



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
Funding Committee
Infrastructure and Jobs Development Council

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

Date: September 21, 2022

Subject: City of Kingwood
Preliminary Application: 2022S-2217
Sanitary Sewer System Improvements

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.

Promoting a healthy environment.

- 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 funding should be tabled until technical comments have been resolved.
- d. ___ This project should be referred to the Consolidation Committee.

3. Other remarks:

The proposed project will decommission 46 residential grinder pump stations and replace them with a gravity sewer system and extend sewer service to 46 new customers.

The proposed total cost for this project is \$6,650,000 and the PSD is seeking a \$500,000 IJDC Grant, a \$2,500,000 CWSRF loan, a \$1,500,000 CWSRF Principal Forgiveness Loan, a \$2,000,000 WDA Economic Enhancement Grant, and a \$150,000 ARPA Grant.

The application is not clear regarding whether the proposed IJDC funding includes a \$48,000 PFA contribution. The applicant needs to notify the Council if this is the case.

Attachments: Technical Comments

Engineering Fees:

Estimated construction cost =	\$ 5,299,000
Consultant's design fee =	\$ 360,000
Design fee percentage =	6.8%
Design fee per ASCE curve =	7.5%
Consultant's total fee =	\$ 925,000
Total fee percentage =	17.5%
Total fee per ASCE curve =	18.2%

Preliminary Project Ratings:

1. Public Health Benefits	5
3. Compliance with Standards	5
5. O & M Capabilities	2
6. Readiness to Proceed	0
8. Cost Effectiveness	1
10. Compliance with PSC Orders	0



STATE OF WEST VIRGINIA
DEPARTMENT OF HEALTH AND HUMAN RESOURCES
Bureau for Public Health
Office of Environmental Health Service

Bill J. Crouch
Cabinet Secretary

Ayne Amjad, MD, MPH
Commissioner & 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: September 12, 2022

SUBJECT: City of Kingwood
Preliminary Application **Project No.: 2022S-2217**
Line Upgrade/Replacement
Preston 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 decommission 46 existing grinder pumping stations & replace with new gravity sewer system and to extend sewer service to 46 new customers. The project will consist of the installation of approximately 3,090 LF of 6" and 8,950 LF of 8" sewer line; necessary cleanouts & manholes; two (2) duplex grinder pump stations; one (1) grinder pump station; one (1) duplex sewage pump station; and approximately 2,050 LF of 1 ½ and 950 LF of 2" force main.

The cost per customer is **\$141,265**. Total estimated project cost is **\$6,500,000** (IJDC District 1 Grant: **\$500,000**; CWSRF Loan: **\$2,500,000 @1.75% for 30 years**; CWSRF Principal Forgiveness: **\$1,500,000**; WDA Economic Enhancement Grant Fund: **\$2,000,000**; and Local/City/Council: **\$150,000**).

NEED FOR PROJECT:

The Preliminary Engineering Report indicates the residential grinder pump stations have failed throughout the years and have become a recurrent operation, maintenance, time and labor problem. 46 grinder pump stations will be decommissioned and will be replaced by a gravity sewer collection system. Sanitary sewer service will be extended to customers that have requested service.

CONCERNS:

The cost per customer of \$141,265 is extremely high.

PERMITS:

A permit **will not be** required from the WV Bureau for Public Health, since CWSRF funding is proposed.



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Harold D. Ward, Cabinet Secretary
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MEMORANDUM

TO: Kathy Emery, P.E., Director, DWWM

FROM: Paul Daniels, P.E., Engineer, DWWM

DATE: September 9, 2022

SUBJECT: City of Kingwood
Preliminary Application: IJDC No. 2022S-2217
Water System Improvements

RECOMMENDATION

The IJDC Application and Preliminary Engineering Report prepared by Civil & Environmental Consultants, Inc. for the above referenced project has been reviewed and it is technically feasible.

PROJECT DESCRIPTION

The City of Kingwood Sanitary Sewer Works (Kingwood) owns and operates a Class A Sewer Utility including wastewater collection and treatment serving Preston County, West Virginia. Kingwood's existing wastewater collection and treatment system has 1,455 customers and serves residences, commercial entities, and Public authorities both in and outside the city limits. The wastewater collection system consists of conventional gravity, residential grinder pump stations, and three (3) permitted combined sewer overflows (CSOs). The wastewater treatment plant (WWTP) is an existing 0.633 MGD rotating biological contactor (RBC) WWTP, which discharges into Morgan Run approximately 0.15 miles from its discharge into the Cheat River.

The proposed project will decommission 46 residential grinder pump stations and replace them with new gravity sewer service connections as well as extend sanitary sewer service to approximately 46 new residential customers. The project will include approximately 4 miles of 6 to 8 inch gravity sewer mains, 0.73 miles of 4 inch service lateral piping, 0.57 miles of 1-½ to 2 inch sanitary force mains, 95 manholes reconnection of 46 existing customers, connection of

46 new customers, 3 duplex grinder pump stations, 1 new sewage lift station, and all necessary appurtenances.

The proposed total cost for this project is \$6,650,000 and the PSD is seeking a \$500,000 IJDC Grant, \$2,500,000 CWSRF Loan (1.75%, 0.25% anmin, 30 yrs.), \$1,500,000 CWSRF Principal Forgiveness Loan, \$2,000,000 WDA Grant, and a \$150,000 ARPA Grant. The proposed average user rate for 3,400 gallons per month is \$75.14 (1.66% MHI).

NEED FOR PROJECT

Part of the project area currently is served by residential grinder pump stations (stations) that are at the end of their useful life. The operations and maintenance of the stations have become a burden for Kingwood in materials and man hours. Failure of the stations requires immediate attention to prevent backup into homes and/or overflow of raw sewage which is a health and sanitation hazard. The remainder of the project area currently is not served by a public sewer system. This project will replace the existing residential grinder pump stations with a more reliable and cost effective gravity system, which will reduce the O&M burden on Kingwood and allow easier extensions to future customers. This project will also extend service to 46 currently unserved customers.

DEFICIENCIES/COMMENTS

- Documentation of Need should be included in PER.
- I&I for the existing collection system was not included in PER. The 2021 PSC Annual Report indicated the I&I is 61.51%.
- The proposed average user rate is \$75.14 for 3,400 gallons per month. This is an affordability concern for the community.
- Existing debt information should be included in PER. The Application included debt information.
- Cost analysis for Alternative 2 should be included in the PER.
- The PER will need to be developed into a facility plan that meets CWSRF requirements if CWSRF is used.

Engineering Fees:

Estimated construction cost =	\$ 5,299,000.00
Consultant's design fee =	\$ 360,000.00
Consultant's total fee =	\$ 925,000.00
Design fee percentage =	6.8 %
Design fee per ASCE curve =	7.5 %
Total fee percentage =	17.5 %
Total fee per ASCE curve =	18.2 %

Preliminary Project Ratings:

Public Health Benefits:	5
Compliance with Standards:	5

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

September 13, 2022

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-2145
City of Kingwood - Sewer
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 the District's current financial condition, we are recommending the application be:

- forwarded to the Funding Committee
 forwarded to the Consolidation Committee
 table the application

Please advise if you have any questions.

Sincerely,

A handwritten signature in red ink, appearing to read "Jonathan M. Fowler", is written over a red horizontal line.

Jonathan M. Fowler, P.E.
Engineering Division

JMF:vb

**PUBLIC SERVICE COMMISSION STAFF
TECHNICAL REVIEW**

DATE: September 7, 2022

PROJECT SPONSOR: CITY OF KINGWOOD - SEWER

PROJECT SUMMARY: This project includes the decommissioning of 46 grinder pumping stations and replacing them with new gravity sewer service. The project will also include the addition of 46 new customers within the City limits that are not currently served.

PROPOSED FUNDING: CWSRF Loan	\$ 2,500,000
(1.75%, 30 years, .25% Admin. Fee)	
CWSRF Principal Forgiveness	1,500,000
WDA Economic Enhancement Grant	2,000,000
Local/City/Council Grant	150,000
IJDC District 1 Grant	500,000
Total	\$ 6,650,000

CURRENT RATES: \$68.62 3,400 gallons
\$79.62 4,000 gallons

PROPOSED RATES: \$75.14 3,400 gallons
\$87.19 4,000 gallons

Application No. 2022S-2145

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

FINANCIAL: Alex Kovarik

1. Current rates (\$68.62 for 3,400 gallons) are above the rate attributable to 1.25% (\$56.45) and 1.5% (\$67.74) of the Median Household Income (MHI), but below the rates attributable to 1.75% (\$79.03) and 2.0% (\$90.32) of the MHI. Increasing current rates to 1.75% and 2.0% of the MHI would provide additional revenues of \$210,005 and \$437,818 respectively.
2. Using Scenario 1, the preferred funding package consisting of a CWSRF Loan of \$2,500,000 at 1.75%, .25% Admin. Fee, for 30 years, a \$1,500,000 CWSRF Principal Forgiveness, a \$2,000,000 WDA Economic Enhancement Grant, a

\$150,000 Local/City/Council Grant and an IJDC District 1 Grant of \$500,000, proposed rates (\$75.14 for 3,400 gallons) will provide a cash flow surplus of \$7,291 and debt service coverage of 125.09%.

3. Using the Scenario 2 alternate loan package of \$6,650,000 (in uncommitted funds) at 5% for 40 years (paid back over 38 years), proposed rates (\$89.55 for 3,400 gallons) will provide a cash flow deficit of \$10,162 and debt service coverage of 119.39%. An additional .6% (for a total of \$90.09 for 3,400 gallons) increase in proposed rates will be required in order to provide a cash flow surplus of \$563 and debt service coverage of 120.56%.

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 prepared the attached Cash Flow Analysis utilizing information from the Annual Report for the Fiscal Year Ended June 30, 2021, and the applicant's Rule 42 Exhibit submitted with the application.
- C. Staff notes that the applicant has listed committed funds of \$48,000. Per the commitment letter provided by the applicant, this is a PFA Loan Award and will be included in an IJDC Loan assuming the project reaches closing and will be converted to a grant if it does not. At the time of application approval, a decision will be made by IJDC on the status of this award if there is no IJDC loan component, or no other IJDC funding in the total approved project funding package. NOTE: It's not clear whether the \$48,000 PFA is included in the proposed funding package of \$6,650,000.
- D. The total project cost listed in the preliminary application is \$6,498,222.50. The preliminary engineering report and the total proposed funding both reflect a total of \$6,650,000. This discrepancy should be resolved prior to filing for a Certificate of Convenience and Necessity.
- E. 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.

- F. Senate Bill 234 (2015) required, pursuant to WV Code 24-2-4b (b), that municipally operated utilities shall consider a reasonable plant-in-service depreciation expense for rates and charges. The project sponsor should take this into consideration when preparing its Rule 42. Municipals that do not provide for a reasonable depreciation expense risk delays in Certificate of Convenience and Necessity filings if rates are determined to not be sufficient.
- G. The City should carefully evaluate its revenue requirements before passing a rate ordinance in order to ensure that rates are sufficient to provide a reasonable surplus and meet coverage requirements. Calculations to support the revenue projections should also be provided.

ENGINEERING: Brandon Crace

1. This project will require a Certificate of Convenience and Necessity from the PSC. 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) et seq. Staff notes that an affirmative determination of need for the project must be established in a Certificate filing at the PSC.
2. Scope: The City of Kingwood is proposing to eliminate 46 of its existing residential grinder pump stations and install new gravity sewer services for these customers. In addition the project will extend sewer service to approximately 46 new customers. Construction will include approximately 20,700 LF of gravity sewer mains ranging between 6-inch to 8-inch, 3,855 LF of 4-inch service lateral piping, 3,000 LF of forcemain ranging between 1.5-inch to 2-inch, 95 manholes, 46 service reconnections, 46 connections for new customers, 3 duplex grinder pump stations (residences unable to be served by gravity), a new pump station, and all necessary valves, piping, and appurtenances. The estimated construction cost is \$5,299,000 (includes 9.30% construction contingency), and the estimated total project cost is \$6,650,000 (includes 0.29% project contingency). *(Contingency values based on Draft Schedule B 7/22/2022, included in the PER.)*

Need: The PER states that the existing residential grinder pump stations have increasingly burdened the City with operation and maintenance issues; in that, the useful life expectancy of a residential grinder pump is approximately 10 years and a failed residential grinder pump requires City personnel to immediately perform the required service to the grinder station to ensure raw sewage does not back up into the customer's home. The PER indicates that implementing gravity sewer service to areas where possible will drastically reduce health and safety hazards, while providing a

collection system that lessens the O&M burden on the City, and provides reliable sewer service.

Customer Density: This project is proposed to extend service to 46 new customers. Based upon the provided (non-service line) pipe quantities (6,300 LF [gravity] + 2,450 LF [forcemain] = 8,750 LF), the proposed line extensions are approximately 1.66 miles. This is approximately equivalent to 28 customers per mile which is acceptable.

Cost per Customer: Based upon the estimated total project cost of \$6,650,000, and having approximately (1455 + 46[new]) 1501 customers, the cost per customer will be approximately \$4,431. However, the cost per customer in terms of proposed borrowing is \$1,666, as the proposed funding is 62.4% grant.

3. **Project Feasibility:** The project scope appears to be technically feasible and poses little technical risk.
4. **Project Alternatives:** The PER includes three (3) alternates: #1 – as described in section 2. (above), #2 – replacing the existing 46 residential grinder pumps and extending service to 46 new customers, and #3 – do nothing. Alternate #1 was selected due to the residential grinder pumps rapid deterioration after 10 years of service.
5. **Consolidation:** There are no consolidation opportunities presented by this project.
6. **Deficiencies/Inconsistencies:**
 - 6.1. The IJDC Application does not accurately reflect the Engineer's estimate; in that the Application does not illustrate the construction contingency as a separate line item.
 - 6.2. The IJDC Application Preferred Funding and General Budget does not include the \$48,000 City of Kingwood PFA Contribution.
 - 6.3. The IJDC Application General Budget – Total Project Budget (\$6,498,22.50) does not match the amount of Preferred Funding (\$6,650,000).
 - 6.4. The IJDC Application Funding Information shows an IJDC PFA which does not match the amount of executed Grant Agreement (\$48,000).
 - 6.5. The IJDC Application and Engineer's estimate does not include a line item for the smoke testing, which was the justification for the IJDC PFA.
 - 6.6. The Total Project Cost and Funding needs corrected/clarified.
7. **Operation and Maintenance (O&M) Expenses:** The PER indicates that the estimated O & M expenses is proposed to decrease by approximately \$15,379 (2.27%) due to anticipated lower pumping, purchased power, and maintenance expenses associated with the elimination of older grinder pumps and associated controls.

8. Engineering Agreement: The application includes information to determine presumptive compliance with West Virginia Code §5G-1-1, et seq. Total technical services (engineering) costs for the project are \$925,000, which is equal to 17.46% of the construction cost of \$5,299,000 (includes 9.30% construction contingency).

<i>Preliminary Project Ranking</i>		
O & M Capabilities		
Performance Measures:	1	<i>Pt.</i>
Asset Management:	1	<i>Pt.</i>
Environmental Management:	0	<i>Pt.</i>
Readiness to Proceed:	0	<i>Pt.</i>
Cost Effectiveness:	1	<i>Pt.</i>
Compliance with PSC Orders:	0	<i>Pt.</i>

CITY OF KINGWOOD - SEWER
 CASH FLOW ANALYSIS
 YEAR ENDED: June 30, 2021
 APPLICATION NO: 2022S-2145
 September 9, 2022

**PREFERRED FUNDING PACKAGE
 SCENARIO 1**

	Rule 42 Going Level Per Application Before Project	Rule 42 Proforma Per Application with Project	Staff Adjustments	Per Staff Analysis
	1	2	3	4
	\$	\$	\$	\$
<u>AVAILABLE CASH</u>				
Operating Revenues	1,368,034	1,457,949	-	1,457,949
Other Operating Revenue	31,752	34,148	-	34,148
SB 234 Annual Working Cash Collections	16,653	91,446	-	91,446
Interest Income & Other Misc.	1,104	1,104	-	1,104
Total Cash Available	1,417,543	1,584,647	-	1,584,647
<u>OPERATING DEDUCTIONS</u>				
Operating Expenses	728,153	731,564	(144) (1)	731,420
Taxes	35,167	35,167	-	35,167
Total Cash Requirements Before Debt Service	763,320	766,731	(144)	766,587
Cash Available for Debt Service (A)	654,223	817,916	144	818,060
<u>DEBT SERVICE REQUIREMENTS</u>				
Principal & Interest (B)	546,167	657,760	(3,769) (2)	653,991
Other Debt	17,246	17,246	-	17,246
Reserve Account @ 10%	-	11,159	(377) (3)	10,782
Renewal & Replacement Fund (2.5%)	35,411	39,589	(2,287) (4)	37,302
Total Debt Service Requirement	598,824	725,754	(6,432)	719,322
SB 234 Cash Working Capital	16,653	91,446	-	91,446
Remaining Cash	38,746	716	6,576	7,291
Percent Coverage (A) / (B)	119.78%	124.35%		125.09%
Average rate for 3,400 gallons	\$ 68.62	\$ 75.14	\$ -	\$ 75.14
Average rate for 4,000 gallons	\$ 79.62	\$ 87.19	\$ -	\$ 87.19

Staff Adjustments

<u>Adjustment Description</u>			\$	Increase <Decrease>
(1)	Operating Expenses	Per Staff Analysis	731,420	(144)
		Per Application with Project	731,564	
	The difference is related to Staff's calculation of CWSRF Loan Administrative Fee of .25% for 30 years.			
(2)	Principal & Interest	Per Staff Analysis	653,991	(3,769)
		Per Application with Project	657,760	
	The difference in P&I is related to Staff's calculation of a CWSRF Loan of \$2,500,000 for 30 years at 1.75%.			
(3)	Reserve Account @ 10%	Per Staff Analysis	10,782	(377)
		Per Application with Project	11,159	
	Staff assumed a 10% reserve on the new debt.			
(4)	Renewal & Replacement Fund (2.5%)	Per Staff Analysis	37,302	(2,287)
		Per Application with Project	39,589	
	Staff used 2.5% of the projection of "Operating & Other Revenues" as the basis of the renewal & replacement fund.			

CITY OF KINGWOOD - SEWER
CASH FLOW ANALYSIS
YEAR ENDED: June 30, 2021
APPLICATION NO: 2022S-2145
September 9, 2022

LOAN PACKAGE
SCENARIO 2

	Rule 42 Going Level Per Application Before Project	Rule 42 Proforma Per Application with Project	Staff Adjustments	Per Staff Analysis
	1	2	3	4
	\$	\$	\$	\$
AVAILABLE CASH				
Operating Revenues	1,368,034	1,755,510	11,000 (1)	1,766,510
Other Operating Revenue	31,752	38,470	-	38,470
SB 234 Annual Working Cash Collections	16,653	91,019	-	91,019
Interest Income & Other Misc.	1,104	1,104	-	1,104
Total Cash Available	1,417,543	1,886,103	11,000	1,897,103
OPERATING DEDUCTIONS				
Operating Expenses	728,153	728,153	-	728,153
Taxes	35,167	35,167	-	35,167
Total Cash Requirements Before Debt Service	763,320	763,320	-	763,320
Cash Available for Debt Service (A)	654,223	1,122,783	11,000	1,133,783
DEBT SERVICE REQUIREMENTS				
Principal & Interest (B)	546,167	928,592	11,815 (2)	940,407
Other Debt	17,246	17,246	-	17,246
Reserve Account @ 10%	-	38,243	1,181 (3)	39,424
Renewal & Replacement Fund (2.5%)	35,411	47,125	(2,000) (4)	45,125
Total Debt Service Requirement	598,824	1,031,206	10,996	1,042,202
SB 234 Cash Working Capital	16,653	91,019	-	91,019
Remaining Cash	38,746	558	4	563
Percent Coverage (A) / (B)	119.78%	120.91%		120.56%
Average rate for 3,400 gallons	\$ 68.62	\$ 89.55	\$ 0.54	\$ 90.09
Average rate for 4,000 gallons	\$ 79.62	\$ 103.91	\$ 0.62	\$ 104.53

CITY OF KINGWOOD - SEWER
 CASH FLOW ANALYSIS
 YEAR ENDED: June 30, 2021
 APPLICATION NO: 2022S-2145

Attachment B
 LOAN PACKAGE
 SCENARIO 2

Staff Adjustments

<u>Adjustment Description</u>			\$	Increase <Decrease>
(1)	Operating Revenues	Per Staff Analysis	1,766,510	11,000
		Per Application with Project	1,755,510	
	Staff projected that an additional \$11,000 in revenues would be needed to achieve 115% debt service coverage and a positive cash flow surplus.			
(2)	Principal & Interest	Per Staff Analysis	940,407	11,815
		Per Application with Project	928,592	
	The difference in P&I is related to Staff's calculation of a loan of \$6,650,000 for 40 years (paid back over 38 years) at 5%.			
(3)	Reserve Account @ 10%	Per Staff Analysis	39,424	1,181
		Per Application with Project	38,243	
	Staff assumed a 10% reserve on the new debt.			
(4)	Renewal & Replacement Fund (2.5%)	Per Staff Analysis	45,125	(2,000)
		Per Application with Project	47,125	
	Staff used 2.5% of the projection of "Operating & Other Revenues" as the basis of the renewal & replacement fund.			