

GREEN INFRASTRUCTURE BUSINESS CASE

BUTLER AREA SEWER AUTHORITY - Butler City Act 537 Plan Improvements

ME #77017

Supporting Documentation:

BASA Email.pdf

BASA Estimated Cost for Pumps and VFDs 6-25-1010.pdf

BASA Estimated Annual cost Savings with VFDs 6-25-1020.pdf

Problem Description

On October 13, 2006, the Butler Area Sewer Authority and its seven service area municipalities executed a Consent Order and Agreement (CO&A) with the PA DEP. The CO&A mandated that BASA and the municipalities prepare and adopt an Act 537 Sewage Facilities Planning Study Update and then implement the recommended system improvements necessary to eliminate the existing sanitary sewer overflows (SSOs) and provide adequate conveyance and treatment for the future sewage needs by no later than July 31, 2012. The Final "Act 537 Planning Study" dated February 2009, details the proposed sewage system improvements necessary to comply with the requirements of the CO&A. Environmental benefits include reducing the flow of insufficiently treated sewage sent to Connoquenessing Creek and Sullivan Run (warm water fisheries) during wet weather.

Project Description

Contract 2010-2 consists of the construction of two AWWA D110 Type III wire-wound, precast concrete tanks with clear span concrete dome roofs. Each tank shall be 87 feet diameter by 24 feet high and have a nominal storage capacity of 1.00 million gallons. Contract 2010-3 includes construction of three AWWA D110 Type III wire-wound, precast concrete tanks with clear span concrete dome roofs. Each tank shall be 154 feet diameter by 35 feet high and have a nominal storage capacity of 4.70 million gallons. Contract 2010-5 – Monroe Pump Station, Diversion Structure and Appurtenances Contract 2010-5 includes construction of a wall mounted sewage grinder, a concrete pump station wet well, three submersible pumps rated at 2,150 gpm capacity each, a potassium permanganate feed system for control of odors at the Monroe equalization tank site, and a building to house an emergency generator. The chemical feed equipment will be installed in the existing pump station. Contract 2010-6 – Ballpark Pump Station, Diversion Structure and Appurtenances Contract 2010-6 consists of the construction of a mechanically cleaned bar screen with screenings compactor, a concrete pump station wet well, three submersible pumps rated at 5,100 gpm capacity each, a potassium permanganate feed system for control of odors at the Central equalization tank site, and

buildings to house the screens and to house the chemical feed system and an emergency generator. Contract 2010-7 - Connoquenessing Pump Station, Diversion Structure and Appurtenances Contract 2010-7 includes construction of a mechanically cleaned bar screen with screenings compactor, a concrete pump station wet well, three submersible pumps rated at 6,600 gpm capacity each, a potassium permanganate feed system for control of odors at the Central equalization tank site, and buildings to house the screens and to house the chemical feed system and an emergency generator. Contract 2010-8 – Ballpark Pipelines and Appurtenances Contract 2010-8 consists of the construction of approximately 2,140 LF of 30-inch C905 PVC force main and 132 LF of 48-inch RCP sanitary sewer. The project also includes an open cut crossing of Sullivan Run for the 30-inch force main. Contract 2010-9 – Connoquenessing & Monroe Pipelines and Appurtenances The Connoquenessing portion of the project consists of the construction of approximately 2,387 LF of 30-inch C905 PVC force main, including 300 LF of 30-inch force main directional drilled under Connoquenessing Creek. The Monroe portion of the project includes construction of about 692 LF of 18-inch C905 PVC force main and 627 LF of 18-inch and 24-inch diameter gravity sewer. The force main and gravity sewer will each require 70 LF open cut crossings of Connoquenessing Creek, and both pipelines will be installed inside steel casing pipes where they cross the stream. Contract 2010-10 – Electrical Work Contract 2010-10 covers all electrical work related to Contracts 2010-2 through 2010-9 including the installation of new diesel powered emergency generators at the Monroe, Ballpark, and Connoquenessing pump station locations.

Contract 2010-5 includes construction of a wall mounted sewage grinder, a concrete pump station wet well, three submersible pumps rated at 2,150 gpm capacity each, a potassium permanganate feed system for control of odors at the Monroe equalization tank site, and a building to house an emergency generator. The chemical feed equipment will be installed in the existing pump station.

Contract 2010-6 – Ballpark Pump Station, Diversion Structure and Appurtenances

Contract 2010-6 consists of the construction of a mechanically cleaned bar screen with screenings compactor, a concrete pump station wet well, three submersible pumps rated at 5,100 gpm capacity each, a potassium permanganate feed system for control of odors at the Central equalization tank site, and buildings to house the screens and to house the chemical feed system and an emergency generator.

Contract 2010-7 - Connoquenessing Pump Station, Diversion Structure and Appurtenances

Contract 2010-7 includes construction of a mechanically cleaned bar screen with screenings compactor, a concrete pump station wet well, three submersible pumps rated at 6,600 gpm capacity each, a potassium permanganate feed system for control of odors at the Central equalization tank site, and buildings to house the screens and to house the chemical feed system and an emergency generator.

Contract 2010-8 – Ballpark Pipelines and Appurtenances

Contract 2010-8 consists of the construction of approximately 2,140 LF of 30-inch C905 PVC force main and 132 LF of 48-inch RCP sanitary sewer. The project also includes an open cut crossing of Sullivan Run for the 30-inch force main.

Contract 2010-9 – Connoquenessing & Monroe Pipelines and Appurtenances

The Connoquenessing portion of the project consists of the construction of approximately 2,387 LF of 30-inch C905 PVC force main, including 300 LF of 30-inch force main directional drilled under Connoquenessing Creek. The Monroe portion of the project includes construction of about 692 LF of 18-inch C905 PVC force main and 627 LF of 18-inch and 24-inch diameter gravity sewer. The force main and gravity sewer will each require 70 LF open cut crossings of Connoquenessing Creek, and both pipelines will be installed inside steel casing pipes where they cross the stream.

Contract 2010-10 – Electrical Work

Contract 2010-10 covers all electrical work related to Contracts 2010-2 through 2010-9 including the installation of new diesel powered emergency generators at the Monroe, Ballpark, and Connoquenessing pump station locations.