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Meeting Notes

Subject	Peirce Island WWTF Upgrade – Monthly Public Construction Meeting
Date	December 20, 2017
Time	11:00 AM
Location	Portsmouth, NH

A public meeting was held at 11:00 AM on December 20, 2017 in Conference Room A at Portsmouth City Hall for the subject project. 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, summary of Consent Decree milestones, events and recreation, and public input.

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

- Terry Desmarais, City Engineer
- Erik Meserve, AECOM Project Engineer
- Robert Dahlinghaus, AECOM Resident Representative

Terry noted that the Contractor's representative was not present due to illness.

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. 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.

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

- Headworks Building
- Yard Piping / Utility Service
- Grit Building
- Gravity Thickener No. 2
- New Solids Building
- Electrical Facilities
- Biological Aerated Filter (BAF) Building

Erik reviewed photos of construction progress, including:

- Headworks Building – Interior: HVAC, electrical, and mechanical process work is in progress, work to install the control panels in the electrical room and connect them to the electrical and communication system is in progress, and work to install the manual jib crane in the screen room has been completed. Exterior: work to complete installation of the HVAC system and miscellaneous metal components such as ladders and hatches is in progress. Grading and binder course paving of area between the Headworks Building and the Grit Building has been completed.
- Grit Building – Interior: work to construct the concrete masonry unit (CMU) partition walls is in progress, selective demolition of equipment and piping is in progress, and preparation for new electrical wiring and conduit is in progress. Exterior: roof work for HVAC accommodations is in progress.
- Underground Piping and Utility Services – Installation of Sanitary Pump Station No. 1, the associated valve vault, and the interconnecting piping has been completed and both structures have been backfilled. Underground yard piping beneath the Solids Building is in progress as well as underground piping and ductbank work around the site.
- BAF Building – Reinforcing, formwork, and concrete placement for the elevated slabs, columns, above ground walls, and cell walls is in progress. Installation of the precast nozzle decks for one of the cells has been completed. Backfilling of the leaked tested tanks is progress.
- Electrical Facilities – Final installation tasks for the new stand-by diesel generator are being completed by the Contractor and the Department of Environmental Services has completed its required inspection. Work to put the transformer and switchgear in service is in progress.
- Gravity Thickener No. 2 / Temporary Sludge Pumps – Work to construct and install the dome cover for Gravity Thickener No. 2 has been completed, work to put the primary sludge pumps that were relocated into the structure into service has been completed, work to remove the temporary primary sludge pump system has been completed, and heat tracing and insulation of associated piping is in progress.

Erik discussed work anticipated for the coming month, including:

- Continue interior work in the Headworks Building, including doors, windows, mechanical, HVAC, plumbing, and electrical work.
- Continue selective demolition and modifications (structural, mechanical process, HVAC, plumbing, and electrical) in the Grit Building.
- Continue reinforcing, formwork, and concrete placement for the BAF Building elevated slabs, columns and walls.
- Continue installation of utilities under the new Solids Building.
- Installation of slide gates in the Primary Effluent Distribution Box.
- Begin reinforcing, formwork, and concrete placement for the Solids Building foundation.
- Continue interior work at the new Electrical Building.
- Energize new transformer, switchgear, and the stand-by generator.
- Continue installation of the temporary primary sludge pump station in Gravity Thickener No. 2.
- Continue underground piping installation near the Grit Building.

Erik then discussed the work anticipated through the end of the 2017 calendar year and into May 2018, including:

- Headworks Building – Complete all work in and around the Headworks Building, including but not limited to, exterior envelope work, exterior mechanical work on the roof, and installation of process piping and equipment, odor control piping and equipment, HVAC, and plumbing. Complete testing, training, and turnover activities so that the building can be put into service and turned over to the City.
- Grit Building – Interior: Continue selective architectural, structural and mechanical process modifications, complete installation of new ferric chloride chemical system, continue installation of interior mechanical process equipment and piping, electrical control equipment, including the Motor Control Center, and the fire alarm equipment and wiring. Exterior: complete work on the new roof and yard piping associated with the building.
- Gravity Thickener No. 2 – Continue work on permanent yard piping associated with Gravity Thickener No. 2 and complete installation of the temporary primary sludge pump station.
- Electrical Facilities – Complete installation of HVAC and fire alarm equipment, transfer power to the new underground electrical system, remove the existing temporary overhead electrical system, and continue to extend the electrical and communication ductbanks towards the BAF Solids Buildings.
- BAF Building – Continue reinforcement, formwork, and concrete placement for the elevated slabs, walls, and columns. Continue installation of process piping and equipment, installation of precast channel covers and nozzle decks, and backfilling around the building. Begin installation of CMU walls on both ends of the building for the stairways, installation of electrical and plumbing systems, and installation of yard piping.
- Solids Building – Complete work on underground piping, plumbing, and electrical work for the new Solids Building. Begin reinforcement, formwork, and concrete placement for the foundation, walls, and columns, and begin work on interior process piping. Continue work on piping at the adjacent Sanitary Pump Station No. 1 and valve vault.
- Underground Piping and Utility Services – Complete installation of the new 36” pipe between Clarifier No. 1 and the Primary Clarifier Effluent Distribution Box.
- Complete installation of slide gates at the Primary Clarifier Effluent Distribution Box adjacent to the Solids Building.

Erik 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
- Total Contract: $73.793 million

Terry noted that Change Order No. 4 is currently in review and will likely be approved by the next public meeting.

Erik provided a summary of the project milestones set by the Consent Decree:

- Execute Contract to Construction Upgrades - Date: 9/1/2016 - Status: Complete
- Submit Two Additional Millstones 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: On Schedule
- BAF Substantial Completion - Date: 12/1/2019 - Status: On Schedule
- Achieve Compliance with NPDES Permit Limits - Date: 4/1/2020 - Status: On Schedule

Erik noted that the project team is continuing to coordinate construction with community events. Upcoming events this month include the First Night and Strawbery Banke Events. In addition, there will be no work on site on Christmas Day or New Year's Day.

A question and answer session then occurred, and is summarized below:

Paige Trace asked the following:

Q: In the first photograph of the Work Completed Since Last Meeting (slide 5), looking at the BAF Building, are there 6 cells being shown?
A: Erik and Terry stated that the BAF Building does have 6 cells per stage and that there are 2 stages. Stage 1 is the carbon removal and nitrification stage where ammonia is converted to nitrites and then nitrates. Stage 2 is the denitrification stage where the nitrates are then reduced to nitrogen gas, allowing the converted nitrogen to exit the system and wastewater. In the photo on the presentation, you can see the Stage 1 cells with one being covered, three being exposed with concrete walls separating them and the tie wall shown, and two with concrete reinforcing work exposed as the concrete for the cell walls has not been poured. Later in the construction process the Stage 2 cells will be built adjacent to the Stage 1 cells and they will be smaller in size.

Q: Will the BAF system will run with 5 cells online and 1 offline?
A: Erik confirmed that the BAF system was designed to have 5 cells online with 1 cell on standby.

Q: Slide 8 of the presentation, Work Completed Since Last Meeting, shows work on the Sanitary Pump station No. 1, can you further describe the function of the pump station?
A: Erik noted that Sanitary Pump Station No. 1 primarily pumps wastewater that was removed from the sludge during the sludge dewatering process to the Headworks Building influent channel for treatment. In addition, the pump station pumps wastewater from the bathroom facilities inside the Solids Building to the Headworks Building. What is shown in the photo is the pump station structure and valve vault. Terry noted that in wastewater treatment facilities there are various recycle/return lines that return wastewater or sludge to upstream portions of the facility where they will undergo treatment again.

Q: When do you anticipate the partial demolition of the Operations/Lab Building?
A: Terry said that the partial demolition will occur during the year 2019/2020.

Q: As a follow up, Ms. Trace wanted to know whether or not the partial demolition of the Operations/Lab Building will occur under the Consent Decree schedule.

A: Terry noted that although the partial demolition is set after the Consent Decree deadline for the substantial completion of the BAF Building, the contractor is still obligated to complete other tasks and requirements set under the contract to complete the entire WWTF upgrade. The anticipated work schedule has been created so that work in the Operations/Lab Building will take place after the substantial completion of the BAF Building because the Operations/Lab Building currently contains the sludge handling process for the WWTF. This process must stay intact until the new Solids Building has been completed and is operational. The new solids handling process must be functional and then the existing sludge handling processes in the building that becomes the Operations/Lab Building can be removed.

Q: If the BAF system has an operational issue during the start-up, will incoming wastewater to the WWTF still undergo some level of treatment?
A: Terry stated that during the ongoing construction and after the BAF system has been brought online, the current treatment processes will remain in place, which includes the primary clarifiers, the chemical system for Chemically Enhanced Primary Treatment, and the disinfection process. In the event that the BAF system is nonoperational, wastewater will still be able to be treated to the same level that it is treated to today.

Q: Can you describe what items and cost changes are included in the draft of Change Order No. 4?
A: Terry noted that he did not have the specifics on the change order during the meeting but once it is approved, the details will be released. As mentioned in previous meetings, during the course of the project construction phase and shop drawing review, the anticipated cost of items can fluctuate either in a positive or negative way due to needs changing throughout the project.

Peter Whalen asked the following:

Q: Mr. Whalen asked for further details regarding the construction of the precast nozzle decks to be placed in the BAF cells.
A: Erik and Terry noted that Kruger, the manufacturer of the BAF system, has sent specifications to the precast concrete company they have subcontracted with to manufacture the nozzle decks. The specifications detail the dimensions of the nozzle decks and how to properly ship and store them. In addition, there is a Kruger representative onsite to observe the proper handling of the nozzle decks. The cells and nozzle decks have all been designed so that they fit together and work properly.

Q: What part of the treatment process is the BAF Stage 2 responsible for?
A: Terry noted that the BAF Stage 2 cells are one step of the BAF system (secondary treatment process) and the denitrification step will occur within the cells. The BAF Stage 1 cells are where carbon removal and nitrification will occur. The BAF Stage 2 cells are smaller in size compared to the BAF Stage 1 cells because denitrification does not take as long to occur as nitrification and carbon removal, therefore the cells are smaller. The media that will be inside the cells will not be delivered to the site until the cells have been completed.

The next public construction meeting will be on January 17, 2018 at 11:00 AM in Conference Room A at Portsmouth City Hall.