

Document 1-Option Explanations

Jefferson County Public Service District Alternatives to Consider for Inclusion in a Preliminary Engineering Report August 6, 2012 (revised August 17, 2012)

The Public Service Commission of WV (PSC) denied the Districts Application of Convenience and Necessity to construct the Flowing Springs Wastewater Treatment Plant (WWTP). The District had deferred upgrades to its collection system to the Charles Town WWTP since the Flowing Springs Project would have radically changed the way it collected and treated the sewage generated in its service area. Since the project was denied, the District now needs to evaluate and plan how to properly handle the flows it is responsible for. This document, associated maps and matrix contains the options that the District is considering for further study in a Preliminary Engineering Report (PER). The resulting PER will be considered as a major component of the District's Strategic Plan.

The PER will include the following:

- Consider the current status of the Districts collection system and pump stations. The existing flows the collection system handles will be determined from the ongoing flow metering the District conducts on a regular basis. In addition, the runtimes of the pump stations will be reviewed from the maintenance records the District keeps to help quantify the flow rates within the collection system.
- Assess the flows the District will be expected to handle within the foreseeable future which is defined as 20 years by the regulatory agencies that regulate utilities in West Virginia.
- Evaluate the economics of the alternatives after gathering environmental and other pertinent information that could affect the economics of an alternative.
- Make a recommendation to the Board of the Jefferson County PSD based on the facts determined by the study.

Current Situation:

The Districts collection system consists of three legs.

1. (NRT9) The Northern Route 9 collection system that conveys the flows from the Job Corps and Burr Industrial Park area along Route 115 through Ranson and to the Charles Town WWTP.

2. (FSB) The second leg is the Flowing Springs Basin collection system which collects sewage from the Walnut Grove area, Briar Run Subdivision, Breckenridge Subdivision and Beallair Subdivision, and is currently conveyed from the Breckenridge Pump Station to the Ranson Flowing Springs Pump Station. From this station about 1/3 is returned to the District's pump station at the corner of Flowing Springs Road and Flowing Springs Road and the remaining 2/3 leaves the Ranson Flowing Springs Pump Station with Ranson flows and then is conveyed to the Evitts Run gravity interceptor.

3. (SRT9) The Third Leg is the Southern Route 9 Collection system which conveys the flows from the southern side of Route 340 from Norborne Glebe and the Saint James Catholic Church back to Route 340 and then conveys them to the Charles Town WWTP.

Two legs of the collection system north of Charles Town were going to be addressed by the construction of the Flowing Springs WWTP. They are the collection system along Northern Route 9 and the collection system that is served by the Breckenridge Pump Station (NRT9, FSB).

The District has an interest in the Old Standard WWTP. This study also considers how that asset could be utilized by the District. (OS)

Explanation of Alternatives:

The District is considering having a planning document (PER) prepared to address the needs of its collection system. The following alternatives detail the items the District may wish to consider for the service areas. More than one option may be required to address the entire service area. The alternatives below indicate which service area each one will serve as noted by the description in the "Current Situation" portion of this document.

Alternative 1 (NRT9, FSB)

Construct the collection system considered in the Flowing Springs project and construct a pump station at the site of the proposed Flowing Springs WWTP with a force main to terminate near the proposed Charles Town to Tuscawilla Pump Station on Evitts Run.

Alternative 2 (NRT9, FSB)

Construct the collection system considered in the Flowing Springs project and construct a pump station at the site of the proposed Flowing Springs WWTP with a force main to terminate at the Ranson Flowing Springs Pump Station.

Alternative 3 (NRT9, FSB)

- 3A.** Consider upgrading the Districts existing northern Route 9 collection system along with the gravity collection system through Ranson to the Charles Town Evitts Run gravity interceptor. (NRT9)
- 3B.** Consider upgrades to the existing Breckenridge Pump Station to convey flows to either the Ranson Flowing Springs Pump Station (FSB) or:
- 3C.** Upgrading the conveyance system those flows originally traveled, that being from the Breckenridge Pump Station to Pump Station 3-6 (near the race track) then to Pump Station 4-2 (near Wendy's) and then through the Jefferson Avenue gravity system to the Samuel Street Pump Station and then to the Charles Town WWTP (FSB) .

Alternative 4 (NRT9)

Consider an alternative to upgrade the existing northern Route 9 collection system and upgrading the gravity system through Ranson by constructing a force main to bypass the Ranson gravity system and pump the Northern Route 9 flows directly to the Evitts Run gravity interceptor from the Lloyds Flat Pump Station.

Alternative 5 (NRT9)

Consider upgrading the existing northern Route 9 collection system along with the gravity collection system to Lloyds Flat and then constructing a gravity sewer through Fairfax Crossing to the Ranson Flowing Springs Pump Station collection system.

Alternative 6 (SRT9)

Consider the capacity and if upgrades to the Southern Route 9 collection system are required.

Alternative 7 (FSB)

Consider a cooperative project with Pleasants for their proposed Breckenridge East WWTP in the lower Flowing Springs basin. Provide an upgrade of 0.250 MGD.

Alternative 8 (NRT9, FSB)

Consider constructing the collection system upgrades proposed by the Flowing Springs project. Additionally, construct a pump station at the site of the proposed Flowing Springs WWTP which would provide capacity to pump to either the Old Standard WWTP, the Ranson Flowing Springs Pump Station or through the existing collection system to the Charles Town WWTP.

Alternative 9 Old Standard Alternatives - (OS)

- 9A. Consider upgrading the Old Standard WWTP from 0.125 MGD to 0.250 MGD to handle the flows generated in the Flowing Springs basin. This alternative does not include expansion of the collection system. This alternative considers the cost of adding additional membranes to build out existing capacity in plant. (OS)
- 9B. Consider upgrading the Old Standard WWTP from the 0.250 MGD discussed in 9A to 0.500 MGD to handle the flows generated in the lower Flowing Springs basin. This alternative does not include expansion of the collection system. This alternative considers construction of a duplicate plant next to the existing plant. (OS)
- 9C. Consider what upgrades would be required at the Breckenridge Pump Station to complement the previous two options. (OS)