

**WILLINGBORO MUNICIPAL UTILITIES AUTHORITY
ENGINEER'S STATUS REPORT
FEBRUARY 20, 2019**

M-260-309 **WPCP GRIT AND SCREENING REMOVAL EQUIPMENT
(NJEIT)**

No change in status.

This project includes the installation of a mechanical bar screen and grit removal equipment. The mechanical bar screen which will be installed in the raw wet well will replace the comminutor and manual back-up bar screen. The mechanical bar screen collects rags, plastic and other large debris which cannot be biological degraded and prevents damage and clogging of downstream equipment. The mechanical bar screen is typically the first process installed at a wastewater treatment plant. A mechanical bar screen automatically rakes the debris collected to the surface where it is dewatered and ultimately deposited into a dumpster for disposal off-site. The mechanical bar screen will replace the existing comminutor and manual bar screen.

Grit includes sand, gravel, cinders other heavy inorganic and organic wastes. Removal of grit prevents unnecessary wear of mechanical equipment, grit deposition in pipelines and accumulation of grit in the anaerobic digesters. The grit removal equipment will be installed between the raw sewage pumps and the primary settling tanks to prevent deposition of grit in the primary settling tanks with the primary sludge. The grit removal equipment proposed to be installed are sealed vessels which remove the grit by cyclonic force. Grit is forced to the perimeter of the vessels where it falls by gravity to the bottom of the vessel. After collection the grit is washed, dewatered and processed for off-site disposal.

Based on discussions with Authority personnel it was decided to include the installation of primary digester mixing equipment in this project. The primary digester mixing equipment has not operated for a few years and must be replaced to prevent the deposition of grit and other heavy materials. Proper mixing will also enhance and make the digestion process more efficient.

Due the increased headlosses associated with the grit removal equipment it has been determined that the raw sewage pumps will have to be replaced or upgraded to accommodate the additional head and enable the raw wastewater to be pumped through the new grit removal units to the primary settling tanks. When the raw sewage pumps are upgraded or replaced the pump motors should be replaced with high efficiency motors and variable frequency drives. This will allow the raw sewage pumps to vary their speed to match the incoming wastewater flow, which will in turn reduce the energy consumed.

M-260-312 WELL NO. 6 WTP UPGRADE (NJEIT)

Plans and specifications were previously forwarded to NJDEP for approval.

The Burlington County Engineer's Office comments on the subdivision plan have been addressed and the plan has been approved. The County's standard deed of easement for a culvert access and maintenance easement was reviewed by Victory Church's attorney and returned with numerous comments. These comments were forwarded to the County's engineer and solicitor for review.

The County has now agreed to the language added by the church's attorney. At this point the Authority can complete any remaining transactions with the church.

The Authority has decided to acquire the property to the left of the treatment plant site, 24 Medallion Lane. The survey of this property is scheduled for the week of January 14th. Once the property has been surveyed we will revise our design. Assuming NJDEP approvals can be obtained we anticipate being ready to advertise for bids in approximately 3-4 months.

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ADMINISTRATION BUILDING ADDITION

No change in status.

A number of conceptual plans and a preliminary cost estimate for the building, which includes a second floor and partial basement have been provided to the Authority for review. A brief presentation describing the project and property required to construct the addition was given to the Township Council at their October 16 meeting.

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WELL NO. 10 REDRILL

The contract for redrilling Well No. 10 was awarded to Steffen Drilling, LLC in the amount of \$224,000.00 at the August 2018 meeting.

Notice to proceed was issued and the preconstruction meeting was held on August 30. The contract completion date is February 28, 2019.

The contractor has completed the installation of the new well casing and screen, redeveloped the well and the new well pump is currently installed. The well has been operation for a few weeks. Project is complete with the exception of grading punchlist items.

M-260-321 HIGH SERVICE PUMP NO. 1 REPLACEMENT

No change in status.

High service pump No. 1 at the Main WTP is one of the original pumps installed when the plant was constructed in 1959. The Authority intends to replace this pump with one of similar design so that the existing motor which is newer can be reused. The project schedule is to advertise, receive bids, award and issue notice to proceed in the fall so that the work can take place during the winter when water demands are lower.

We have met with Authority personnel to review the scope of work and have contacted pump manufacturers to obtain design information and specifications for replacement pumps.

JEB/das