Albuquerque Bernalillo County
Water Utility Authority

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December 30, 2015

Ms. Gladys Gooden-Jackson
Water Enforcement Branch (6EN-WC)
EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

RE: Administrative Order CWA-06-2015-1733
Progress Report for period ending December 30, 2015

Dear Ms. Gooden-Jackson:

On March 24, 2015, the Albuquerque Bernalillo County Water Utility Authority (Water Authority) received an Administrative Order (AO), Docket Number CWA-06-2015-1733. This progress report was prepared in accordance with the requirements on the AO and represents the status of the various projects at the end of June 2015. The response is organized in the order in which the projects appear in the AO.

1. **Complete Preliminary Treatment Facility Replacement by December 31, 2015.**

   A completely new Preliminary Treatment Facility (PTF) has been designed, constructed, and started-up at the Southside Water Reclamation Plant (SWRP). The total project cost is estimated at $38 million. The final costs are not yet available, but construction costs are anticipated to be approximately $34.1 million and engineering costs to be approximately $3.7 million. The facility was started up in August of 2015. The amount of grit and solids collected by the new facility is significant.

2. **Complete Remedial Action Maintenance Plan (RAMP) Report Update by December 31, 2015.**

   Water Authority and various engineering consultants are preparing the update to the RAMP Report. The updated RAMP is included in Attachment A. This update will be completed by the end of December 2015.

3. **Complete Pre-Screens for UV Disinfection Facility by December 31, 2016.**

   An alternatives evaluation technical memorandum was completed for the project in 2013. The recommended screening technology is center flow band screens. An engineering consultant is preparing the design to install the screens. The estimated project cost is $3.7 million. Substantial completion will be complete for this facility by the end of December 2016.

4. Complete Aeration Basin Rehabilitation by June 30, 2017.

Aeration Basin Rehabilitation in all fourteen basins has been ongoing for the past four years. Air diffuser replacements have resulted in significant reduction in the number of blowers required to meet oxygen transfer needs. Diffuser replacement is complete in twelve of the fourteen basins. The remaining two basins will be complete in spring 2016. In fiscal year (FY) 2016, Water Authority has spent $0.9 million to date on aeration basin rehabilitation.

As mentioned above, improvements to the aeration basin diffusers as well as repair of air leaks in the blower discharge piping and blower filter upgrades have improved oxygen transfer so that only five of the twelve blowers are required during peak flows. The plant now has ample primary and redundant blower capacity. In FY2016, Water Authority has spent nearly $0.8 million to date on blower rehabilitation.

Biological nutrient monitoring systems at the Aeration Basins are currently under construction and partially on line. These instruments provide the plant control room operators with real-time measurements of ammonium, nitrate, dissolved oxygen, and oxidation reduction potential (ORP). These readings are already resulting in the optimization of the biological removal of ammonia and total nitrogen. Construction will be complete in January 2016.

Future improvements to the basins includes raising the air control valves to the deck level and out of the mixed liquor to facilitate preventative maintenance. These improvements are complete for two of the basins. Raising additional valves is estimated to resume on two more basins starting in May 2016, and will eventually be done for all fourteen of the aeration basins.

5. Complete Storm Water Drainage Improvements by June 30, 2017.

The pipes utilized by storm water outlets 2 and 3 have been filled with concrete and buried. A dye test was performed April 6, 2015 which demonstrated that the concrete plugs will prevent flow from leaving the outlets. Storm water outlet 1 has a large earthen berm in front of it. This berm held during the February 2015 overflow event. In subsequent rainfall events, no discharge has been observed from any of the storm water outlets.

Water Authority staff are working on design of two storm/spill retention basins: one on the north side and another on the south side of the plant site. When complete, all runoff will be detained and pumped back to the head of the plant thereby eliminating the need for future storm water discharge points. The drainage ponds will also provide on-site storage in the event of a major power failure to provide on-site containment to prevent overflows leaving the Southside Water Reclamation Plant property. The Water Authority has budgeted $1.4-million for construction of these basins and construction will be completed by June 30, 2017.

6. Complete Solids Dewatering Facility (SDF) Replacement and/or Improvements by December 31, 2017.

Design for the renewal of the SDF is at the 60% stage. The work includes installing one new centrifuge, replacing the troublesome cake conveyor belt with a set of shaft-less screws and cake pumps, adding an emulsion polymer storage and feed facility, and installing two additional cake storage bins to increase storage capacity by 50 percent. Related projects include a new equipment storage building and adding 2.6 million gallons of additional liquid digested sludge storage capacity. This additional storage will allow for steadier operation of the solids treatment systems at the SWRP.

The design consultant is scheduled to complete the design of the improvements of the Solids Dewatering Facility by March of 2016. It is planned to issue two or more construction packages for the different components. The overall project is scheduled to be completed by end of 2017. The total cost for the improvements is estimated to be $26 million.

7. Complete Secondary Sludge Thickening Improvements by March 31, 2018.

A pilot study of three different technologies for the Dissolved Air Flotation Facility has been designed and completed. The three technologies tested are as follows: rotary drum, screw, and centrifuge. The Water Authority will use the pilot tests as part of the evaluation to determine the best approach for completing the renewal of this facility.

8. Complete Return Activated Sludge (RAS) and Sludge Withdrawal Pumps Improvements by June 30, 2018.

A spare RAS pump was ordered and received this summer. Each pump costs approximately $107,000 delivered. Having a spare pump means that one of the existing pumps can be removed and the new pump installed. The removed pump can them be sent out for renewal. This will allow each of the existing pumps to be sequentially renewed.

9. Complete Existing Digester Rehabilitation and Improvements by May 30, 2019.

The Water Authority has been and continues to rehabilitate and make improvements to the fourteen anaerobic digesters at the SWRP. So far in FY2016 Water Authority has spent $2.4 million on this project. The following list of items have been completed or are in progress:

- A significant number of the existing draft tube mixers have been renewed and improved seals and automatic greasing units installed. A new mixing technology (i.e., linear mixing) is being installed on one of the primary digesters as a demonstration project, prior to deciding on full replacement of the mixing systems.
- The sludge heating systems have been renewed and allow for consistent temperature control.

- Six out of seven new magnetic flow meters have been installed on the sludge lines. The remaining meter requires a significant shut down which is in the planning stage.
- The mixer on the Sludge Blending Tank has been renewed.
- The CIP safety pressure relief valves and access hatches on top of the digesters are in construction and currently pending long delivery time for the hatches and PRVs.
- Cracks in the concrete walls and roofs of some of the digesters that show signs of leakage have been sealed with epoxy sealant with the remainder to be addressed in the Digester Hatch and PRV on call contract.
- Structural repairs to the interior corbels have been made to two of the four secondary digesters. This allows these tanks to be drawn down safely.
- A project is currently under design for rehabilitating the two digester gas holding tanks and the high pressure gas sphere. This work will include an inspection to determine whether the existing protective coatings on the interior and exterior of these tanks need to be replaced or repaired.
- The comprehensive design analysis report (DAR) completed in January 2015 provides a plan for a complete renewal of the digesters as well as a plan for adding additional primary digester capacity. The increase in capacity is put on hold until after the completion of the SDF.
- Upcoming work includes renewal of the electrical, instrumentation, and mechanical systems in the Digester Galleries. This will complete the first phase of digester rehabilitation.
- As mentioned under the Solids Dewatering Facility (SDF) Replacement and/or Improvements section of this report, supplemental digested sludge storage is currently under design. This will include the construction of a new 2.0 million gallon tank. The combined capacity of these two tanks will provide approximately 5 days of digested sludge capacity and will allow the plant to
- Waste sludge as required as well as allow the solids dewatering system to operate on a steadier basis.
- Once additional liquid digested sludge storage capacity becomes available, it is currently planned to convert two of the four secondary digesters to primary digesters providing additional digestion capacity.
- Future rehabilitation of the digesters will include renewal of the interior coatings of each digester and any structural repairs. This work can be started once additional primary capacity is available, so that one or two digesters can be taken out of service for several months at a time without compromising the digestion process.

10. Complete Digester Cleaning Program by September 30, 2019.

A complete round of cleaning of the fourteen digesters was completed in 2012. In 2014 Digesters 13 and 14 were re-cleaned at a cost of $101,000. A new round of digester cleaning was planned to start in late 2015. Due to a reduced amount of grit was noted in the previous round of digester cleaning, this work has been placed on hold. Water Authority staff will monitor grit levels and resume cleaning when grit becomes more substantial and deemed necessary.

The Water Authority tracks expenditures for each of these projects via Capital Improvements Project (CIP) reports. The FY16 CIP report as of December 18, 2015 for the SWRP is included as Attachment B.

Please contact me at (505) 289-3150 or jstomp@abcwua.org if you have any questions or need additional information.

Sincerely,

John M. Stomp III, P.E.
Chief Operating Officer

Attachments

cc: Bruce Yurdin, Surface Water Quality Bureau, NMED