



west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street, SE
Charleston, WV 25304
Phone: 304-926-0495 / Fax: 304-926-0463

Harold D. Ward, Cabinet Secretary
dep.wv.gov

MEMORANDUM

To: Marie Prezioso, Chair

From: Katheryn Emery, P.E. Engineering Chief
Sewer Technical Review Committee

Date: April 12, 2024

Subject: Brooke Co. PSD
IJDC No. 2022S-2296
Beach Bottom Wastewater System Upgrades

-
1. This committee has reviewed the preliminary application and engineering report submitted for the above referenced project in accordance with Chapter 31, Article 15A. It has been determined that the proposed project is:
 - a. Consistent with the intent of the Infrastructure and Jobs Development Act and is the most cost-effective, environmentally sound alternative for solving the wastewater needs in this area.
 - b. Not consistent with the Act and may not be the most cost effective, environmentally sound alternative for solving the wastewater needs in this area.
 - c. Same as (a) above except that certain issues need to be addressed prior to design and construction as the attached comments indicate.
 2. Our recommendation is that:
 - a. The Funding Committee needs to review the proposed sources of funding to determine the best mix of grant and/or loan funds in accordance with applicable guidelines.
 - b. The Funding Committee should recommend that the Council approve the proposed project and its funding plan.

- c. ___ The Funding Committee does not need to review the funding assumptions on this project because of deficiencies in the engineering report. The proposed project should be tabled for the consultant to address technical comments.
- d. ___ This project should be referred to the Consolidation Committee.

3. Other remarks:

The proposed project will replace the Brooke County Beech Bottom WWTP with a 0.2 MGD Sequencing Batch Reactor. The existing lagoon will also be decommissioned with this project. Consent Order #9865 was issued to the PSD on July 21, 2021 for forty-eight (48) exceedances to their permit. The Order acknowledged that a proposed plan of corrective action (POCA) and addendum was approved outlining how and when the PSD would achieve compliance with their NPDES Permit.

The total cost for this project is \$12,090,000 and the PSD intends to pursue a \$9,067,500 grant from the ACOE and a \$3,022,500 Governor's Office matching grant.

Using the Combined Application, the Engineering Fees appear to be within the ASCE curve.

Preliminary Project Ratings:

Public Health Benefits: 10

Compliance with Standards: 20

Sherri A. Young, DO, MBA, FAAFP
Cabinet Secretary

Matthew Q. Christiansen, MD, MPH
State Health Officer

MEMORANDUM

TO: Jason Billups, P.E.
DEP/Infrastructure Sewer Technical Review Committee

FROM: William S. Herold, Jr., P.E., Assistant Manager
I/CD/Environmental Engineering Division

DATE: April 11, 2004

SUBJECT: Brooke County PSD
Preliminary Application **Project No.: 2022S-2296 Formerly 2021S-1999**
WWTP Replacement
Brooke County

RECOMMENDATION:

We have reviewed this preliminary application and recommend it be forwarded to the Funding Committee for review.

PROJECT SCOPE:

This preliminary application is to replace the existing Brooke County PSD's Beech Bottom Aeration Lagoon WWTP with a new 0.20 MGD Sequencing Batch Reactor packaged plant with disc filtration and chemical treatment.

The cost per customer is **\$10,150**. Total estimated project cost is **\$12,088,300** (US ACE Grant: **\$9,067,500** and Governor's Office Match Grant: **\$3,022,500**).

NEED FOR PROJECT:

The Preliminary Engineering Report indicates the existing WWTP is undersized and cannot meet the effluent discharge limitations.

CONCERNS:

None.

PERMITS:

A permit **will** be required from the WV Bureau for Public Health prior to construction.





west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street, SE
Charleston, WV 25304
Phone: 304-926-0495 / Fax: 304-926-0463

Harold D. Ward, Cabinet Secretary
dep.wv.gov

MEMORANDUM

TO: Katheryn Emery, P.E., Engineer Chief, DWWM

FROM: Corey McComas, DWWM

DATE: April 9, 2024

SUBJECT: Brooke Co. PSD
IJDC No. 2022S-2296
Beach Bottom Wastewater System Upgrades

RECOMMENDATION

The IJDC Application and Preliminary Engineering Report prepared by The Thrasher Group for the above referenced project has been reviewed and is technically feasible.

PROJECT DESCRIPTION

The Brooke Co. PSD (PSD) currently owns a 0.15 MGD aerated lagoon wastewater treatment plant (WWTP) in Beech Bottom, a 0.025 MGD packaged WWTP in Franklin Manor, and a collection system, in which a portion conveys its sewage to the City of Wellsburg for treatment. The PSD serves 1,226 customers in Brooke County, WV and serves the areas of Beech Bottom, Franklin Manor, Rockdale Rd., Mahan's Lane, Eldersville Rd., and St. John's Rd. Both of the PSDs' WWTPs discharge their effluent into the Ohio River and the package WWTP via an unnamed tributary into Pierce Run into Buffalo Creek.

The proposed project will replace the Beech Bottom WWTP with a 0.2 MGD Sequencing Batch Reactor WWTP, including Influent Pump Station, Headworks Facility, SBR System, Chemical Feed System, UV Disinfection System, Disk Filter and Building, and Post Aeration System. The existing lagoon will be decommissioned with this project.

The proposed total cost for this project is \$12,090,000.00 and the PSD intends to pursue funding from an ACOE grant and a matching grant from the Governor's office for the full amount.

NEED FOR PROJECT

In 2020, the DEP inspected the WWTP facility and reviewed records. It was identified that there was a combined total of forty-eight (48) exceedances from Outfall 001, from the existing WWTP lagoon at Beech Bottom. These included two (2) for biochemical oxygen demand, eight (8) for suspended solids, eleven (11) for ammonia nitrogen, eleven (11) for fecal coliform, nine (9) for total recoverable copper, two (2) for BOD removal, and six (6) for total suspended solids removal. Consent Order #9865 was issued to the PSD on July 21, 2021. The Order acknowledged that a proposed plan of corrective action (POCA) and addendum was approved outlining how and when the PSD would achieve compliance with their NPDES Permit.

The report states the designated economic development organization for the area is currently in discussions with several industrial companies about relocating to a vacant industrial park. The existing WWTP currently does not have the capacity or capability to treat the estimated future loading from the continued expansion of the industrial park.

DEFICIENCIES/COMMENTS

- A Wasteload was included but should be updated (Expired).
- It is suggested that additional alternative processes be investigated prior to design.
- It is highly recommended that each sub-process have alternatives evaluated (UV vs. CL2, Belt Press vs. other sludge dewatering options, etc.).
- Project Schedule should be updated.
- Provide Physical Condition & Schematic Diagram of the WWTP.
- No existing and proposed rate was provided.
- Using the Combined Application, the Engineering Fees appear to be within the ASCE curves.

Preliminary Project Ratings:

Public Health Benefits: 10

Compliance with Standards: 20

Public Service Commission of West Virginia

201 Brooks Street, P.O. Box 812
Charleston, West Virginia 25323

Phone: (304) 340-0300
Fax: (304) 340-0325



April 11, 2024

Ms. Kathy Emery, P. E.
Office of Water Resources
Department of Environmental Protection
601 57th St.
Charleston, West Virginia 25304

Re: Public Service Commission Staff Review Comments
Application No. 2022S-2296
Brooke County PSD – Beech Bottom Sewer Improvements
Infrastructure Preliminary Application

Dear Ms. Emery:

As requested, the Technical Staff of the Public Service Commission of West Virginia has completed its review of the above-referenced Infrastructure application. In light of Technical Staff's comments enclosed herewith, we are recommending the application be:

- Forward the Application
- Return the Application
- Returned to the Applicant

Please advise if you have any questions.

Sincerely,

Jonathan M Fowler
Jonathan M. Fowler, P.E.
Engineering Division

Enclosures
JMF:vb

**PUBLIC SERVICE COMMISSION STAFF
TECHNICAL REVIEW**

DATE: April 10, 2011

PROJECT SPONSOR: BROOKE COUNTY PUBLIC SERVICE DISTRICT -
SEWER

PROJECT SUMMARY: Brooke County PSD is proposing to replace the existing extended aeration lagoon system at the Beech Bottom Wastewater Treatment Plant.

PROPOSED FUNDING: US Army Corp of Engineers Grant	\$ 9,067,500
Governor's Office Matching Funds	<u>3,022,500</u>
Total	\$12,090,000

CURRENT RATES:	\$50.12	3,400 gallons (Min. based on 4,000 gals.)
	\$50.12	4,000 gallons (Min. based on 4,000 gals.)

PROPOSED RATES:	\$60.52	3,400 gallons (Min. based on 4,000 gals.)
	\$60.52	4,000 gallons (Min. based on 4,000 gals.)

Application No. 2022S-2296

RECOMMENDATION: forward to the Funding Committee.
 forward to the Consolidation Committee.
 return to the Applicant.

FINANCIAL: Alex Kovarik

1. Current rates (\$50.12 for 3,400 gallons) are below the rates attributable to 1.25% (\$50.18), 1.5% (\$60.21), 1.75% (\$70.25), and 2.0% (\$80.28) of the Median Household Income (MHI). Increasing current rates to 1.25%, 1.5%, 1.75%, and 2.0% of the MHI would provide additional revenues of \$1,079, \$197,995, \$394,911, and \$591,827 respectively.
2. Using Scenario 1, the preferred funding package consisting of US Army Corp of Engineers Grant of \$9,067,500 and a Governor's Office Matching Funds Grant of \$3,022,500, proposed rates (\$60.52 for 3,400 gallons) will provide a cash flow surplus of \$4,028 and debt service coverage of 128.87%.

3. Using the Scenario 2 alternate loan package of \$12,090,000 (in uncommitted funds) at 5% for 40 years (paid back over 38 years), proposed rates (\$60.52 for 3,400 gallons) will provide a cash flow deficit of \$784,393 and debt service coverage of 53.54%. An additional 63.3% (for a total of \$98.83 for 3,400 gallons) increase in proposed rates will be required in order to provide a cash flow surplus of \$482 and debt service coverage of 119.19%.

4. NOTES TO COMMENTS

A. Staff's detailed adjustments are listed on Attachment A for Scenario 1 (Preferred Funding Package) and Attachment B for Scenario 2 (Loan Package).

B. Staff used the MHI for Brooke County of \$48,168 from the 2020 U.S. Census versus the MHI of \$42,500 for the Village of Beech Bottom that was listed in the application.

C. Staff prepared the attached Cash Flow Analysis utilizing information from the Annual Report for the Fiscal Year Ended June 30, 2023, and the applicant's Cash Flow Statement submitted with the application.

D. Staff notes the project sponsor has requested a Draft Rule 42 Exhibit waiver.

E. It should be noted that the District's rates will increase to \$59.92 (3,400 gallons) after substantial completion of the project approved in Case No. 22-0619-PSD-CN.

F. The District is proposing a rate of \$60.52 (3,400 gallons) in its application. The District hasn't filed to increase its rates with the PSC as of April 9, 2024.

G. This application was last reviewed in July 2021. At that time, the funding package consisted of an Abandoned Mine Lands (AML) Grant for \$5,475,000. Neither the previous project or the current project proposes to serve any new customers.

H. Senate Bill 234, effective June 12, 2015, required water and sewer utilities that are political subdivisions of the state to maintain a cash working capital reserve in an amount of no less than one-eighth (1/8) of actual

annual operation and maintenance expenses. It should be noted that the cash flows provided by the project sponsor include funding for the 1/8 cash working capital reserve. Staff accepted that amount in its analyses. However, this amount may be reviewed by the Commission in future filings in accordance with Public Service Commission General Order 183.11.

ENGINEERING: Jim Spurlock

1. This project may require a Certificate of Convenience and Necessity from the PSC. The project sponsor should consult with Staff pursuant to General Order 246 for such determination. If a Certificate is required, the utility should reference this application number on the PSC's Form No. 4 when its application is filed at the Commission given the requirement of West Virginia Code 24-2-11 (c) and (e). Staff notes that an affirmative determination of need for the project must be established in a Certificate filing at the PSC.
2. Scope: Brooke County PSD proposes to replace its existing lagoon wastewater treatment plant, which serves the Beech Bottom system, with a 0.2 MGD Sequential Batch Reactor treatment plant. The Beech bottom plant serves approximately 439 of the District's 1,191 customers. The District also purchases wastewater treatment from the City of Wellsburg and the City of Weirton, and operates a package treatment plant at Franklin Manor.

Customer Density: N/A

Cost per Customer: \$10,150 Taken from the total project cost estimate of \$12,088,300 spread over 1,191 existing customers.

3. Project Feasibility: The project is technically feasible. The cost per customer is reasonable. The new treatment plant will be sized and designed to accommodate the anticipated expansion of the Beech Bottom Industrial Park. The existing plant experiences numerous exceedances of the NPDES permit and is inadequate to accommodate the industrial park growth.
4. Project Alternatives: The proposed project was selected over expansion of the existing lagoon system due to better capability of meeting NPDES requirements, and of treating metals expected from industrial park flows.

The alternative of sending flows to Wellsburg for treatment is less feasible financially.

5. Consolidation: No consolidation opportunities are presented.
6. Inconsistencies: None were noted.
7. Operation and Maintenance (O & M) Expenses: O & M expenses are projected to increase by \$58,250 annually as a result of the project. Supporting calculations were provided.
8. Engineering Agreement: The application includes a letter, dated 12/9/22, explaining that “The PSD will soon procure an engineer for the design and construction-related services for the full project following the State approved 5G process”, and that the PER cost less than \$50,000. Total technical services (engineering) costs for the project are \$1,685,500 which is equal to 16.69% of the construction cost of \$10,100,000 (including contingency). A legal opinion regarding adequacy of the 5G selection process has been requested.

BROOKE COUNTY PUBLIC SERVICE DISTRICT - SEWER
 CASH FLOW ANALYSIS
 YEAR ENDED: June 30, 2023
 APPLICATION NO: 2022S-2296
 April 11, 2024

**PREFERRED FUNDING PACKAGE
 SCENARIO 1**

	Cash Flow Going Level Per Application Before Project	Cash Flow Proforma Per Application with Project	Staff Adjustments	Per Staff Analysis
	1	2	3	4
	\$	\$	\$	\$
AVAILABLE CASH				
Operating Revenues	1,184,134	1,187,686	-	1,187,686
Other Operating Revenue			-	-
SB 234 Annual Working Cash Collections	83,158	83,158	-	83,158
Interest Income & Other Misc.	50,933	50,933	-	50,933
Total Cash Available	1,318,225	1,321,777	-	1,321,777
OPERATING DEDUCTIONS				
Operating Expenses	644,020	644,020	-	644,020
Taxes	21,242	21,242	-	21,242
Total Cash Requirements Before Debt Service	665,262	665,262	-	665,262
Cash Available for Debt Servi (A)	652,963	656,515	-	656,515
DEBT SERVICE REQUIREMENTS				
Principal & Interest (B)	509,436	509,436	-	509,436
Other Debt			-	-
Reserve Account @ 10%	30,201	30,201	-	30,201
Renewal & Replacement Fund (2.5%)	29,603	29,692	-	29,692
Total Debt Service Requirement	569,240	569,329	-	569,329
SB 234 Cash Working Capital	83,158	83,158	-	83,158
Remaining Cash	565	4,028	-	4,028
Percent Coverage (A) / (B)	128.17%	128.87%		128.87%
Average rate for 3,400 gallons	\$ 50.12	\$ 60.52	\$ -	\$ 60.52
Average rate for 4,000 gallons	\$ 50.12	\$ 60.52	\$ -	\$ 60.52

**BROOKE COUNTY PUBLIC SERVICE DISTRICT - SEWER
CASH FLOW ANALYSIS
YEAR ENDED: June 30, 2023
APPLICATION NO: 2022S-2296**

**Attachment A
PREFERRED FUNDING PACKAGE
SCENARIO 1**

Staff Adjustments

Adjustment Description

\$ Increase
 <Decrease>

BROOKE COUNTY PUBLIC SERVICE DISTRICT - SEWER
 CASH FLOW ANALYSIS
 YEAR ENDED: June 30, 2023
 APPLICATION NO: 2022S-2296
 April 11, 2024

**LOAN PACKAGE
 SCENARIO 2**

	Max Rate Going Level Per Application Before Project	Max Rate Proforma Per Application with Project	Staff Adjustments	Per Staff Analysis
	1	2	3	4
	\$	\$	\$	\$
AVAILABLE CASH				
Operating Revenues	1,184,134	1,187,686	805,000 (1)	1,992,686
Other Operating Revenue			-	-
SB 234 Annual Working Cash Collections	83,158	83,158	-	83,158
Interest Income & Other Misc.	50,933	50,933	-	50,933
Total Cash Available	1,318,225	1,321,777	805,000	2,126,777
OPERATING DEDUCTIONS				
Operating Expenses	644,020	644,020	-	644,020
Taxes	21,242	21,242	-	21,242
Total Cash Requirements Before Debt Service	665,262	665,262	-	665,262
Cash Available for Debt Servi (A)	652,963	656,515	805,000	1,461,515
DEBT SERVICE REQUIREMENTS				
Principal & Interest (B)	509,436	509,436	716,746 (2)	1,226,182
Other Debt			-	-
Reserve Account @ 10%	30,201	30,201	71,675 (3)	101,876
Renewal & Replacement Fund (2.5%)	29,603	29,692	20,125 (4)	49,817
Total Debt Service Requirement	569,240	569,329	808,546	1,377,875
SB 234 Cash Working Capital	83,158	83,158	-	83,158
Remaining Cash	565	4,028	(3,546)	482
Percent Coverage (A) / (B)	128.17%	128.87%		119.19%
Average rate for 3,400 gallons	\$ 50.12	\$ 60.52	\$ 38.31	\$ 98.83
Average rate for 4,000 gallons	\$ 50.12	\$ 60.52	\$ 38.31	\$ 98.83

**BROOKE COUNTY PUBLIC SERVICE DISTRICT - SEWER
CASH FLOW ANALYSIS
YEAR ENDED: June 30, 2023
APPLICATION NO: 2022S-2296**

**Attachment B
LOAN PACKAGE
SCENARIO 2**

Staff Adjustments

<u>Adjustment Description</u>		\$	Increase <Decrease>
(1) Operating Revenues	Per Staff Analysis	1,992,686	805,000
	Per Application with Project	1,187,686	
Staff projected that an additional \$805,000 in revenues would be needed to achieve 115% debt service coverage and a positive cash flow surplus.			
(2) Principal & Interest	Per Staff Analysis	1,226,182	716,746
	Per Application with Project	509,436	
The difference in P&I is related to Staff's calculation of a loan of \$12,090,000 for 40 years (paid back over 38 years) at 5%.			
(3) Reserve Account @ 10%	Per Staff Analysis	101,876	71,675
	Per Application with Project	30,201	
Staff assumed a 10% reserve on the new debt.			
(4) Renewal & Replacement Fund (2.5%)	Per Staff Analysis	49,817	20,125
	Per Application with Project	29,692	
Staff used 2.5% of the projection of "Operating & Other Revenues" as the basis of the renewal & replacement fund.			