August 2019 Monthly Report

BJCJSTP Rehabilitation and Restoration Project

The following projects are either nearing completion, in construction, or in the planning stage.

Contract No.	Description	Consent Order Milestone	Status
Contract No. 1	Compost Facility Demolition	Complete	Complete
Contract No. 2	FEMA Mechanical	Complete	Complete
Contract No. 3	BAF Facility Demolition	Complete	Complete
Contract No. 4	MCC HH Emergency Replacement	Complete	Complete
Contract No. 5	BAF Restoration and Rehabilitation Civil Contract	Projected Phase 1 Substantial Completion August 31, 2019. Projected Phase 2 Substantial Completion January 1, 2020.	Projected Phase 1 Substantial Completion August 31, 2019 achieved. Projected Phase 2 Substantial Completion January 2020.
Contract No. 6	BAF Electrical	Projected Phase 1 Substantial Completion August 31, 2019. Projected Phase 2 Substantial Completion January 1, 2020.	Projected Phase 1 Substantial Completion August 31, 2019 achieved. Projected Phase 2 Substantial Completion January 2020.
Contract No. 7	BAF HVAC	Projected Phase 1 Substantial Completion August 31, 2019. Projected Phase 2 Substantial Completion January 1, 2020.	Projected Phase 1 Substantial Completion August 31, 2019 achieved. Projected Phase 2 Substantial Completion January 2020.
Contract No. 8	BAF Plumbing	Projected Phase 1 Substantial Completion August 31, 2019. Projected Phase 2 Substantial Completion January 1, 2020.	Projected Phase 1 Substantial Completion August 31, 2019 achieved. Projected Phase 2 Substantial

	3		Completion January 2020.
Contract No. 9	Secant Pile Contract	Complete	Complete
		Substantial Completion	Substantial Completion
	Renovation Civil	#1 – June 30, 2020;	#1 – June 30, 2020;
		Substantial Completion	Substantial Completion
		#2 – June 30, 2020;	#2 – June 30, 2020;
	Substantial Comple		Substantial Completion
#3 – June 30		#3 – June 30, 2020; Final	#3 – June 30, 2020; Final
		Completion - August 30,	Completion - August 30,
		2020.	2020.
Contract No. 11	ontract No. 11 Solids Handling See Contract #10		See Contract #10
	Electrical	Completion Dates	Completion Dates
Contract No. 12	Contract No. 12 Solids Handling See Contract #10		See Contract #10
	HVAC	Completion Dates	Completion Dates
Contract No. 13	Solids Handling	See Contract #10	See Contract #10
	Plumbing	Completion Dates	Completion Dates
Floodwall	Floodwall and New		Complete March 1, 2019.
	Diversion Structure		

Contract Descriptions

Contract No. 1 - Compost Facility Demolition

Demolition of the upper portion of the compost facility was performed to accommodate the construction of the new Administration Building to house the plant staff as well as provide the new control room to operate the new facilities. Demolition of the lower portion of the Compost Building cleared the way for the construction of a new maintenance facility.

Contract Status: 100% Complete - Contract Closed

Contract No. 2 - FEMA Mechanical

The FEMA Mechanical Project replaces valves, equipment and other miscellaneous items damaged in the 2011 flood. It includes equipment in both the East and West Primary Sludge Pumping Stations, valves and equipment located in the Head House, and equipment associated with Sludge Thickener Pumping Station Nos. 1 and 2. The cost of the work associated with this contract is being reimbursed by FEMA due to the flood of 2011.

Status: Blue Heron has completed all of the work not deleted by change. The elutriate pumps were deleted from the scope of work and will be performed under Contract #5.

Contract Status: 100% Complete - Contract Closed

Contract No. 3 - BAF Facility Demolition

The BAF Demolition Contract removed the existing structures and utilities that conflict with the new construction work included in the BAF Rehabilitation and Restoration Project. Demolition efforts included selective demolition in the existing process tanks (C-Filters, N-Filters, and DN-Filters), buildings, mechanical equipment, and piping to ready the site for new construction.

Contract Status: 100% Complete - Contract Closed

Contract No. 4 - MCC - HH Emergency Replacement

Contract No. 4 replaced the original existing Motor Control Center (MCC) in the Head House (HH). The MCC is 50 years old and is identified as MCC-HH. The contract was bid as an emergency contract because the electrical system in the Head House was both critical to keeping the BJCJSTP in service, and because the original MCC was extremely unreliable due to the age and deteriorated condition of the gear. MCC HH Emergency replacement also replaced the existing raw sewage pump drives of the existing 50 year old equipment including new electrical feeders from the HH to the Johnson City Grit House No. 1, a new feeder from the HH to the Thickened Sludge Pump Station No. 1, and various other panel boards. The emergency work also included replacement of the existing raw sewage variable frequency drives that were located in the existing MCC HH. The new drives installed are more reliable, more efficient, and will provide better performance of the existing raw sewage pumps.

Status: All work on the MCC- HH project has been completed.

Contract Status: 100% Complete

Contract No. 5 - BAF Restoration and Rehabilitation Civil Contract

When combined with the other BAF contracts (Nos. 6, 7 & 8), Contract No. 5, the General Civil Contract, is intended to provide a functioning automated plant using a BIOSTYR system that can be modified to fit current plant configurations. It is also intended to provide functioning automated headworks and primary clarification processes upstream of the BIOSTYR system and solid handling processes downstream of the BIOSTYR system.

Major components of the work under Contract No. 5 include new coarse screens and ancillary equipment, new piping and valves for the influent pumps, new metering equipment, new fine screens and grit removal with ancillary equipment, a new primary distribution box, new mechanical equipment for primary clarifiers 1-10, new chemical equipment for primary treatment, new Chemical Storage Building, modification of the primary clarifier structural components to replace the aged and deteriorated mechanical equipment, new secondary influent pumps for the new BAF system, a new BAF backwash tank, new CN-BAF and DN-BAF facilities, a new methanol system that will feed the DN-BAF cells, new Ultra Violet Light disinfection system to replace the existing chlorine disinfection system, new sludge thickening equipment and systems, a new Administration Building, new odor control equipment, two new 2MW electric generators, and a new plant outfall to the river.

Status: PC completed construction of the secondary process treatment sufficiently to comply with August 31, 2019 Milestone deadline included in the Consent Order. Flow was being processed through PST 7-10, SIPS, CN Cells 1-8, DN Cells, UV, and Chlorine Contact #2. Methanol is not needed for at least two weeks, and BAF Backwash Treatment was not needed due to the lack of solids to remove from CN Cells 1-8 and DN Cells. All concrete is complete for Phase 2 CN Cells 9-14. This leaves them with about 75 CY of structural concrete to place for the project. This represents no significant change for August for concrete work. PC performed little concrete work due to the focus to meet the August 31, 2019 deadline.

Kruger has completed the functional demonstration test for CN 1-8, DN, UV, BAF Backwash Treatment, and BAF Backwash Tanks. PST's 7-10, SIPS, CN Cells 1-8, DN, and UV are capable of running in the automatic mode. Kruger continues to verify the performance of the system, and will be doing so for several months to come.

The Headworks continues to operate as intended with the exception of occasional high H2S alarms that are being detected at random times by STP staff. Only one of the makeup air units is fully operational as J&K had a problem with one of the drives failing. The STP staff continues to leave the doors open, which is also impacting the performance of the odor control system that is intended to control the H2S and LEL gases. One of the issues is getting power to the roll up doors to allow the doors to more easily be opened and closed for dumping of the dumpsters. As soon as the odor control system is fully complete, we can evaluate the system to see if modifications need to be made to address the concerns of the H2S levels reported. With the cleaner effluent, the issues with the Plant Water supply around the plant should significantly improve.

Testing of the control systems by Kruger continued in DN Cells this month.

Coatings and leakage tests were completed this month for the for CN and DN channels this month. Air piping to CN Cells 1-8 and DN Cells are operational. PC completed the backwash drain pipe for CN 1-8 Cells and the DN Cells.

PC continued miscellaneous metal installation with the structural steel for CN Influent channel, stairs for DN gallery, and structural steel for DN effluent. PC does not have all of the grating and handrail to complete this work yet, and their subcontractor Raulli did not providing adequate manpower to complete the miscellaneous metals before the August 31, 2019 date. PC has provided limited access to the new secondary process, so they are being required to provide the manpower to access these areas as they cannot be turned over to STP staff to operate until all life safety systems are complete.

CN Cells 9-14 concrete is complete. PC performed limited work on the backwash header in the CN Cells 9-14 due to the focus to meet the August 31, 2019 deadline. Mechanical and electrical trades cannot access the CN 9-14 area to perform their work due to a lack of grating installation by PC.

Matco is complete with the electrical work for all process equipment in the DN and Methanol systems. They continue to work on non-process electrical such as receptacles and permanent lighting. Kruger sufficiently completed the Functional Demonstration Test to allow flow to be permanently diverted through PST 7-10, SIPS, CN, DN, and UV before the end of August.

PC completed installing yard piping for chemical feed to CN and DN this month. They still need to test the leak detection system for the chemical feeds to CEPT and Actiflo.

PC final received and installed the AIS compliant flanges necessary to complete the methanol pipe in the Methanol area by the end of August.

Because PC is not following their flawed CPM schedule, we are continuing to have weekly schedule meetings with PC and all of the necessary multi-primes and subcontractors to advance the secondary treatment process and meet the DEC Phase 1 Milestone date of August 31, 2019. This proved instrumental in achieving the DEC August 31, 2019 milestone. We have notified PC that they are not in compliance with the contract for providing a comprehensive schedule. We have released some payments to PC, but are nearing a point where we will have to stop payments to protect the liquidated damages specified in the contract.

PC continued preparing for site paving around the site. PC and GHD have agreed on the curbs around the new Administration Parking lot that need to be removed and replaced.

Contract Status: 92% Complete through August 2019

Contract No. 6 - BAF Electrical

The BAF Electrical Contract supports the BAF General Civil Contract and includes all electrical and instrumentation associated with the BAF contracts. The components include installation of the new UV disinfection system, installation of the new generators, installation of the electrical feed throughout the plant, as well as installation of the instrumentation and SCADA System throughout the plant.

Status: Contract No. 6 Notice to Proceed was issued on May 27, 2016 in compliance with the DEC milestone in the Consent Order.

This month the contractor completed the work in the BAF Backwash Treatment Facility, DN Cells, UV, and Methanol Building. Matco has completed all distribution electrical work and electrical work necessary to meet the August 31, 2019 DEC Milestone. They continue miscellaneous site electrical work as well as ancillary electrical work for receptacles and permanent lighting. They continue to support GHD in fiber optic cable installation and testing for SCADA Control, and will continue working on the electrical work for CN Cells 9-14 this Month. The two new 2MW generators have been tested and are available for use when needed. All process power and control conduit and wire for the CN, DN, Blower Buildings, and UV have been

installed and terminated by Matco. Matco completed the final electrical for the methanol system in the middle of August.

MATCO is providing input for the Project CPM baseline schedule.

Contract Status: 96% Complete through August 2019

Contract No. 7 - BAF HVAC

The BAF HVAC contract supports the BAF General Civil Contract and includes installation of all HVAC Systems in all STP Facilities as well as revisions to the odor control systems throughout the plant. The odor control improvements are intended to alleviate the odors that have been prevalent in the past in and around the plant.

Status: Contract No. 7 Notice to Proceed was issued on May 27, 2016 in compliance with the DEC milestones in the Consent Order. The contractor was directed to have all HVAC and Odor Control Systems complete and functional by the middle of August. They continue to work on the systems at the end of August, but they achieved completion in most critical areas. They still need to complete repair of the second makeup air unit in the Headworks. This will allow the system to be operated as intended by GHD, and should eliminate the intermittent high H2S alarms reported by STP Staff. They continue to provide supporting information for the development of the CPM schedule, and have acknowledged they can meet the required milestones of the Consent Order. They are working on the HVAC systems for CN Cells 1-8, DN Cells, and Thickener Pump Stations, as well as Odor Control at the Headworks.

Contract Status: 98% Complete through August 2019

Contract No. 8 - BAF Plumbing

The BAF Plumbing contract supports the BAF General Civil Contract and includes installing plumbing systems for the new and existing facilities included in Contract No. 5.

Status: Contract No. 8 Notice to Proceed was issued in compliance with the May 27, 2016 milestone for issuing the NTP in the Consent Order. The contractor has continued providing the supporting information for the overall CPM schedule this month, and they have confirmed that they can meet the required milestones of the Consent Order.

This month they continued the installation of the plumbing in various locations at the site. All of their work critical to the August 31 milestone date has been completed.

Contract Status: 97% Complete through August 2019

Contract No. 9 - Secant Pile Contract

The Secant Pile Contract includes installation of the secant piles that support the excavation for the new BAF Backwash tank as well as supporting the new CN Cells 9-14. Construction also includes excavation to the final grade for the BAF backwash tank. This project was bid separately from Contracts 5-8. In doing so, a minimum of four months on the critical path schedule was saved.

Status: The installation of the secant pile wall is complete. Close out documents have been prepared and are being submitted to close out this project.

Contract Status: 100% Complete - Contract Closed

Contract No. 10 -Solids Handling Renovation Civil

Contract No. 10 is intended to renovate and improve the solids handlings systems including the existing Digester Control Building, existing digesters, solids dewatering systems, and all ancillary equipment. As part of the improvement to the solids handling process, the following components will be constructed or installed. The new structures include a new Solids Handling Building, a new Gas Conditioning Building, and a new Sludge Loading Facility. The new equipment being installed includes new centrifuges, new mechanical thickeners, new gas processing equipment, new microturbines, and new scum screening equipment. The scope was further developed during the design processes to include sludge blend tanks. Additionally, the contract renovates the existing laboratory facilities at the STP. The contract was bid as a multi-prime contract consistent with New York State Construction Contract Requirements.

Status: Renovation for the first side of the Lab at the Headhouse is complete, and we are awaiting a final resolution on the occupancy of the newly renovated portion by the existing plant lab staff before we can begin work in the old lab. As soon as we can get the existing lab emptied, we can allow Quandel to begin work on the west half of the lab renovation. It should take Quandel about a month to complete the lab renovation after they are able to move the WTP staff from the west half of the laboratory to the renovated east half.

Quandel has stated that they have completed installing the mechanical systems in the Solids Handling Building. They alleged that they were waiting on Matco to complete the electrical work so they could begin pre-functional testing and functional Demonstration Testing of the equipment. Quandel scheduled the functional demonstration testing for the centrifuges for September 23, 2019, despite our notice that Matco would be complete with the wiring by the end of July. Jacobs was able to get the centrifuge manufacturer to commit to an August 5, 2019 date for startup and testing of the centrifuges. After the manufacturer completes the Functional Demonstration Tests, they can begin the 7 day System Demonstration Test. The manufacturer spent two weeks working on their equipment and they discovered several items that needed to be addressed by the various equipment vendors. Quandel has now scheduled a return visit for the vendors on September 30, 2019, despite the fact that the vendors could have been scheduled to resume earlier than proposed by Quandel. Digested sludge is now being processed from Digester #3 to the existing centrifuges. After this

diversion of the sludge, the existing Centrifuges can be removed to make way for the new Mechanical Thickeners that are to be installed in the current centrifuge room.

Quandel continued to work on rehabilitation of the pumps in Thickener Pump Station #2.

Quandel was not making any progress on the removal and recertification of the gas conditioning equipment, so we were forced to remove the work from their scope of work and the City is procuring the equipment on a sole source contract. They are alleging that they are not responsible for reconditioning the equipment. Koester was awarded a purchase order to provide and install the equipment that would have been Quandel's obligation. Koester and JDV are nearing completion of the installation of the digester gas safety equipment and also digester mixing equipment. Digester #3 is fully operational, and Digesters #1 and #2 are complete and ready for service. We have been unable to startup the remaining two digesters because we do not produce sufficient sludge to feed more than Digester #3.

Quandel declined to quote a cost proposal to recoat the inside of Digesters #1 & #2, which are the two smaller digesters. They also refused to repair the spalled concrete at the top of Digester #1 despite having a unit price for repairing spalled concrete in their base bid. The owner decided to coat the inside of Digesters 1 and 2 before installing the cover on these two digesters. We had to put digester covers #1 and #2 on hold pending completion of recoating the inside. We initially believed we would be able to get the covers installed in June, but the manufacturer was not available to return to site to install the covers until July. The covers are now installed for Digesters #1 and #2.

We believe that Quandel has a contractual obligation to prepare a startup plan for all three digesters. Quandel is still refusing to perform their contractual obligated work. Because of Quandel's refusal, Jacobs prepared the plan for the Owner. Implementation of that plan is well underway. Digester #3 is started up and we anticipate starting up Digester #1 in early October. We will be preparing the costs that we recommend be taken back from the contract with Quandel.

Contract Status: 94% Complete through August 2019

Contract No. 11 - Solids Handling - Electrical

The Solids Handling Electrical Contract supports the Solids Handling General Civil Contract and includes installation of electrical for the new and existing facilities included in Contract No. 10.

Status: MATCO is nearing completion on the electrical work in the Solids Processing Building.

Contract Status: 92% Complete through August 2019

Contract No. 12 - Solids Handling - HVAC

The Solids Handling HVAC Contract supports the Solids Handling General Civil Contract and includes installation of HVAC systems for the new and existing facilities included in Contract No. 10.

Status: No significant work this month.

Contract Status: 97% Complete through August 2019

Contract No. 13 - Solids Handling - Plumbing

The Solids Handling Plumbing Contract supports the Solids Handling General Civil Contract and includes installation of plumbing systems for the new and existing facilities included in Contract No. 10.

Status: No significant work this month. JW Danforth is nearing completion on the Solids Handling Building Contract No. 13. Danforth continues to support the General Civil Contractor's schedule. Danforth finished supporting the cleaning of the Sludge and Digester Gas Piping in the Digester Control Building.

Contract Status: 89% Complete through August 2019

Floodwall

The new floodwall being constructed at the STP is intended to protect the plant to an elevation 1.5 feet above the 2011 flood level. The floodwall includes concrete walls on the east and north sides of the STP. The project also includes two new pump stations to pump up stream out of the plant during the storm events. The new floodwall system works in conjunction with new floodwall features included in Contract No.5 BAF General Civil Construction. The floodwall systems are being funded by a FEMA recovery grant.

Status: The access platform for the valves at the two storm drain pump stations need some minor modifications to eliminate a potential fall/trip hazard. This work is being executed as a change order, and will be reduced from the deductive change order that will close out the contract. Streeter tested the 54" gate in the sampling manhole in May. The gate failed the test and must have some remedial work done on the gate installation before it is retested. No significant work was performed this month.

Contract Status: 99% Complete through August 2019

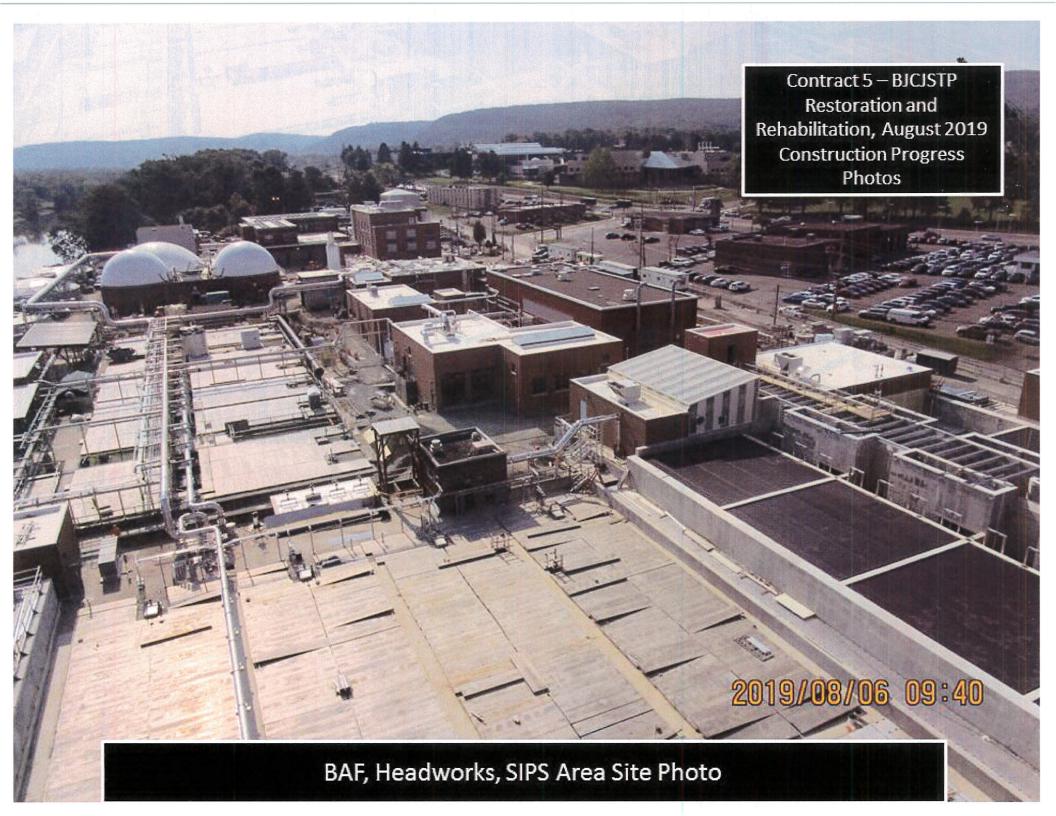
NOTES:

- 1. SWPPP measures continue to be maintained by all contracts. Any deficiencies noted during daily or weekly inspections are promptly remedied.
- 2. The City has issued a purchase order to JDV to provide the Digester Mixing Equipment for \$278,620. This equipment was in need of rehabilitation and replacement, but it was not included in any contract. The cost to rehabilitate equipment was less than the cost to replace the equipment. The quote of \$572,915 we received from Quandel was excessively high, and it was in the best interest of the City to purchase and rehabilitate the equipment separately. By performing this equipment purchase separately, we were also able to accelerate the delivery and installation of the equipment in advance of what Quandel was quoting. JDV is about 95% complete with the Digester mixing Equipment at the end of August.
- 3. The City has also entered an agreement with Koester to provide replacement equipment for the digester gas safety equipment and to include installation. The agreement was issued for \$639,086 and Quandel's quote was for \$1,110,668. We will be seeking some recovery from Quandel for some of the \$639K for the portion of the work that is included in their scope of work. Koester is 95% complete with the work at the end of August.
- 4. Weekly meetings are held for each contract to discuss the progress of the work and identify and resolve issues and problems. Meetings between contractors on the various contracts are held as necessary to facilitate any concerns and coordinate work between all contracts.

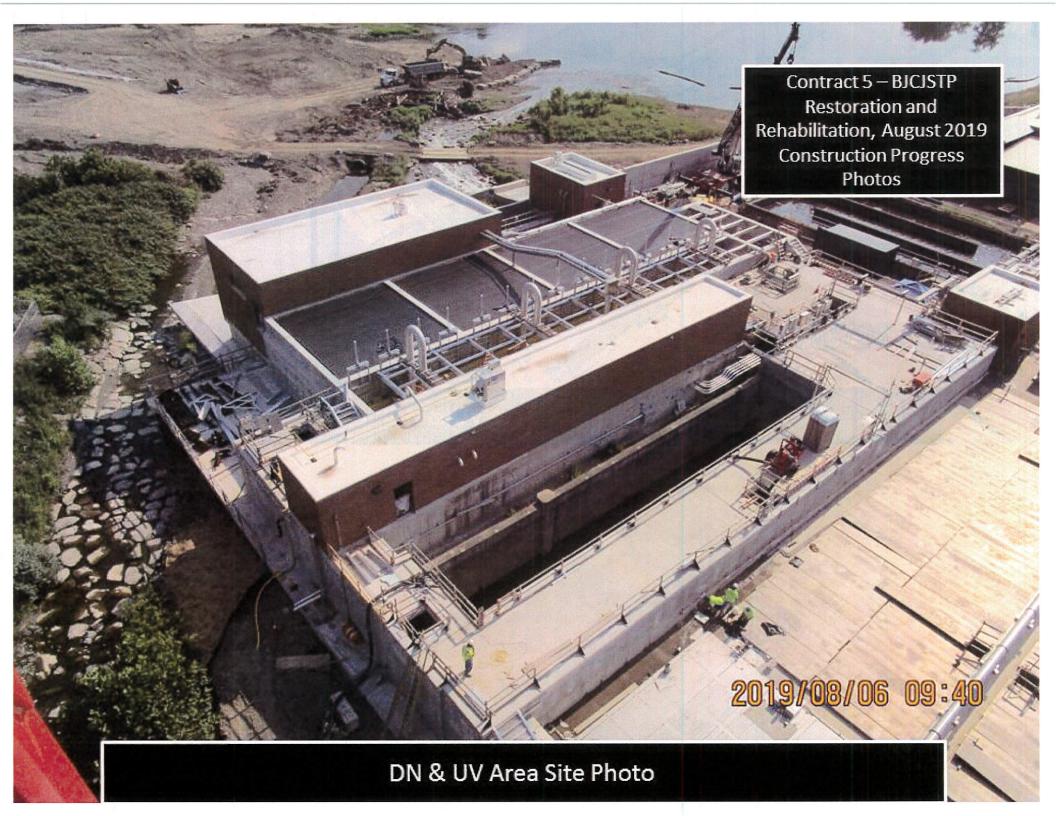
Consent Order Compliance Table

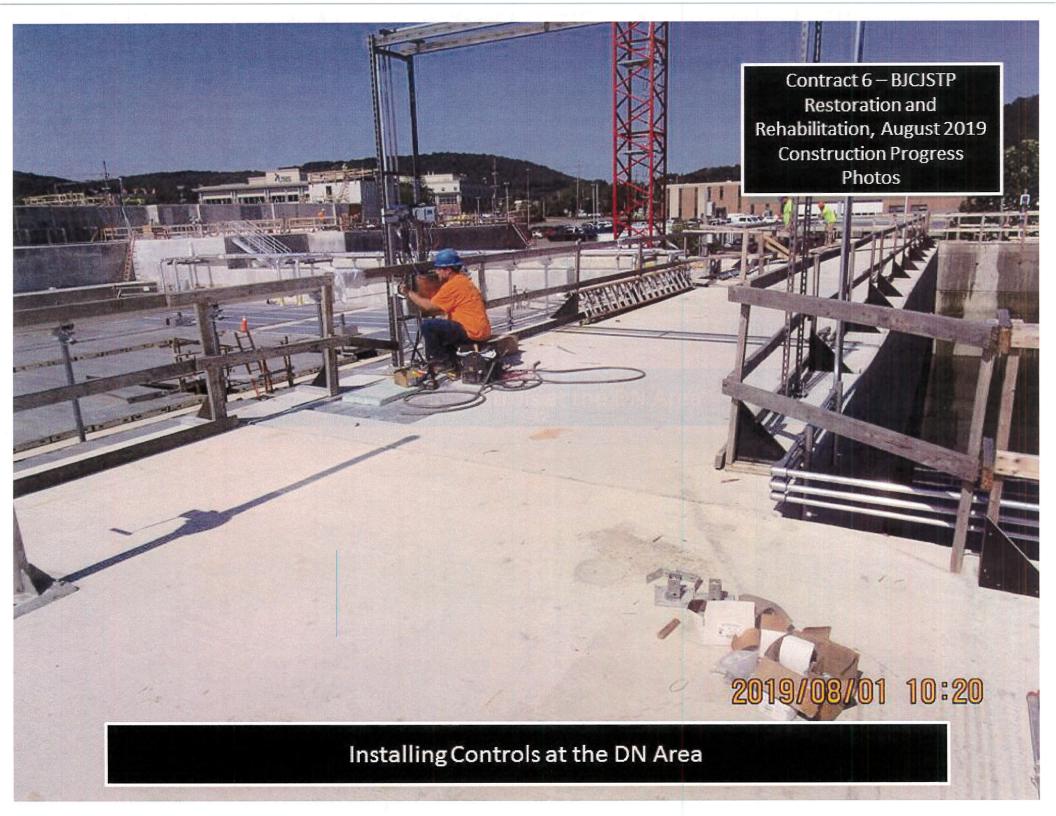
DEC#	Description	Consent Order Date	Status
7	Flood Mitigation to Elevation 845	February 28, 2019	Complete March 1, 2019
3f	Begin SIPS Commissioning	April 30, 2019	Completed before April 30, 2019
3e	Backwash Waste Treatment Construction	June 30, 2019	Complete June 30, 2019. To be started with BAF Process by August 31, 2019.
3h	Hydraulic Testing of new BAF Backwash Tank	June 30, 2019	June 30, 2019
3j	Retrofit of two sludge thickeners. One is complete, the second should be complete by January 1, 2020. Two thickeners will be available for use at all times. Thickener #1 is complete and available for use. Thickener #2 is in service and will stay in service until thickener #3 rehabilitation is complete. Thickener #3 was finally released by Plant staff for rehabilitation on June 26, 2019. Thickener #3 rehabilitation will be complete by January 1, 2020 and Thickener #2 will be complete by March 31, 2020.	Requested variance June 30, 2019	March 31,2020
4d	Complete construction of anaerobic digesters. Digester #3 will be complete before June 30, 2019. Digesters #1 and #2 will be complete by August 31, 2019. Digester #1 and #2 cover installation was delayed to allow for coatings and crack repairs to be done in Digester #1 and #2. This was discussed with the DEC in 2018 and the DEC expressed their preference for doing to coatings now rather than in the future. Digester #3 will handle all sludge flow for the interim construction period.	Requested variance June 30, 2019	Substantially complete August 30, 2019
5b	Interim Operating Strategy for equipment from August 31, 2019 through January 1, 2020	July 31, 2019	Completed July 31, 2019
3g	Complete construction and commence start-up of the plant Headworks, including the new bar screens and grit removal system, in accordance with the approved engineering design documents	August 1, 2019	Completed June 26, 2019
3i	Construction Complete on PST 7-10	August 31, 2019	Completed June 30, 2019
3k	Complete Construction of CN 1-8 and DN.	August 31, 2019	Substantial Complete August 29, 2019
31	Commence Operation of BAF Backwash Tank, BAF Backwash Treatment, Headworks, PST 7-10, CEPT, UV, Sludge Thickeners and appurtenances.	August 31, 2019	Completed August 29, 2019

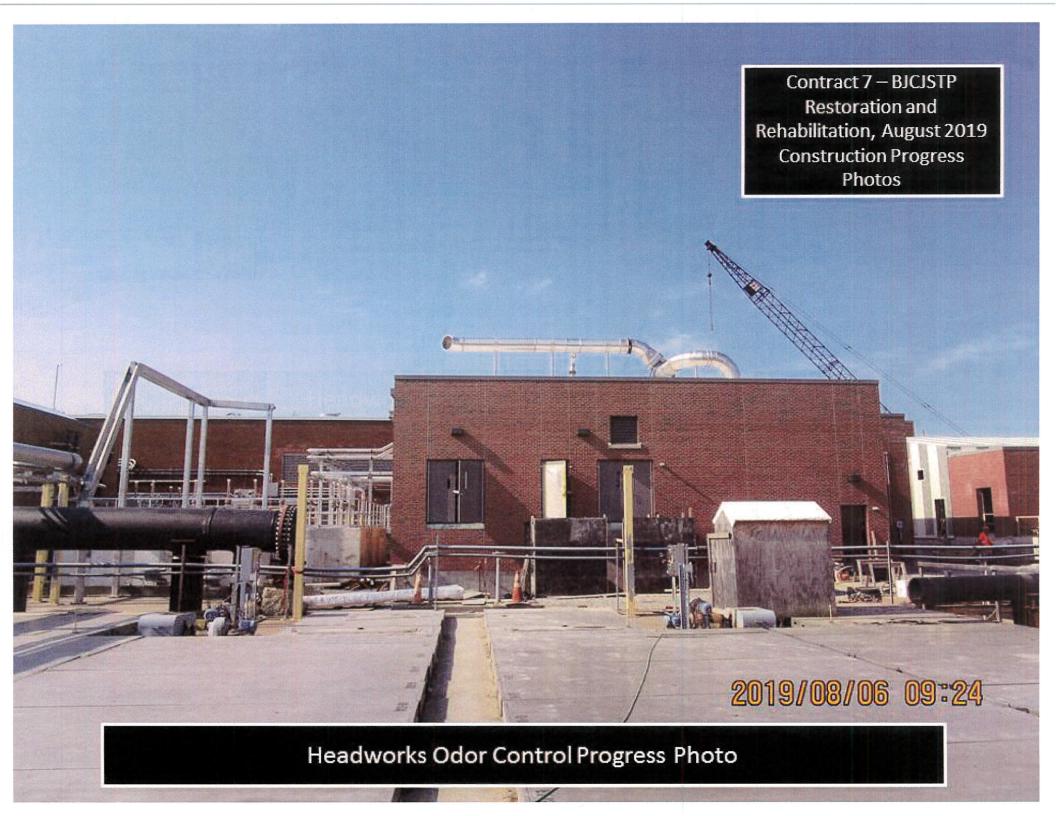
4e	Operation of digesters 1-3. (Digester 3 is scheduled to be operational in June 2019.) All three digesters would be operable on or before the August 31, 2019 milestone date if the STP produced enough sludge to feed more than Digester 3. Sludge production after August 31, 2019 may be adequate to start up a second digester, but likely will not see enough sludge to startup the third digester until after Phase 2 at the earliest.	August 31, 2019	June 30, 2019/August 31, 2019. Not possible to achieve 3 rd digester startup. Insufficient sludge being produced by the STP process for the near future.
3m	BAF CN Cells 9-14 Construction Complete	January 1, 2020	January 1, 2020. If we can finish sooner, we will push PC to do so.
3n	Operation in Compliance with SPDES	April 1, 2020	April 1, 2020

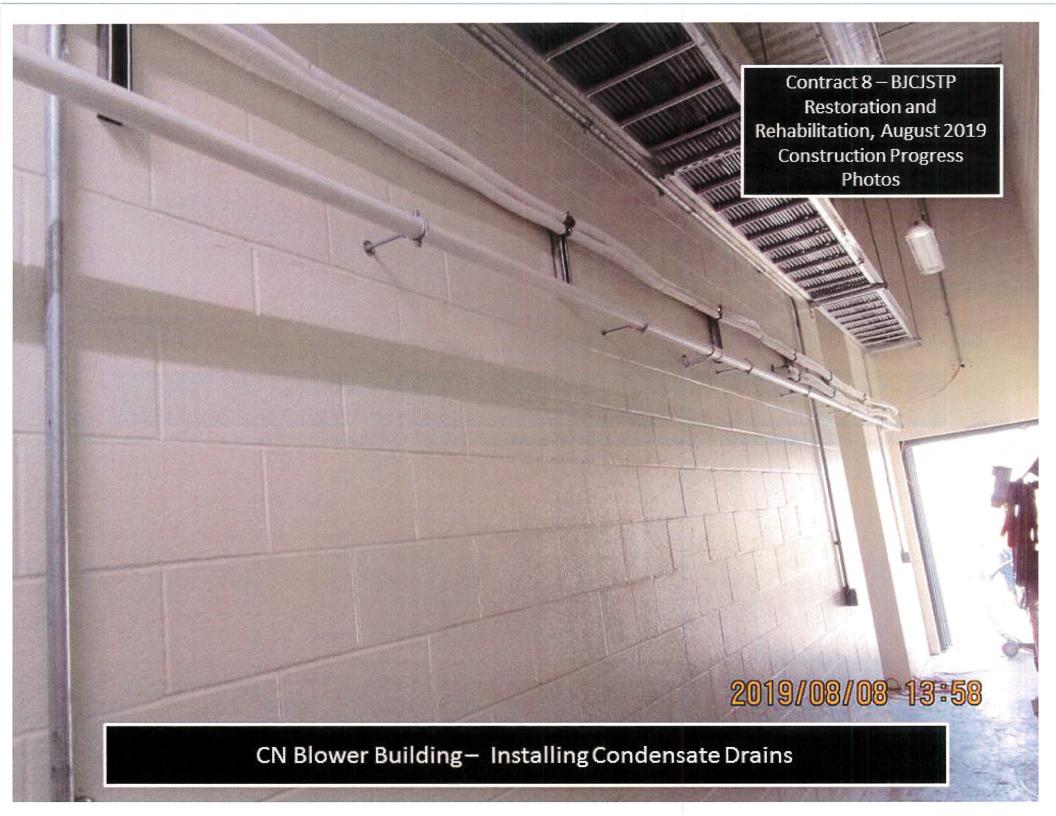


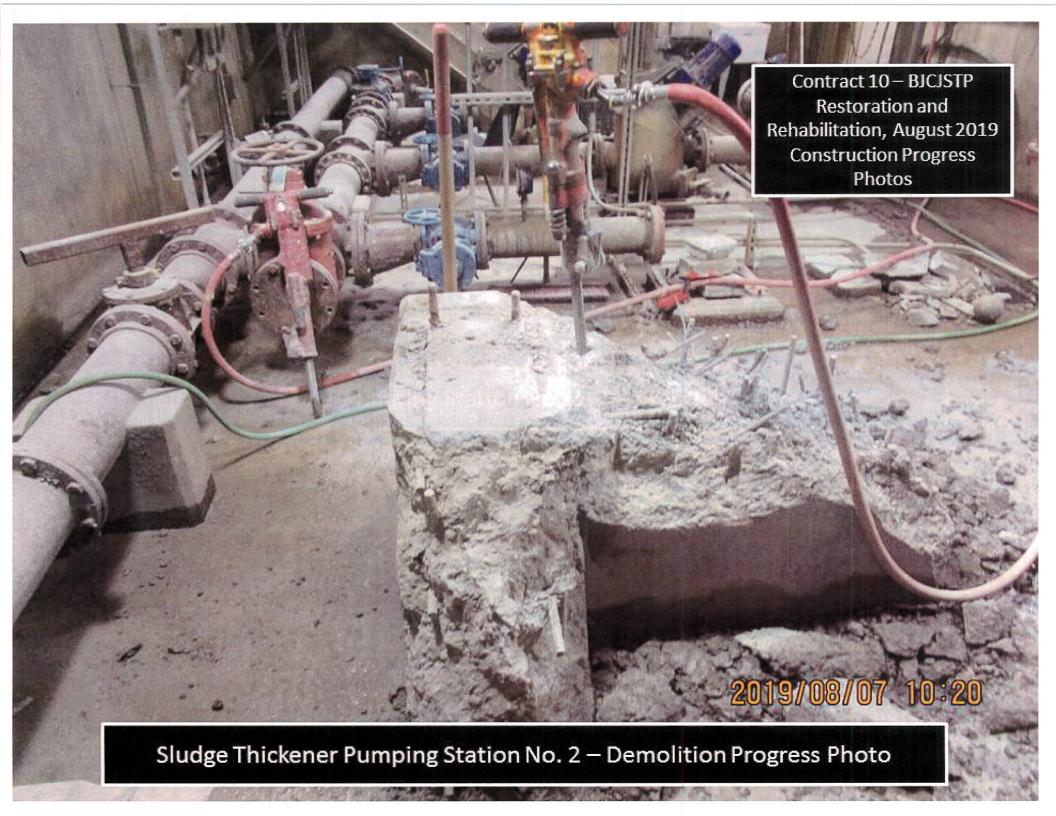






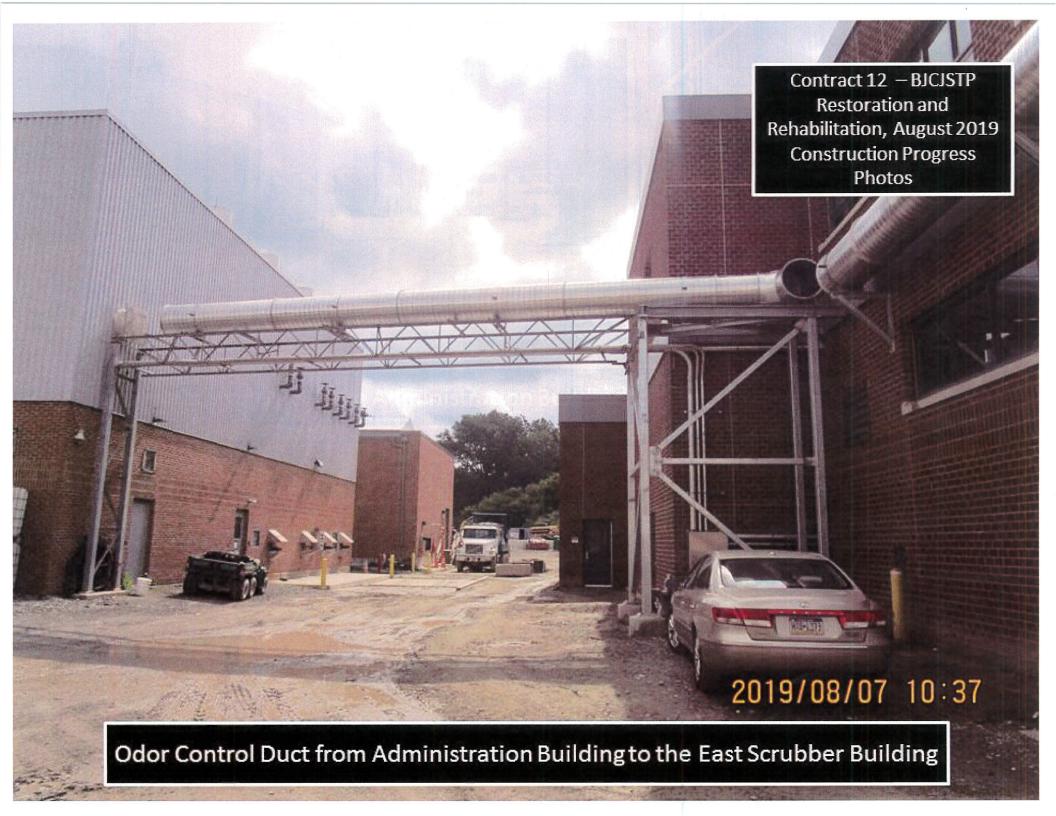


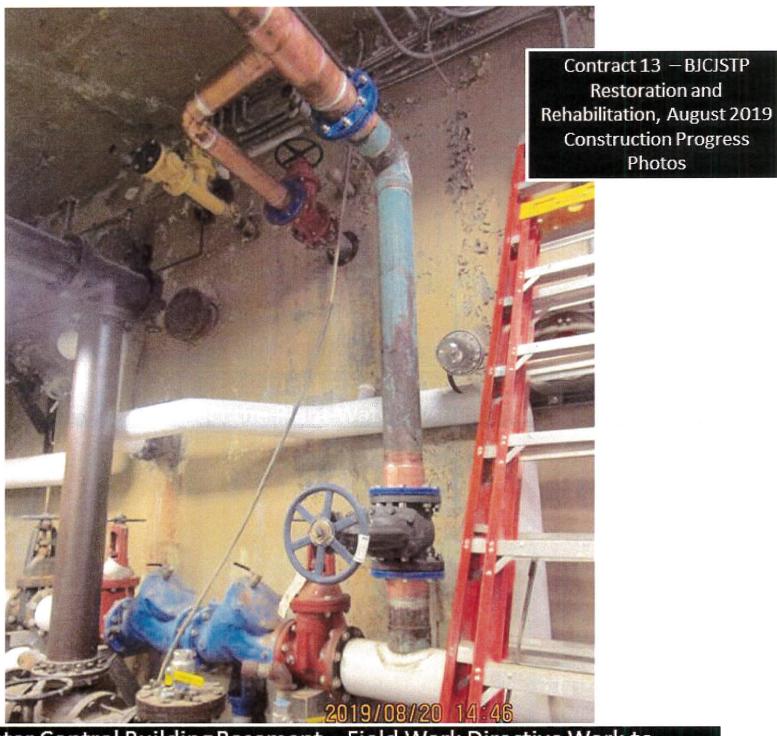












Photos

Digester Control Building Basement – Field Work Directive Work to Reconnect the Plant Water System