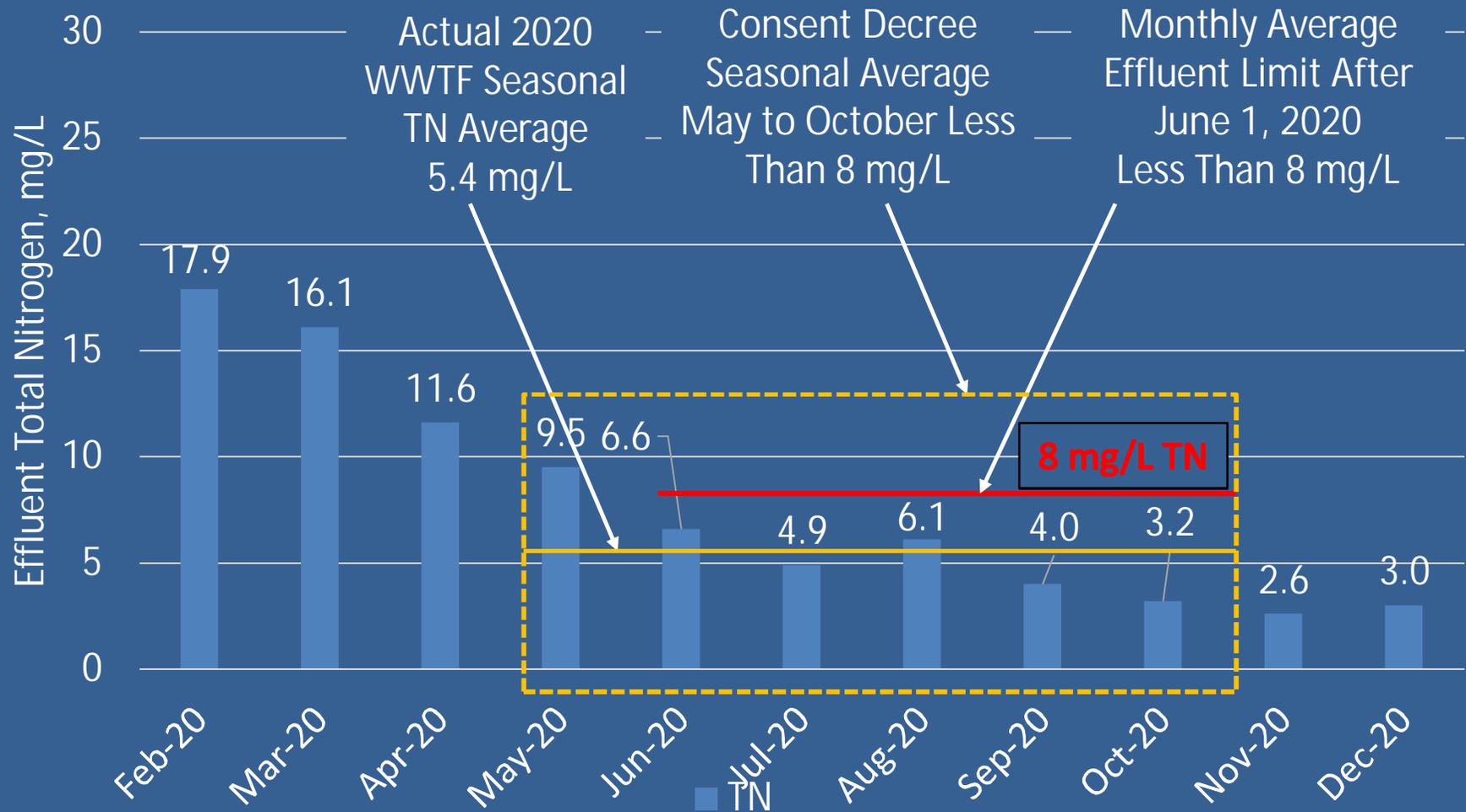
# Project Schedule

Milestone	Date	Status
Execute Contract to Construct Upgrades	September 1, 2016	Complete
Submit Two Additional Milestones for EPA Review and Approval	December 1, 2016	Complete
Additional Milestone 1: Transfer of the existing SCADA system to the new Headworks Building	November 21, 2017	Complete
Additional Milestone 2: Startup and testing of the Secondary Influent Pump Station in the new Solids Building	May 9, 2019	Complete
BAF Substantial Completion	<del>December 1, 2019</del> December 31, 2019	Complete
Achieve Compliance with 2007 NPDES Permit Limits	April 1, 2020	Complete
Achieve Compliance with Consent Decree Total Nitrogen Limits	June 1, 2020	Complete
Project Substantial Completion	<del>June 29, 2020</del> Tentatively Feb 13, 2021	In Progress
Project Final Completion	<del>September 29, 2020</del> Tentatively May 22, 2021	In Progress

# Effluent Results



# Effluent Results



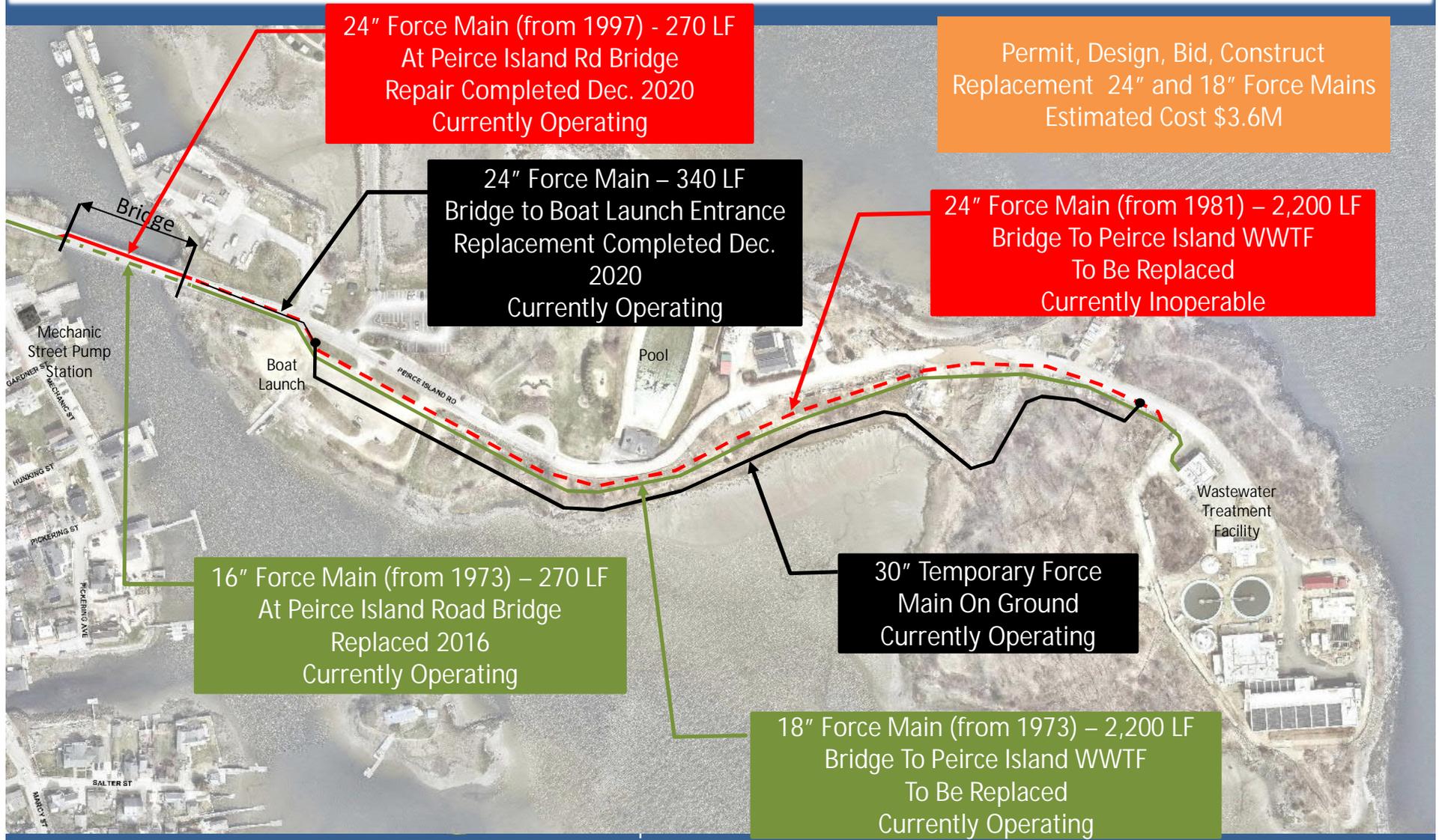
# Events and Recreation

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- Upcoming
  - No events scheduled.



# \$3.6M Bond for Force Mains From Mechanic Street Wastewater Pump Station to Peirce Island WWTF





Public Input / Comments / Concerns

# Next Meeting

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- Public Construction Meeting
  - Next Meeting: February 17, 2021 11:00 AM



## Meeting Notes

Subject	Peirce Island WWTF Upgrade – Monthly Public Construction Meeting
Date	January 20, 2021
Time	11:00 AM
Location	Portsmouth, NH

Due to the Coronavirus (COVID-19) State of Emergency, the January 20, 2021 public meeting was held live at 11:00 AM over a Zoom video call. A record of the discussion follows:

Terry Desmarais, City Engineer, gave an introduction to the meeting and outlined the topics of discussion, including work completed since the last meeting, work to be completed in the coming month, work anticipated in the next six months, construction cost to date, project schedule, effluent results, events and recreation, and force main update.

The members of the Project Team in attendance introduced themselves, and included:

- Terry Desmarais, City Engineer
- Jon Pearson, AECOM Project Manager

Terry noted that to obtain additional information regarding the project, there is a project website that can be accessed through [www.cityofportsmouth.com/publicworks/wastewater/peirce-island-wastewater-facility/peirce-island-wastewater-facility-upgrade-project](http://www.cityofportsmouth.com/publicworks/wastewater/peirce-island-wastewater-facility/peirce-island-wastewater-facility-upgrade-project). The website is updated weekly with news and recreational information and contains a link to a reporting form that can be used to provide feedback or notify the City of any issues associated with the project. Terry Desmarais, City Engineer, is the point of contact for the City.

Jon discussed work that has been completed this month. He noted areas where work is ongoing at the site, including:

- Existing Sludge Processing / New Operations/Lab Building
- Chlorine Contact Tanks

Jon reviewed photos of construction progress, including:

- Site Overview – Existing conditions of the Peirce Island Wastewater Treatment Facility in November 2016. Prior to construction, the treatment process consisted of the Aerated Grit Chambers, followed by the Primary Clarifiers and Chlorine Contact Tanks.
- Existing Sludge Processing Building/New Operations/Lab Building – The last major building at the site that is under construction is the conversion of the existing Sludge Processing Building to the new Operations/Lab Building. On the Upper Level, installation of the flooring is continuing. In the Laboratory, the new cabinetry and counter tops have been installed. Installation of mechanical, electrical, and plumbing equipment in the laboratory is underway. HVAC and fire protection equipment throughout the building is being installed. The suspended ceiling grid has been

installed throughout the Upper Level. In the Lower Level, mechanical, electrical, and plumbing equipment installation is continuing.

- Chlorine Contact Tanks – The chlorine residual analyzers have been installed and the sample pumps have been mounted.

Jon discussed work anticipated for the coming month, including:

- Continue minor finish work at the Grit Building, Solids Building, and BAF Building.
- Continue optimization of the BAF Building process.
- Continue integration of the BAF control system with the plant's SCADA system.
- Complete installation of architectural features, laboratory equipment, laboratory wire mold, and acoustic ceiling tiles at the Operations/Lab Building.
- Continue HVAC, electrical, plumbing and fire protection finish work in the new Operations/Lab Building.
- Continue chlorine analyzer work at the Chlorine Contact Tanks.
- Continue site cleanup, removal of materials and equipment, and demobilization.

Jon then discussed the work anticipated through January and through May 2021 includes:

- Grit Building – Complete minor punch-list items.
- BAF Building – Complete minor punch-list items.
- Solids Building – Complete minor punch-list items.
- Existing Sludge / New Operations/Lab Building – Complete installation of all mechanical, electrical, plumbing, fire protection, mechanical process and chemical systems. Complete installation of all stairs and railings, including those at the Chlorine Contact Tanks. Once the building is complete, including punch-list items, relocate City operations staff from the temporary trailers into the new Operations/Lab Building.
- Chlorine Contact Tanks – Complete installation of the sample pumps and analyzers.
- Primary Clarifiers – Complete installation of grating at the Primary Clarifier Effluent Distribution box.
- Site Work – Complete spring maintenance of plants and seeded areas and complete site restoration.

Jon provided an update on the project construction cost:

- Original Contract: \$72.786 million
- Change Order No. 1: \$0.367 million
- Change Order No. 2: \$0.547 million
- Change Order No. 3: \$0.093 million
- Change Order No. 4: \$0.163 million
- Change Order No. 5: \$0.250 million
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- Change Order No. 11: \$0.139 million
- Total Contract: \$75.284 million

Jon provided a summary of the project milestones set by the Consent Decree and project schedule:

- Execute Contract for Construction Upgrades - Date: 9/1/2016 - Status: Complete
  - Submit Two Additional Milestones for EPA Review and Approval - Date: 12/1/2016 - Status: Complete
  - Additional Milestone 1: Transfer of the Existing SCADA system to the New Headworks Building - Date: 11/21/2017 - Status: Complete
  - Additional Milestone 2: Startup and Testing of the Secondary Influent Pump Station in the New Solids Building - Date: 5/9/2019 - Status: Complete
  - BAF Substantial Completion - Date: ~~4/24/2019~~ 12/31/2019 - Status: Complete
  - Achieve Compliance with NPDES Permit Limits - Date: 4/1/2020 - Status: Complete
  - Achieve Compliance with Consent Decree Total Nitrogen Limits\* - Date: June 1, 2020 – Status: Complete
  - Project Substantial Completion – Date: ~~6/29/2020~~ Tentative 2/13/2021 - Status: In progress
  - Project Final Completion – Date: ~~9/29/2020~~ Tentative 5/22/2021 - Status: In progress
- \*Seasonal Limit: May through October

Jon noted that all Consent Decree milestones were met. The Project Substantial and Final Competition milestones are not a part of the Consent Decree.

Jon provided a description of the NPDES permit limits and Consent Decree total nitrogen limits. Effluent limits for total suspended solids (TSS) and biological oxygen demand (BOD) are regulated by the NPDES permit. The monthly average limit for both constituents in the plant effluent is 30 mg/L. These limits took effect April 1<sup>st</sup>. The monthly average of effluent BOD and TSS for February – December were presented and the effluent concentrations of the two constituents were well below the limit. See the table below for a summary.

<b>Peirce Island TSS and BOD Effluent Results</b>		
	<b>TSS</b>	<b>BOD</b>
<b>2007 NPDES Permit Monthly Average Effluent Limit After April 1, 2020 (mg/L)</b>	30	30
<b>Recorded Monthly Average, February (mg/L)</b>	13.3	12.8
<b>Recorded Monthly Average, March (mg/L)</b>	17.3	9.8
<b>Recorded Monthly Average, April (mg/L)</b>	11	5.7
<b>Recorded Monthly Average, May (mg/L)</b>	13.6	6.4
<b>Recorded Monthly Average, June (mg/L)</b>	28.3	10.2
<b>Recorded Monthly Average, July (mg/L)</b>	27.4	9.8
<b>Recorded Monthly Average, August (mg/L)</b>	12.7	8.8
<b>Recorded Monthly Average, September (mg/L)</b>	8.0	8.3
<b>Recorded Monthly Average, October (mg/L)</b>	9.7	9.8
<b>Recorded Monthly Average, November (mg/L)</b>	4.3	6.9
<b>Recorded Monthly Average, December (mg/L)</b>	4.1	7.9

As a requirement of the NPDES permit, samples of the WWTF effluent are taken 2-3 times a week and the BOD and TSS concentrations documented. The average concentration of all the samples taken per month is the monthly average that is reported to the NHDES and USEPA. The City is required to submit reports on the Peirce Island WWTF monthly averages on the 15<sup>th</sup> the following month. Thus, reporting for the month of January will not be issued until February 15<sup>th</sup>.

Jon proceeded to present the effluent results for total nitrogen (TN) over the months of February – December. The Consent Decree states that the seasonal monthly average (May thru October) for total nitrogen in the effluent be 8.0 mg/L or less. The data for the month of December has been collected and the TN effluent concentration was below the permit limit set by the Consent Decree. Data for the 2020 season has been collected and the actual WWTF seasonal TN effluent average was 5.4 mg/L, below the Consent Decree permit limit. See the table below for a summary of TN Effluent data.

<b>Peirce Island TN Effluent Results</b>	
	<b>TN</b>
<b>Consent Decree Seasonal Monthly Average Effluent Limit (mg/L)</b>	8
<b>Recorded Monthly Average, February (mg/L)</b>	17.9
<b>Recorded Monthly Average, March (mg/L)</b>	16.1
<b>Recorded Monthly Average, April (mg/L)</b>	11.6
<b>Recorded Monthly Average, May (mg/L)</b>	9.5
<b>Recorded Monthly Average, June (mg/L)</b>	6.6
<b>Recorded Monthly Average, July (mg/L)</b>	4.9
<b>Recorded Monthly Average, August (mg/L)</b>	6.1
<b>Recorded Monthly Average, September (mg/L)</b>	4.0
<b>Recorded Monthly Average, October (mg/L)</b>	3.2
<b>Recorded Monthly Average, November (mg/L)</b>	2.6
<b>Recorded Monthly Average, December (mg/L)</b>	3.0
<b>Actual 2020 WWTF Seasonal TN Effluent Average (May – Oct)</b>	5.4

The project team is continuing to coordinate construction with community events, however due to the Coronavirus (COVID-19) State of Emergency, there are no community events scheduled at this time.

Terry provided a description of the ongoing work for the Mechanic Street Wastewater Pump Station force mains. It was previously identified that the force mains that convey wastewater from the Mechanic Street Pump Station to the Peirce Island WWTF require repair and replacement. This work is not a part of the ongoing construction contract work at the WWTF. In May of 2020, the 24" force main that runs under the Peirce Island Road Bridge was discovered to be in need of repair. That repair work has been completed, and included the replacement of a section of the buried 24" force main that extends from the Peirce Island Bridge to the Boat Launch. The buried portion of the 24" force main that runs from the Boat Launch to the WWTF is currently inoperable and is in need of replacement due to its condition and age. In addition, the parallel 18" force main that runs underground is planned to be replaced due to its age, however, it is still in operation. In order to maintain flow conveyance capacity until the 24" and 18" force mains can be replaced under a separate construction contract, a 30" temporary force main has been installed above ground along Peirce Island Road, beginning at the Boat Launch parking area and continuing to the WWTF. It is anticipated that access to the boat launch will be impacted for approximately 6-9 months. The work to install the 30" temporary force main has been completed and the temporary force main is in operation. The City Council has authorized a \$3.6M bond for the replacement of the 24" and 18" force mains that run underground from the Boat Launch to the WWTF. The design and permitting process for this replacement is being expedited.



The meeting was opened to public input and comments, however, there were no additional attendees to the live video conference. Terry noted if there are questions, they can be submitted to him via email and responses will be provided.

The next public construction meeting will be February 17, 2021 at 11:00 AM. Whether the Public Meeting is held in person or via a video conference is to be determined prior to the next meeting.

These notes present a summary of the discussion that was held.