August 2018 Monthly Report

BJCJSTP Rehabilitation and Restoration Project

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

Contract No.	Description	Status
Contract No. 1	Compost Facility Demolition	Complete
Contract No. 2	FEMA Mechanical	Complete
Contract No. 3	BAF Facility Demolition	Complete
Contract No. 4	MCC HH Emergency Replacement	Complete
Contract No. 5	BAF Restoration and Rehabilitation Civil Contract	Projected Phase 1 Substantial Completion April 2019. Projected Phase 2 Substantial Completion August 2019.
Contract No. 6	BAF Electrical	Projected Phase 1 Substantial Completion April 2019. Projected Phase 2 Substantial Completion August 2019.
Contract No. 7	BAF HVAC	Projected Phase 1 Substantial Completion April 2019. Projected Phase 2 Substantial Completion August 2019.
Contract No. 8	BAF Plumbing	Projected Phase 1 Substantial Completion April 2019. Projected Phase 2 Substantial Completion August 2019.
Contract No. 9	Secant Pile Contract	Complete
Contract No. 10	Solids Handling Renovation Civil Contract	Substantial Completion #1 – October 29, 2018; Substantial Completion #2 - November 12, 2018; Substantial Completion #3 - February 20, 2019; Final Completion - July 10, 2019.
Contract No. 11	Solids Handling Electrical	See Contract #10 Completion Dates
Contract No. 12	Solids Handling HVAC	See Contract #10 Completion Dates
Contract No. 13	Solids Handling Plumbing	See Contract #10 Completion Dates
Floodwall	Floodwall and New Diversion Structure	Currently in Construction. Anticipated Completion Date August 2018.

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: In August, PC advanced the concrete work by placing 1500 CY of concrete throughout the site. They began concrete work for the trenches between Headworks and the Primary Distribution Box No. 1. PC is nearing completion of the masonry work in the Headworks. They pulled the crew from the Headworks to work on the masonry work at the Blower Building. PC is scheduled to resume the masonry work at the Headworks the first week in September. Masonry work for the BAF Backwash Treatment Facility is complete and the precast concrete roof panels are set. PC needs to install the vapor barrier before they can complete the parapet block walls above the concrete panels. PC completed the leakage test for the distribution box, and continued backfill around the Headworks, Distribution Box, and BAF Backwash Treatment Facility. PC is installing and testing the utility pipe in the corridor between the Headworks Building, BAF Backwash Treatment Facility, and PST's 1-6.

Work on CN Cells 1-8 is being advanced. PC has completed all but three wall placement on the south half of the CN Cells 1-8. They have also completed the concrete benching in all of the CN Cells 1-8 with the exception of Cell #2 and Cell #7. PC continued installing stainless steel air pipe and backwash drain pipe in the CN 1-8 gallery this month. PC has installed all sixteen of the 30" valves on the BAF Backwash line. We pointed out to them that they need to rotate the valve actuators to eliminate a conflict with the grating and structural steel in the gallery. PC has stated that they need a design for a support for the valve actuator before they can rotate the actuator. PC has deviated from the contract and is using a dresser style coupling to make up the joints on the stainless steel in several locations and will now need to remove the dresser couplings and weld the joints on the air pipe and backwash pipe. This is ultimately a contractor caused delay, and may affect start-up of the BAF Facilities.

CN Cells 9-14 walls are also being advanced. PC has been focusing on the cell divider walls now that they achieved the 100 year flood protection level of 838. The remaining area that is not

completed for flood protection to elevation 845 is in the area between the Blower Building and the east side of CN Cell #9, the west stairwell, and a segment at DN Cells. We are pressing PC to get the elevated roof deck at the utility corridor between the new Blower Building and the CN Gallery. This will make available a substantial work area for the other multi primes.

PC is continuing to place the concrete walls in the DN Cells. They are nearing completion for the structural concrete at the west end of the DN Structure. They are constructing the DN Blower Building, and should be complete in September. This will open up a significant amount of work in the DN area for the other multi primes. Blockwork is scheduled to be completed on the west end of the DN Building in September. Mechanical and electrical trades are working in the DN Gallery.

PC completed installing the two coarse screens in the influent channels, and has also installed the compactor and conveyor equipment. The new permanent equipment is now operational and the block work for the building is nearing completion. Concrete roof planks are installed. Startup and testing of both screens and ancillary equipment is now complete and operational.

The reconstruction of Primary Setting Tanks 7-10 is nearly complete. The concrete coating applications are complete and PC is finishing the final stages of completion. PC began the repairs for the coatings in the PST's 7-10. The equipment is ready for start-up and testing, as soon as Matco can complete the electrical feed to the area. It will still be several months before the Headworks are complete.

Construction work in the area of the new UV Treatment Facility continued this month with installation of the brick work. PC also continued installing the brick for the PW Pump Station in August. PC began installing the UV equipment and also set the plant water pumps.

PC did not install any of the large diameter piping in the corridor between the Headworks/BAF Treatment area and PST 1-6 this month. The pipe work for the 36" primary influent pipe is progressing, and continued testing of the 36" primary influent pipes to PST 1-6 was waiting on the leak test of the Distribution Box No. 1 this month. PC continued the chemical piping from the East Scrubber Building toward the PST's.

Construction of the new Chemical Building is nearing completion. The tanks and equipment are installed, and the electricians and HVAC crews are complete. The building is ready for testing, which will be several months ahead of the need for the building. Work in the East Odor Control Building is nearing completion. Performance testing for the scrubbers was completed in early August. The contractor is completing the items that were included on a late issue list from GHD and STP Staff. Some of these items are extra work, and a change order will be needed to compensate the contractor for his extra cost. The odor control system is still operating in local automatic control. STP staff confirmed that they have registered the tanks with DEC. As soon as the other ancillary issues with the tanks are complete, chemicals can be delivered to the East Scrubber Building.

Completion of the slab for the Blower Building was completed in August, and masonry work was advanced, with the intent of installing the precast concrete roof planks in early September. The grout submittal by PC has finally been accepted. PC continued their process pipe installation for

air and backwash pipe in the CN gallery this month, and continued installing their structural steel for the grating in the wings of the gallery. PC has encountered a conflict between the structural steel and the process piping. The conflict is the result of PC not installing the 30" diameter control valves properly. They will have to correct this installation before they can complete installing the grating in the two outer areas of the gallery. PC is completing the concrete plenum box work in the gallery, and should complete them by the first full week in September. Matco cannot resume work in the CN 1-8 Gallery until PC completes the grating installation.

PC began concrete work for the DN Gallery plenum boxes this month. Electrical, HVAC, and plumbing work in the DN gallery is ongoing. PC is nearing completion on the concrete work for the west end of DN. Miscellaneous concrete walls continued this month, and should be complete in September. The coordination has been completed on the DN Gallery and work is progressing for the plumbing, electrical, structural steel, and process pipe.

PC continued working in the Methanol containment structure this month. They have set the canopy structural steel, and should install the roof material in September. The electrical, piping, and ancillary work is ongoing in the Methanol Control Building. Pumps have been set, and PC continued installing the pipework within the building.

The electrical feed from the new generators to the transformers would not fit as originally designed by GHD. Installation of the revised electrical continued in August with the installation of the conductors from the generators to the transformers, and the retrofit of the existing electrical gear that receives the power from NYSEG.

Kruger equipment submittals are complete. Much of the Kruger supplied equipment is in storage locally or in appropriate storage facilities at Kruger's direction. We have received several preliminary Operations and Maintenance manuals as well as the startup and testing plan from Kruger. PC continued concrete benching in the CN Cells in August, and began preparing the concrete walls for the interior coating inside the lower portion of the CN Cells. PC has requested a variance for leak testing the cells. They are requesting to be allowed to install the coatings in the lower level of the cells before the leak test is performed. GHD is evaluating their request.

The work on the upper floor of the Administration Building is complete. The final punch list and Fire Protection System testing is nearly complete. Miscellaneous punch list items are being resolved by PC and the other trades on a regular basis. We have received the Certificate of Occupancy from the Town of Vestal. The electrician has completed the final work for the lower level of the building, with the exception of the wiring to some exhaust fans. This work is scheduled to be completed by the first week in September.

PC completed the concrete work for the retaining wall on the south side of the new Administration Building. They began cutting the grade and installing the base for the parking lot. PC should be ready to place asphalt in the parking lot in October.

PC resumed work on the slab/wall work at the existing SIPS Electrical Room and SIPS Building. They had the area idle for several months while they figured out how they wanted to prosecute the work. Concrete work for this slab and wall was completed in August. Masonry and concrete walls

should be complete in September, which will allow the other multi primes to begin the work in the SIPS area.

Contract Status: 69% Complete

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: The manholes and the associated ductbank work for the new dual primary service are complete. The second feeder has been reinstalled by MATCO. MATCO began the connection of the second feeder to the existing electrical gear in August, and installed the new feed to the new Administration Building this month.

The Courtyard is a utility congested area with major underground piping and extensive electrical ductbanks. MATCO continued installing conduits for the courtyard switchgear in August, and placed the concrete for the ductbank at the end of August. Matco is targeting to have the new courtyard gear operational in September. GHD has issued a revised drainage drawing to address issues with the drainage of the courtyard area as well as the area north of the Generator Building.

Installation of the major conduits for the generators continued, and MATCO is nearing completion of the wiring between the generators, the ancillary gear, and the existing plant switchgear. They are projecting completing the new generators in October or November. This will result in the need to continue the rental on the temporary generator due to the lack of a second dedicated electrical feed from NYSEG.

MATCO continued work in the West Primary Sludge Building, the East Odor Control Building, the lower level of the Administration Building, the CN 1-8 Gallery, DN Gallery, and the Methanol Building. We are looking at options for the installation of the conduit in other locations to advance the electrical work to avoid overly congested work areas at the end of construction. We keep pushing PC to open up additional areas for MATCO work in the Headworks, BAF Backwash Treatment Facility, and the Blower Building. MATCO has been making good progress in the Methanol Building, and should be complete by the end of September 2018.

Contract Status: 66% Complete

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: The contractor continued working on ductwork installation in the Maintenance Building, the East Scrubber Building, the Headhouse and the Chemical Storage Building. PC needs to coordinate the work area in the HVAC room at the existing garage area. There are several conflicts that need to be addressed, including clearance between the new boilers and the backflow preventer for the new water service into the STP. J&K is actively working in the Methanol Building, DN Gallery, CN 1-8 Gallery, UV Disinfection, Plant Water Building, and West Sludge Pump Station. J&K is planning their work in the SIPS area, Headworks, Blower Building, and BAF Backwash Treatment Facility, which should be made available to them in September. J&K has provided supporting information for the development of the CPM Schedule. They are coordinating with PC Construction and the other prime contractors.

Contract Status: 69% Complete

Contract No. 8 - BAF Plumbing

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

Status: No significant work this month. They are coordinating with PC Construction and the other prime contractors and they have confirmed that they can meet the required milestones of the Consent Order.

Contract Status: 76% Complete

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: Masonry work for the new Solids Handling Building continued this month. Masonry block work for the upper level should complete in September. The brick work has begun and they should also be complete in late September or early October. Concrete work for the retaining wall on the east side of the building is complete. As soon as Quandel completes the brick work on the east side of the new solids handling building, the backfill can be completed. This will allow PC to complete the parking area south of the new Administration Building. Concrete work for the gas conditioning equipment building is complete.

Quandel is still not making much progress on the removal and recertification of the gas conditioning equipment. They are alleging that they are not responsible for reconditioning the equipment. Quandel declined to quote a cost proposal to recoat the inside of digesters 1 & 2, which are the two smaller digesters. Quandel has dropped their dispute for furnishing of 7 flow meters that they allege were not included in the contract. Quandel began installing the coatings inside the new sludge tanks under protest. We are working hard to get Quandel to complete the digester start-up by October 19, 2018, but they are running several months behind due to the dispute over the gas conditioning equipment

Contract Status: 65% Complete

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: The electrical contractor is MATCO, as it is on the BAF Contract No. 6. MATCO continues to support the General Civil Contractor's schedule.

Contract Status: 18% Complete

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: The HVAC contractor is J&K Plumbing, as it is on the BAF Contract No. 7. J&K continues to install the boiler and associated piping in the Digester Control Building. They are also supporting the General Civil Contractor's schedule.

Contract Status: 58% Complete

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: The plumbing contractor is JW Danforth, as it is on the BAF Contract No. 8. Danforth continues to support the General Civil Contractor's schedule.

Contract Status: 38% Complete

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 concrete floodwall under Streeter's contract has been completed. Startup and testing of the two storm water pump stations is complete. The access platform for the valves at the two storm drain pump stations are now complete.

The concrete base has been completed and the precast concrete riser pieces are installed on the new MH #3. Streeter has completed the 54" overflow and has installed the Binghamton University Line and 12" Vestal sewer line to MH#3. Flow will be diverted for these permanently rerouted pipes after the 54" gate is installed in MH#3. Streeter is having to re-plan their 54" gate installation in both the MH#3 and the Sampling Manhole. The elevation of the sewage in the 54" Binghamton line is at or above the midpoint of the pipe due to the set point elevation for the Binghamton Pumps in the influent flume in the Headhouse. We are evaluating the impacts of the delayed delivery of the two 54" gates. Streeter finally received the flow through plug to allow them to do the work in Manhole #3 and also the Sampling Manhole.

The completion of the 54" gate installation on the Binghamton line in MH #3 is now scheduled for September, and the installation of the 54" gate in the sampling manhole is now scheduled to occur in September or October, due to the delayed delivery of Streeter's flow through plug to allow the flow to pass through the manhole in the flume.

Because Quandel refused to do the repair work of the coatings in Digesters #1 and #2, we are now seeking to do the coating repairs in Digester #1 and #2 via a T&M change order with Streeter. More material came off than anticipated by the Design Engineer. A change order will be needed to pay for the extra concrete repairs. We are negotiating with Streeter to determine the final concrete repair costs for the change order. No significant work was performed on the Floodwall this month.

Contract Status: 95% Complete

NOTES:

1. SWPPP measures continue to be maintained by all contracts. Any deficiencies noted during daily or weekly inspections are promptly remedied. Additional truck trap entrances have been now been installed at the new entrances. In early December, we will be installing asphalt millings from the truck traps to the undisturbed asphalt pavement inside the plant to reduce tracking mud off site.

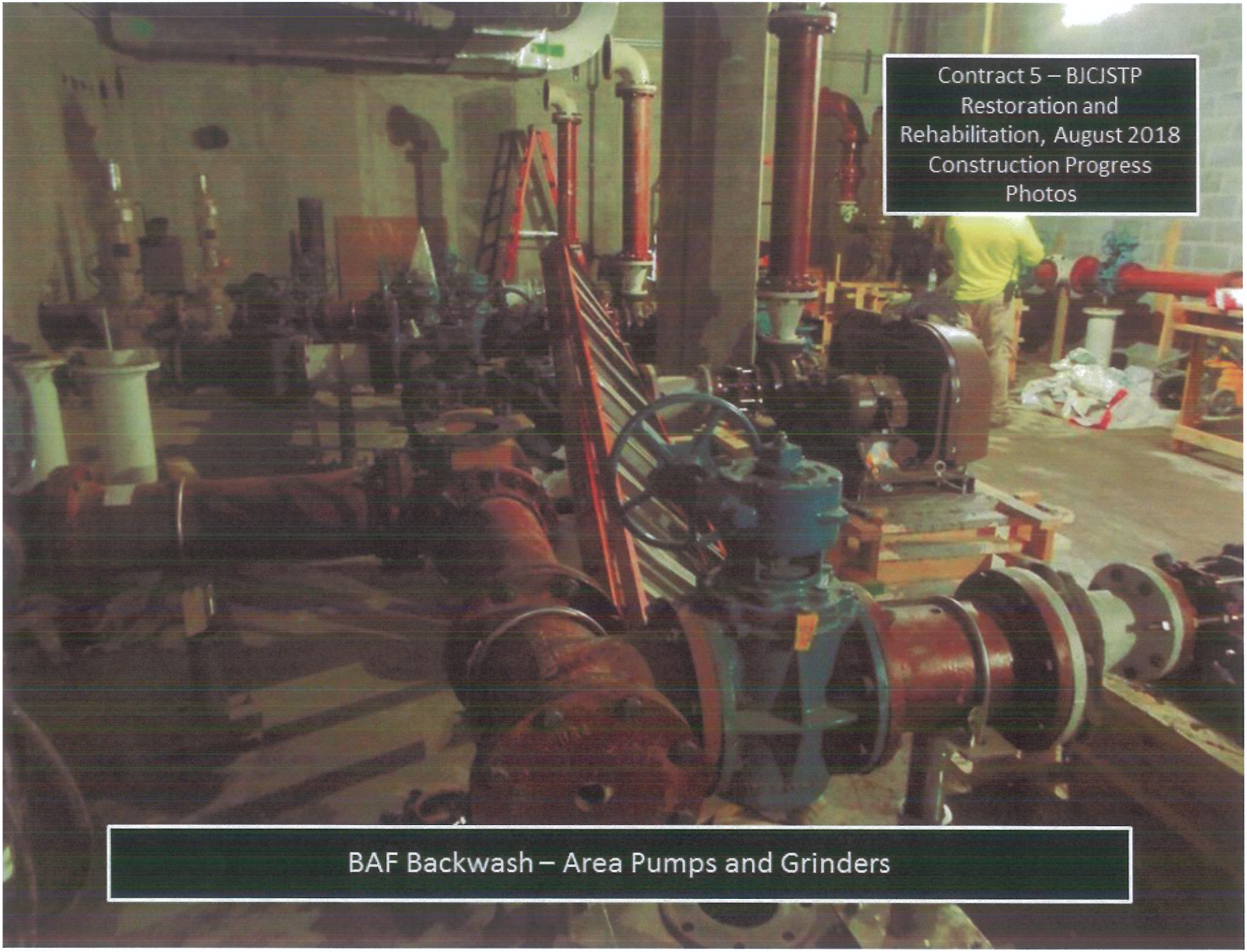
2. Weekly meetings are held for each contract to discuss the progress of the work and identify and resolve issues and problems. Meetings between contractors on the various contracts are held as necessary to facilitate any concerns and coordinate work between all contracts.

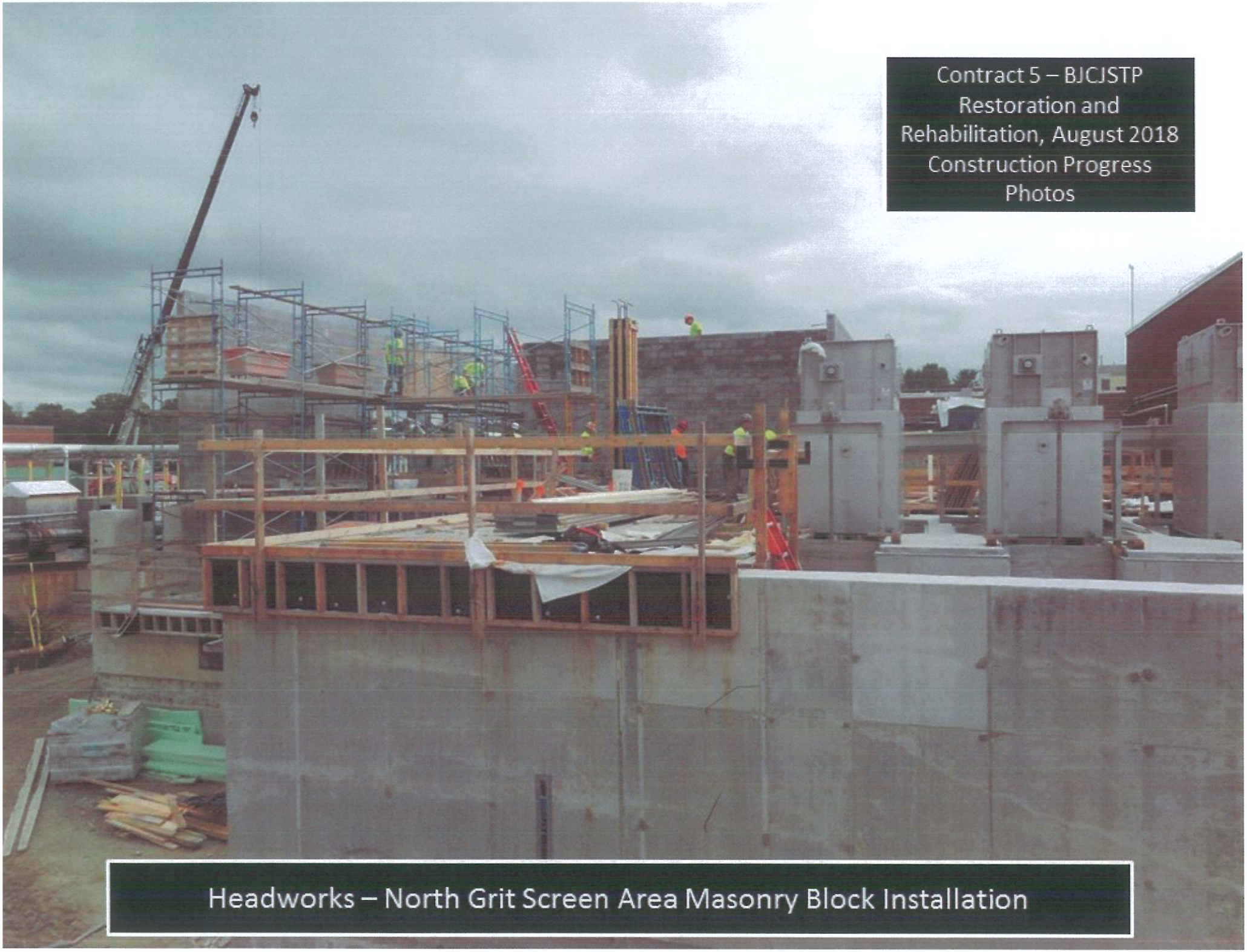
Background

The Binghamton-Johnson City Joint Sewage Treatment Plant (BJCJSTP) processes 18 million gallons per day with the capability of processing up to 60 million gallons per day (MGD) of wet weather flow. This plant is jointly owned by the City of Binghamton and the Village of Johnson City and managed by the Binghamton-Johnson City Joint Sewage Board (BJCJSB).

The BJCJSTP has suffered several catastrophic events since 2006. In 2006, the BJCJSTP was flooded by a 500 year flood that affected many of the processes in operation. In May of 2011, a concrete structure suffered structural failure, and in September 2011, the BJCJSTP suffered another 500 year flood that critically damaged equipment and rendered the secondary treatment fundamentally inoperable. The secondary process system is still largely inoperable today. A Consent Order was negotiated between the City of Binghamton, the Village of Johnson City, the BJCJSB and the NYSDEC to develop a plan to restore treatment operations at the BJCJSTP. The Consent Order requires the BJCJSTP to restore secondary treatment functionality and be able to fully treat 35 MGD of wet weather flow by August 1, 2018. To achieve this level of treatment, the reconstruction and testing of the Secondary Treatment Process must be completed as necessary to achieve treatment of 35 MGD. To comply with the Consent Order, the Sewage Treatment Plant must then be fully operable by May, 1, 2019, including the remainder of the secondary treatment process. There are also several interim milestones included in the Consent Order. The Consent Order has been amended to extend several interim milestones, and DEC has been made aware of the likely finish of the Phase 1 Milestone after the August 1, 2018.

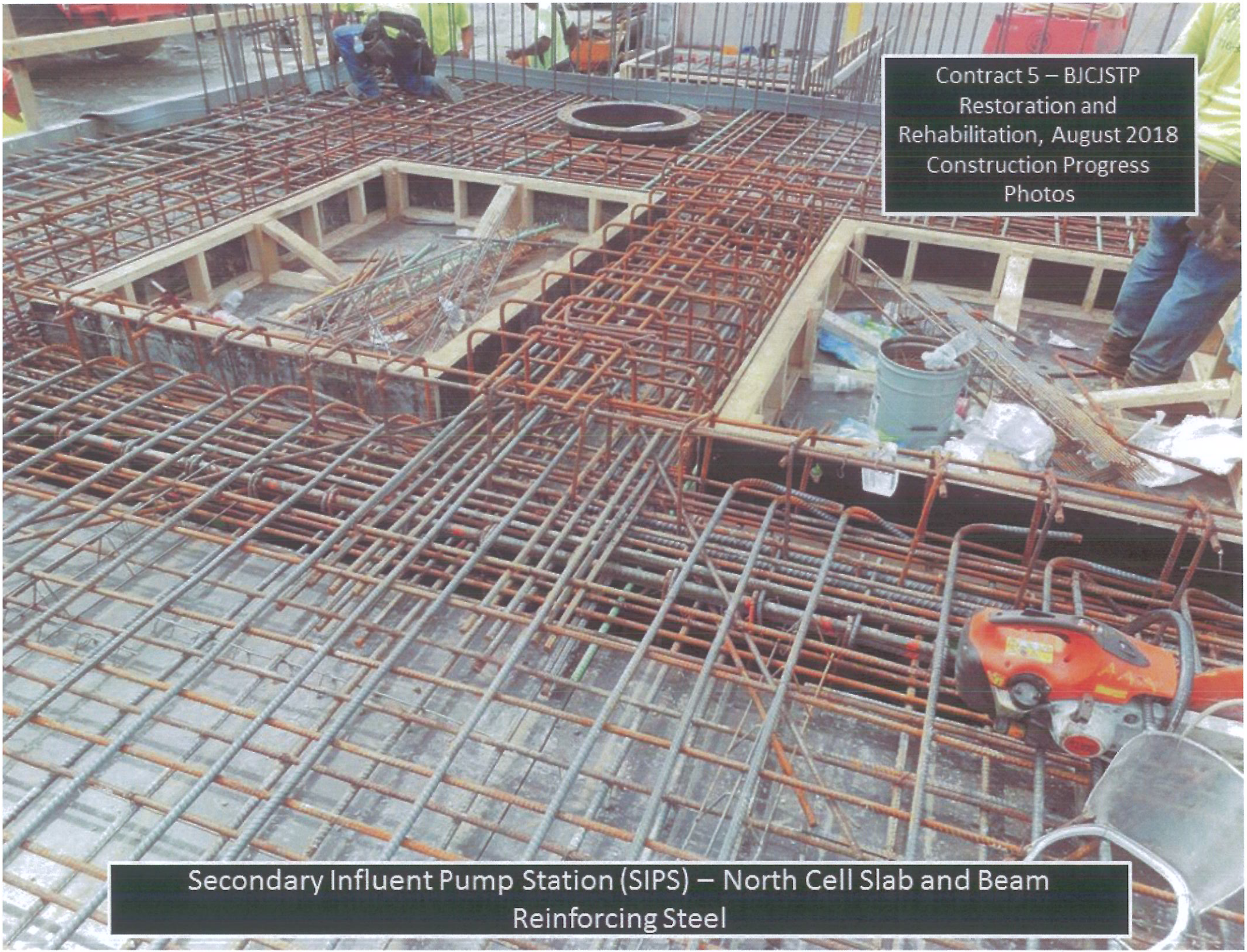
The project is being constructed in accordance with Wicks Law, which requires that the project be bid as multiple prime contracts. More specifically, Wicks Law requires that the bulk of the construction work, consisting of the secondary treatment biological filtration filters (BAF), be divided into a General Civil Construction Contract, an Electrical Contract, an HVAC Contract and a Plumbing Contract.

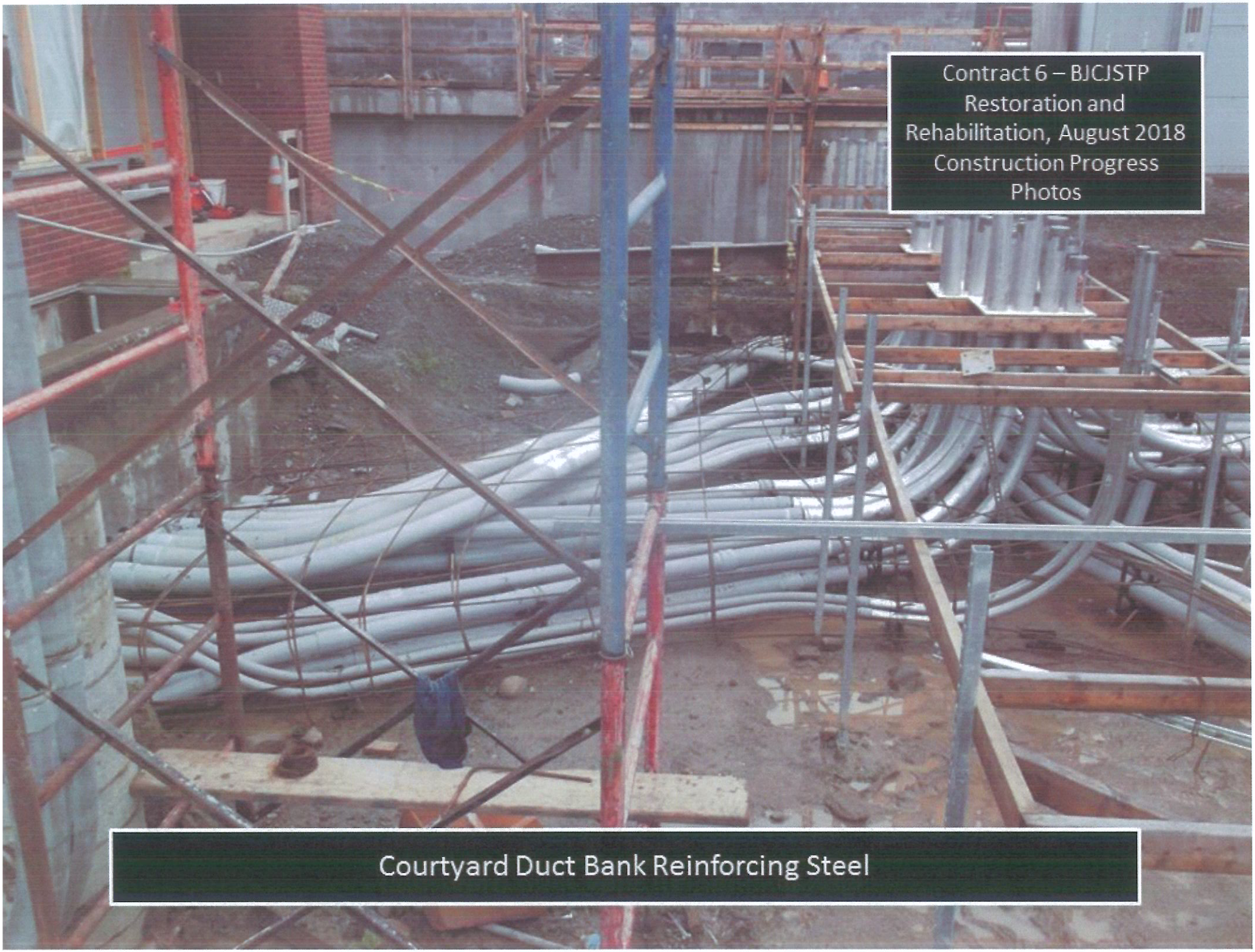

Contract 5 – BJCJSTP Restoration and Rehabilitation, August 2018 Construction Progress Photos
BAF Backwash – Area Pumps and Grinders



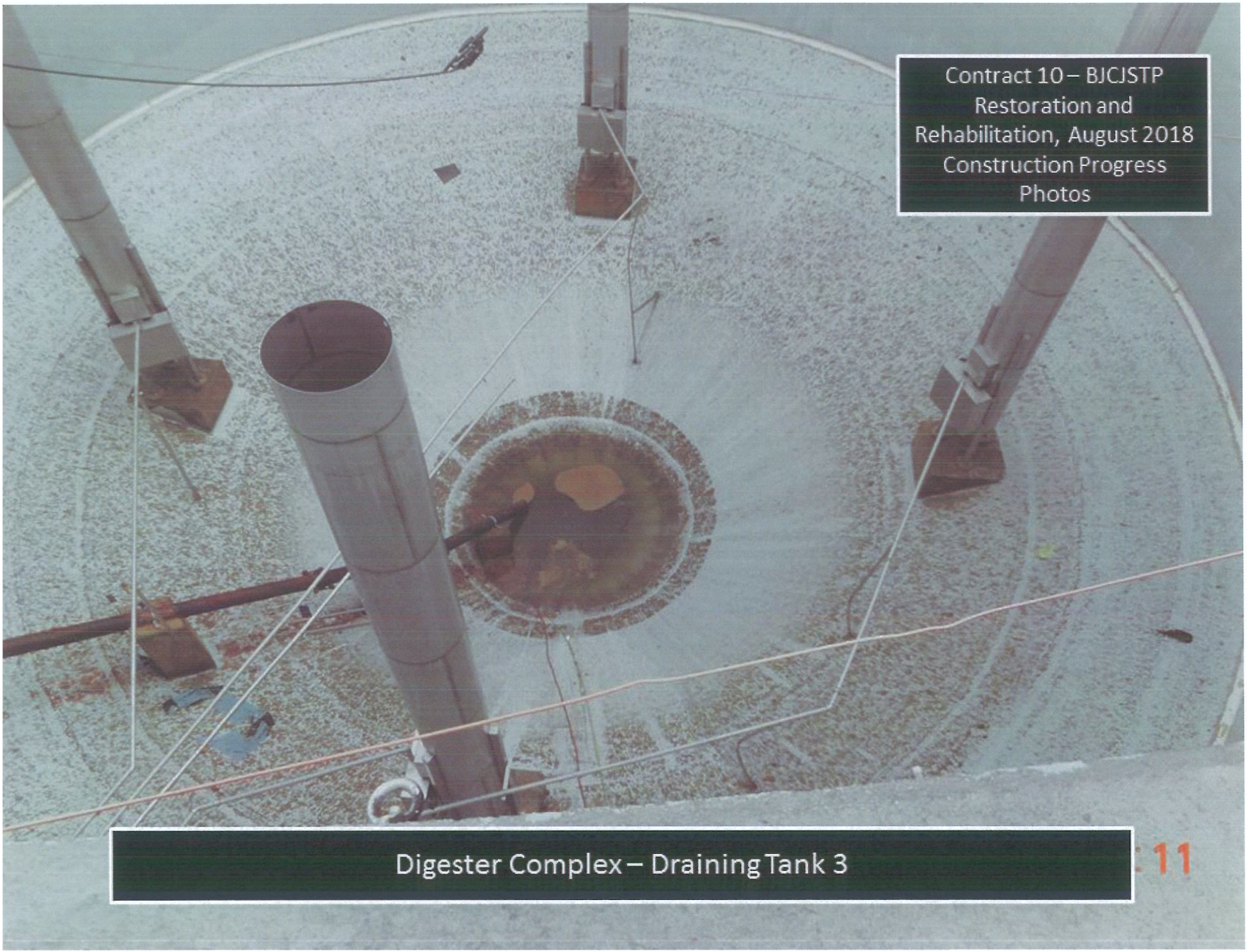
Contract 5 – BJCJSTP Restoration and Rehabilitation, August 2018 Construction Progress Photos

Headworks – North Grit Screen Area Masonry Block Installation


Contract 5 – BJCJSTP Restoration and Rehabilitation, August 2018 Construction Progress Photos
Secondary Influent Pump Station (SIPS) – North Cell Slab and Beam Reinforcing Steel

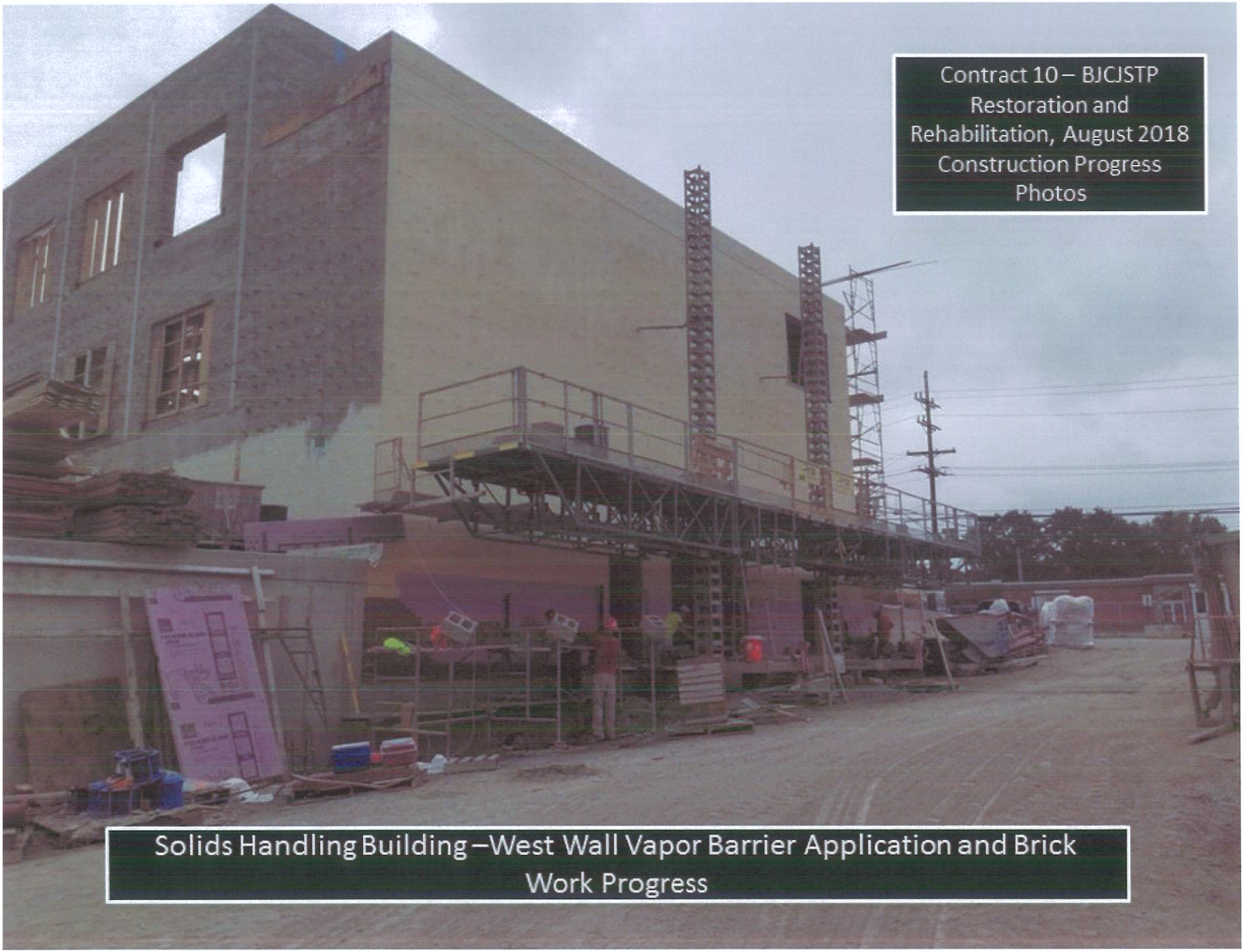

Contract 6 – BJCJSTP Restoration and Rehabilitation, August 2018 Construction Progress Photos
Courtyard Duct Bank Reinforcing Steel


Contract 6 – BJCJSTP Restoration and Rehabilitation, August 2018 Construction Progress Photos
Methanol Auxiliary Building – Lighting Branch Circuits and Control Conduits

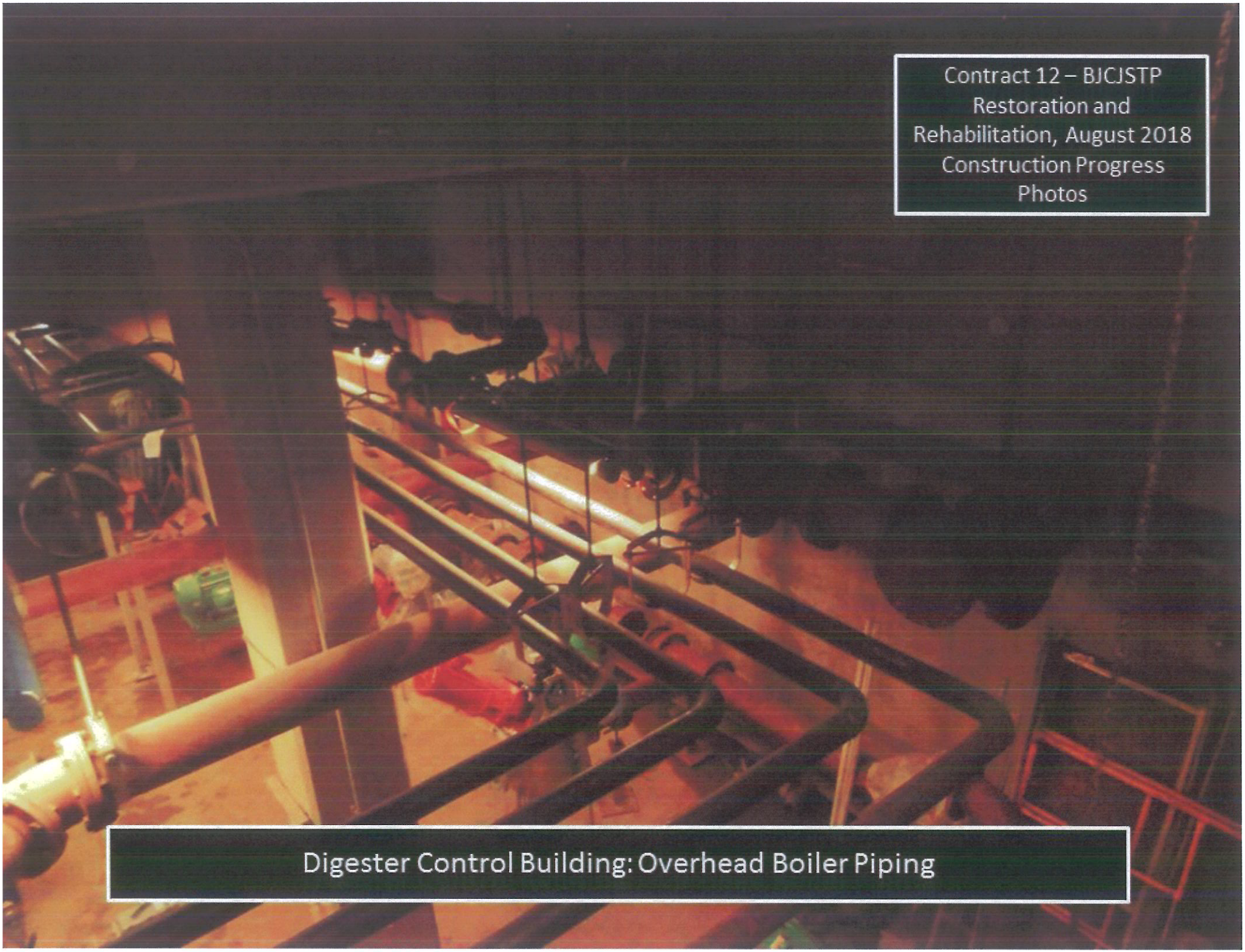

Contract 10 – BJCJSTP Restoration and Rehabilitation, August 2018 Construction Progress Photos
Digester Complex – Draining Tank 3

Contract 10 – BJCJSTP Restoration and Rehabilitation, August 2018 Construction Progress Photos

Solids Handling Building – Northern Wall Blockwork Installation Progress


Contract 10 – BJCJSTP Restoration and Rehabilitation, August 2018 Construction Progress Photos
Solids Handling Building –West Wall Vapor Barrier Application and Brick Work Progress

Contract 12 – BJCJSTP Restoration and Rehabilitation, August 2018 Construction Progress Photos



Digester Control Building: Overhead Boiler Piping