Albuquerque Bernalillo County
Water Utility Authority

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June 30, 2015

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

VIA USPS MAIL: CERTIFIED MAIL - RETURN RECEIPT REQUESTED

RE: Administrative Order CWA-06-2015-1733
Progress Report for period ending June 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.**

   The Preliminary Treatment Facility replacement has been under construction for more than a year and will be complete and ready for start-up is summer 2015. The new facility includes grit removal in three stages: first-stage grit removal, second-stage vortex grit conveyors, and third-stage bar screens and grit classifiers. Attachment A includes a couple of construction photos of the new facility. To date, the Water Authority has paid $33 million towards this project (see May Application for Payment in Attachment B).

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

   A consultant has been selected to provide an update to the RAMP. Water Authority and the consultant are preparing the scope and negotiating the fee so that this update can be issued by the end of 2015. The amount budgeted for this task is $200,000.

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. The estimated project cost is $3.7-million. Negotiations are currently underway to have the engineering consultant prepare the design. Construction will be complete for this facility by the end of December 31, 2016.

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

Aeration Basin Rehabilitation consists of air diffuser and diffuser piping replacement in all fourteen basins. This work has been ongoing for the past four years. The initial diffuser replacements have had a noticeable beneficial impact on overall air supply needs and the number of air supply blowers required for meeting oxygen transfer needs. For example, a year ago Water Authority was using between six and eight blowers during peak, and today the number of blowers required during peak flow is between three and five. Diffuser replacement is complete in eleven of the fourteen basins: North Basins 1, 2, and 6; as well as South Basins 1-8. The remaining three basins will be complete in spring 2016, as follows: North Process Basin 5 complete by September, 2015; and North Basins 3 and 4 is scheduled to be complete by end of March, 2016. To date, the Water Authority has spent $1.2 million on aeration basin rehabilitation.

Associated work that has recently been completed in the rehabilitation of the multi-stage centrifugal blowers. All twelve of the blowers are currently functional. As mentioned above, improvements to the aeration basin diffusers, as well as repair of air leaks in the blower discharge piping, has 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.

Other improvements to the Aeration Basins currently under construction are installation of biological nutrient monitoring systems. These on-line instruments will provide the plant control room operators with real-time measurements of ammonium, nitrate, dissolved oxygen, and oxidation reduction potential (ORP). These readings will assist the plant in optimizing the biological removal of ammonia and total nitrogen.

Future improvements to the basins includes bringing the air control valves up to the deck level and out of the mixed liquor. This will facilitate preventative maintenance on these valves. This improvement is complete for two of the basins, 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 overflow event. During 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.**

The design for the renewal of the SDF is currently underway. 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 by the winter of 2015/2016. 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 $25-million.

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

Much of the mechanical equipment including components associated with the compressed air system has recently been renewed at the Dissolved Air Flotation Facility. The building roof was renewed in 2015. A desk top evaluation of alternative sludge thickening technologies was completed in 2014.

A pilot study of three different technologies has been designed and manufacturer equipment is currently scheduled to be tested in late summer/fall of 2015. The three technologies to be tested are as follows: rotary drum, screw, and centrifuge. These pilot tests will assist in determining 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 has been ordered and should arrive in July 2015. Each pump costs approximately $107,000 delivered. Upon arrival of the spare pump, 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. To date, we have spent $1.04 million on this project in FY15. The following list of items have been completed or are underway towards completing rehabilitation:

- 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.
- New magnetic flow meters have been installed on the sludge lines.
- The mixer on the Sludge Blending Tank has been renewed.
- Currently, safety pressure relief valves and access hatches on top of the digesters are being renewed.
- Cracks in the concrete walls and roofs of the digesters that show signs of leakage have been sealed with epoxy sealant.
- 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 replacing the existing protective coatings on the interior and exterior of these tanks.
- A comprehensive design analysis report (DAR) was completed by a consultant in January 2015. This report provides a plan for a complete renewal of the digesters as well as a plan for adding additional primary digester capacity.
- 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 conversion of an existing 0.6 mil gal tank and the construction of a new 2.0 mil gal 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 will begin later in 2015. The anticipated costs of the next round of cleaning is $0.6 million. It is anticipated that the new PTF will greatly reduce the amount of grit that is deposited in the digesters.

The Water Authority tracks expenditures for each of these projects via Capital Improvements Project (CIP) reports. The FY15 CIP report for the SWRP is included as Attachment C.

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

Administrative Order; Docket Number CWA-06-2015-1733 Progress Report

Albuquerque Bernalillo County Water Utility Authority

June 2015

The Albuquerque Bernalillo County Water Utility Authority (Water Authority) submits the following Administrative Order; Docket Number CWA-06-2015-1733 Progress Report.

CERTIFICATION

I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment.

6/30/15
Date

Signature