



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

Bill J. Crouch
Cabinet Secretary

Ayne Amjad, MD, MPH
Commissioner & State Health Officer

MEMORANDUM

TO: Marie Prezioso, Technical Review and Funding Committee
WV Infrastructure and Jobs Development Council

FROM: Stephanie Hickerson, P. E. *SDH*
Water Technical Review and Funding Committee

DATE: January 4, 2021

RE: Town of West Union
IJDC Preliminary Application Number: **2021W-2046**
Doddridge County

1. The Committee has reviewed the pre-application and preliminary engineering report submitted for the above referenced project in accordance with Chapter 31, Article 15-A. It has been determined that the project is:
 - a. _____ Consistent with the intent of the Infrastructure and Jobs Development Act and is the most cost-effective and environmentally sound alternative for solving the drinking water needs in this area.
 - b. _____ Consistent with the Act but may not be the most cost-effective and environmentally sound alternative for solving the drinking water needs in this area.
 - c. _____ Consistent with the intent of the Act and most cost-effective and environmentally sound alternative for solving the drinking water needs in this area **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 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 application. The proposed project funding should be postponed until technical comments have been resolved.
- d. _____ The project to be referred to the Consolidation Committee.

3. Other remarks:

PSC Comments:

Owing to the significant impact on user rates and the large amount of long-term debt proposed for this project, Staff believes that a more detailed analysis of alternatives must be completed before this project can receive further consideration for Council funding. In addition, the adequacy of the proposed source of raw water must be addressed.



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MEMORANDUM

TO: Stephanie Hickerson, P.E.
Infrastructure & Capacity Development

FROM: Christopher Thomas, EIT
Infrastructure & Capacity Development

DATE: January 4, 2022

SUBJECT: IJDC Application- 2021W-2046
Town of West Union
Water System Improvements Project
Doddridge County

Recommendation:

Owing to the significant impact on user rates and the large amount of long-term debt proposed for this project, a more detailed analysis of alternatives must be completed before this project can receive further consideration for Council funding. In addition, the adequacy of the proposed source of raw water must be addressed. It is recommended that the application be returned until the concerns can be addressed.

Project Scope:

The proposed project will include improvements to the distribution system and a new water treatment plant. Upgrades to the distribution system will include the replacement of approximately 6.2 miles (33,000 LF) of 2-inch through 10-inch existing water mains, installation of approximately 3.8 miles (20,000 LF) of a new 10-inch water line to the regional jail, the replacement of service line and new meter installation for 415 existing customers, the construction of (1) new 200,000 and (1) new 500,000 gallon water storage tanks, the replacement of the existing 150 GPM booster station with a 400 GPM booster station, and all other necessary valves and appurtenances. Also included in the project will be the construction of a new 700 GPM water treatment plant and demolition of the existing 300 GPM water treatment plant. The new treatment plant will be upgradable to 1,000 GPM as/if demand for water increases.

The cost per customer is **\$33,326** for the project. The total project cost is **\$22,995,000**

US EDA Grant: \$3,000,000; IJDC District 1 Loan (1%, 40 years): \$14,127,000; IJDC District 1 Grant: \$1,000,000; US EPA SAAP Grant: \$3,868,000; Doddridge County ARPA Grant: \$500,000; Doddridge County Commission Grant: \$335,000; Town of West Union ARPA Grant: \$165,000.

Need for the Project:

According to the Preliminary Engineering Report, the Town's existing water treatment plant is in good working condition, but it is struggling to keep up with the daily demand. The existing plant can treat 300 GPM and operates 16 to 24 hours per day. Recently, the Regional Jail has requested an additional 80,000 gallons of water to keep up with their daily demands. At the current treatment capacity, the Town cannot produce enough water and is looking to construct a new water treatment plant to allow them to keep up with current and future demand.

With the Regional Jail needing additional water, the Preliminary Engineering Report states that the current water distribution system is not adequate to supply the additional water. Upgrades to the water storage and booster station will need to be completed to increase capacity sufficiently.

The Town's existing in-town water distribution system is undersized and is deteriorating causing the Town multiple water line breaks. The Town experienced twenty-one (21) water main breaks in 2020, in which two main line breaks shut water off to the entire Town as well as the Regional Jail. With this project the Town is going to replace all the old cast iron water lines in the in-town system.

Concerns:

1. The alternative of purchasing finished water from the Hughes River Water Board via the Pennsboro system must be addressed in detail. As a minimum, the applicant should evaluate; If the Hughes River Water Board has adequate capacity to meet the future water needs of the applicant, which may be assumed to be 1.0 million gallons per day for the purposes of this discussion. If the Pennsboro system can safely transmit 1.0 million gallons per day to the applicant's system. Note that Pennsboro is currently in the process of upgrading their distribution system and the impact of such improvements must be considered in any evaluation of that system's capacity. If improvements will be necessary to the Pennsboro system to allow it to safely transport water to the applicant then a preliminary scope and project cost estimate should be developed.
2. Should it be found that the Hughes River Water Board can supply the applicant via the Pennsboro system (either the existing or and improved Pennsboro system, as required) then a financial analysis should be developed to provide a realistic comparison of the true long-term costs of constructing, maintaining, and replacing a new water treatment facility for the applicant versus the true long-term costs for purchasing water. As part of this analysis, the applicant must open discussions with Pennsboro to determine what rate (\$ per Mgal) would be charged to the applicant for the transmission of water via the Pennsboro system. The use of Pennsboro's published tariff rate without further discussions and negotiations between the applicant and Pennsboro is not acceptable without documentation from both parties establishing that no alternative rate for the transmission of water would be available. Life expectancies, equipment replacement cycles, interest rates and inflation rates should be consistent with industry standards

and directives from government agencies such as the guidance documents issued by the USDA, the Office of Management and Budget and the US Army Corps of Engineers.

3. Should analysis indicate a lower life cycle cost for the construction of a new water treatment facility then the adequacy of the proposed raw water source must be evaluated and documented. Any yield studies, flow measurements and similar hydrologic data used in this evaluation must be provided in your report. The applicant is advised to consult with appropriate regulatory agencies including the Source Water Protection staff of the WV DHHR and the water quality staff of the WV DEP in completing this work. (Staff notes that initial 7Q10 data from the DHHR for Middle Island Creek indicates that this stream cannot support a sustained withdrawal rate of 1.0 million gallons per day at the West Union location.)

4. The Town of West Union has a score of 5 on the October 2021 quarter of the EPA's Compliance Tracking Tool (ETT.) The score was attained through violations for: Failure to address sanitary survey deficiencies. This project should help resolve these sanitary survey deficiencies.

Permits:

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

Construction activities with a disturbed area of one (1) acre or greater are required to register for the NPDES Storm Water Construction General Permit No. WV0115924.

A permit for stream crossings may be required.

A Certificate of Convenience and Necessity will be required from the PSC.

A permit from the WV Division of Highways will be required for the construction activities that will take place within WVDOH right-of-way.

Engineering: 6.19% for design, 10.47% for total.

The Design Fees vs. Construction Cost for new construction is above both the average complexity curve and the very complex curve. The Design Fees vs. Construction Cost for modifications is below both the average complexity curve and the very complex curve.

The Total Fees vs. Construction Cost for new construction is above both the average complexity curve and the very complex curve. The Total Fees vs. Construction Cost for modified construction is above both the average complexity curve and the very complex curve.

A Total Fee waiver **will be** required for this project.

Asset Management Plan and Annual Maintenance Audit:

The Preliminary Application indicates that the PSD does not have an asset management plan.

There is no approved asset management plan on file with the BPH. The application indicates that the PSD has completed the annual maintenance audit for the current year.

Capacity Development:

The question about having had a capacity development assessment (CDA) within the last 5 years was marked as “yes.” The last assessment of the system was in March 2005.

Additional information that may be helpful to the IJDC in their decisions regarding approval of this project relates to the system’s overall compliance. The Town of West Union has a score of 5 on the October 2021 quarter of the EPA’s Compliance Tracking Tool (ETT.) The score was attained through violations for:

- Failure to address sanitary survey deficiencies

Based upon information from the Municipal Bond Commission, as of October 2021, the Town of West Union is current on their water reserve funding requirements.

IJDC Ranking:

- Public Health Benefit: 5
- Compliance: 10

**PUBLIC SERVICE COMMISSION STAFF
TECHNICAL REVIEW**

DATE: December 21, 2021

PROJECT SPONSOR: TOWN OF WEST UNION - WATER

PROJECT SUMMARY: The proposed water system improvements project will involve the replacement of approximately 33,000 LF of existing water lines in and around Town, the installation of approximately 20,000 LF of new 12" water line to serve the Regional Jail. Replacement of the existing 300 GPM water treatment plant with a new 700 GPM water treatment plant. This project will also involve a new 500,000 gallon water storage tank including valve and access upgrades, a new 200,000 gallon tank, a new 400 GPM booster station and a new solenoid control valve station.

PROPOSED FUNDING:	USEDA Grant	\$ 3,000,000
	IJDC District 1 Grant	1,000,000
	IJDC District 1 Loan (1%, 40 years)	14,127,000
	USEPA Grant	3,868,000
	Local/City/Council Grant	165,000
	Local/City/Council Grant	500,000
	Local/City/Council Grant	<u>335,000</u>
	Total	\$ 22,995,000

CURRENT RATES: \$28.90 3,400 gallons
\$34.00 4,000 gallons

PROPOSED RATES: \$51.17 3,400 gallons
\$60.20 4,000 gallons

Application No. 2021W-2046

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

Owing to the significant impact on user rates and the large amount of long-term debt proposed for this project, Staff believes that a more detailed analysis of alternatives must be completed before this project can receive further consideration for Council funding. In addition, the adequacy of the proposed source of raw water must be addressed.

Specifically, the Technical Review Committee requests that the following be evaluated before this application is resubmitted.

1. The alternative of purchasing finished water from the Hughes River Water Board via the Pennsboro system must be addressed in detail. As a minimum, the applicant should evaluate;

If the Hughes River Water Board has adequate capacity to meet the future water needs of the applicant, which may be assumed to be 1.0 million gallons per day for the purposes of this discussion.

If the Pennsboro system can safely transmit 1.0 million gallons per day to the applicant's system. Note that Pennsboro is currently in the process of upgrading their distribution system and the impact of such improvements must be considered in any evaluation of that system's capacity.

If improvements will be necessary to the Pennsboro system to allow it to safely transport water to the applicant then a preliminary scope and project cost estimate should be developed.

2. Should it be found that the Hughes River Water Board can supply the applicant via the Pennsboro system (either the existing or and improved Pennsboro system, as required) then a financial analysis should be developed to provide a realistic comparison of the true long-term costs of constructing, maintaining and replacing a new water treatment facility for the applicant versus the true long-term costs for purchasing water.

As part of this analysis, the applicant must open discussions with Pennsboro to determine what rate (\$ per Mgal) would be charged to the applicant for the transmission of water via the Pennsboro system. The use of Pennsboro's published tariff rate without further discussions and negotiations between the applicant and Pennsboro is not acceptable without documentation from both parties establishing that no alternative rate for the transmission of water would be available.

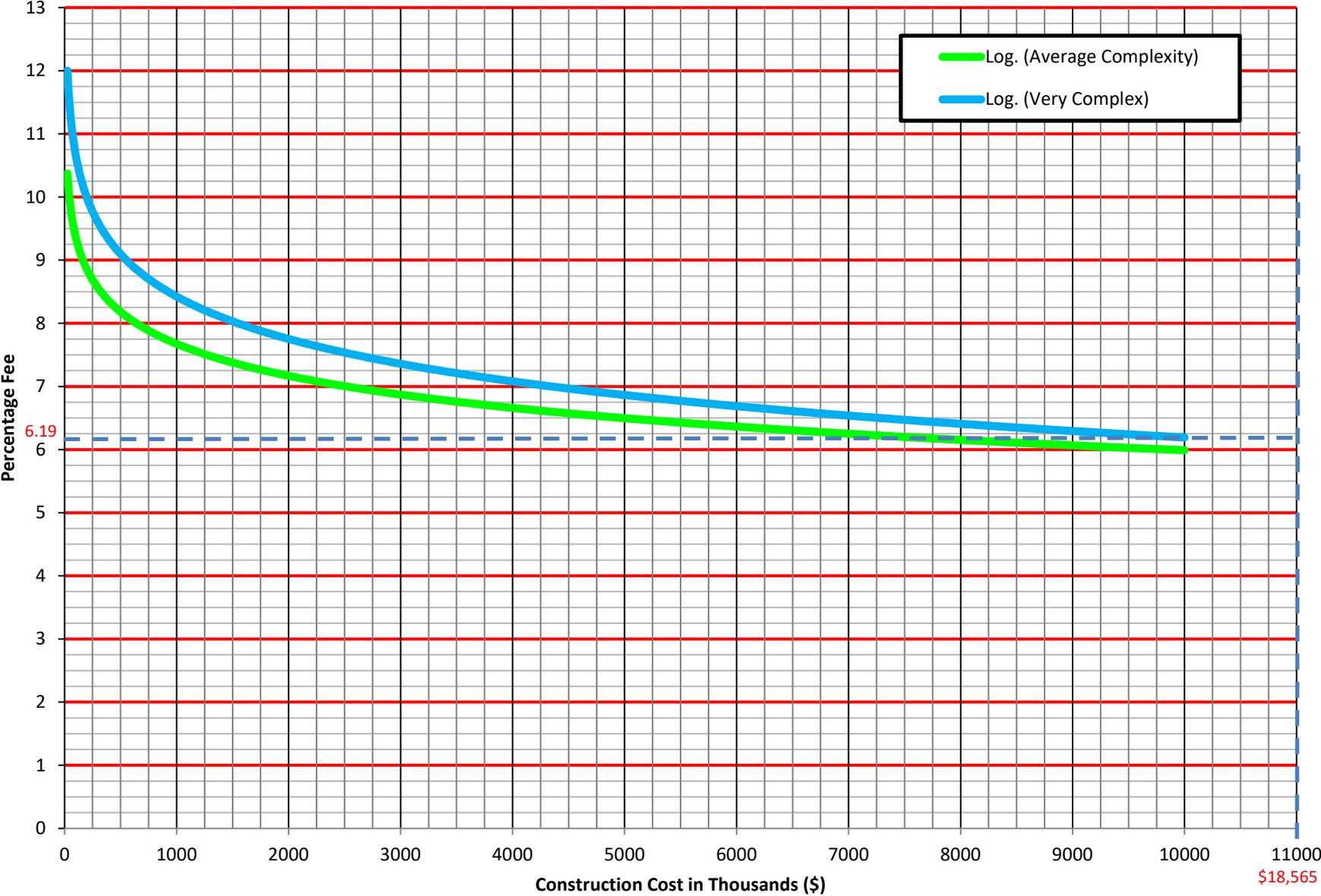
Life expectancies, equipment replacement cycles, interest rates and inflation rates should be consistent with industry standards and directives from government agencies such as the guidance documents issued by the USDA, the Office of Management and Budget and the US Army Corps of Engineers.

3. Should analysis indicate a lower life cycle cost for the construction of a new water treatment facility then the adequacy of the proposed raw water source must be evaluated and documented. Any yield studies, flow measurements and similar

hydrologic data used in this evaluation must be provided in your report. The applicant is advised to consult with appropriate regulatory agencies including the Source Water Protection staff of the WV DHHR and the water quality staff of the WV DEP in completing this work. (Staff notes that initial 7Q10 data from the DHHR for Middle Island Creek indicates that this stream cannot support a sustained withdrawal rate of 1.0 million gallons per day at the West Union location.)

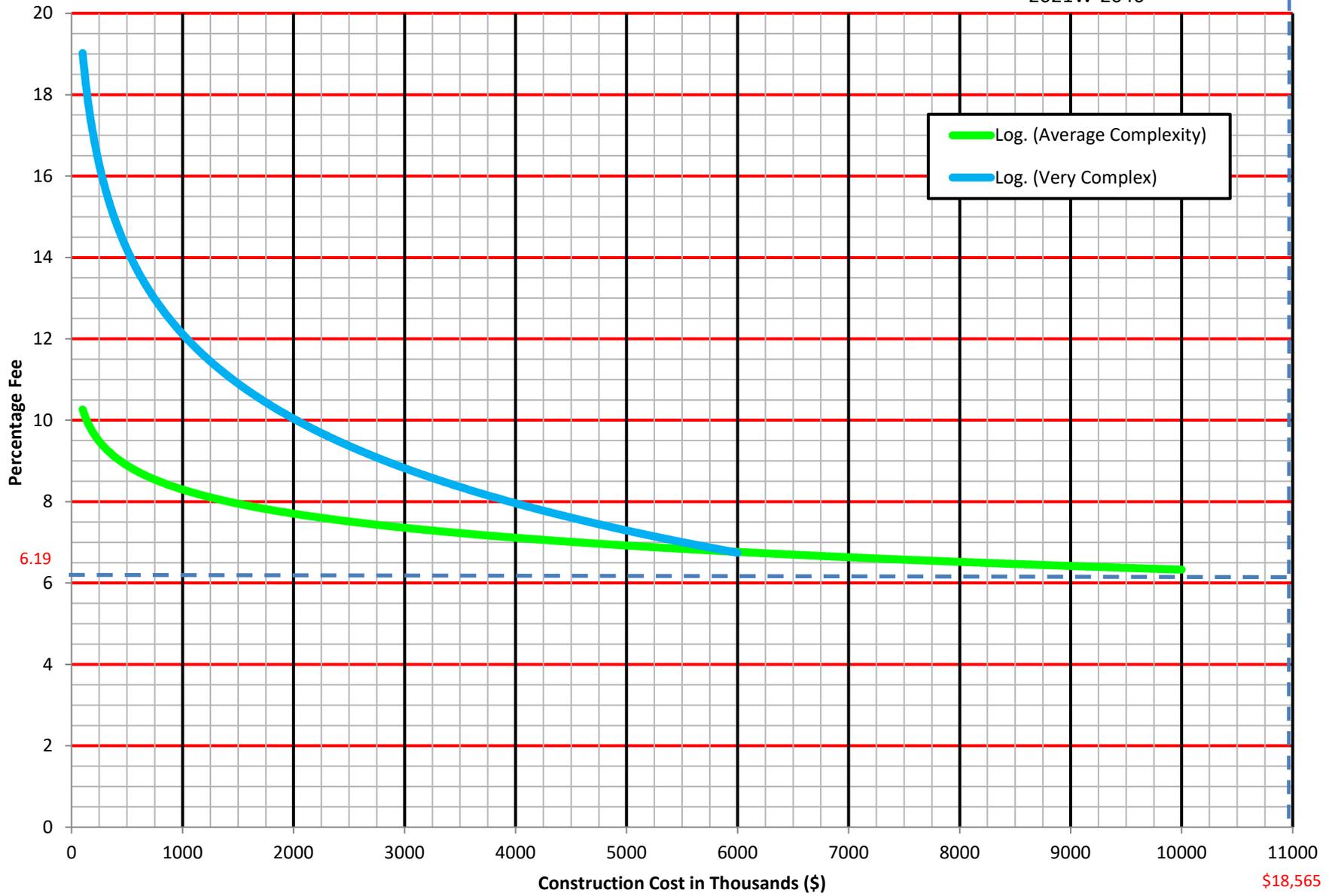
Graph 1. Design Fee vs. Construction Cost for New Construction

Town of West Union
2021W-2046



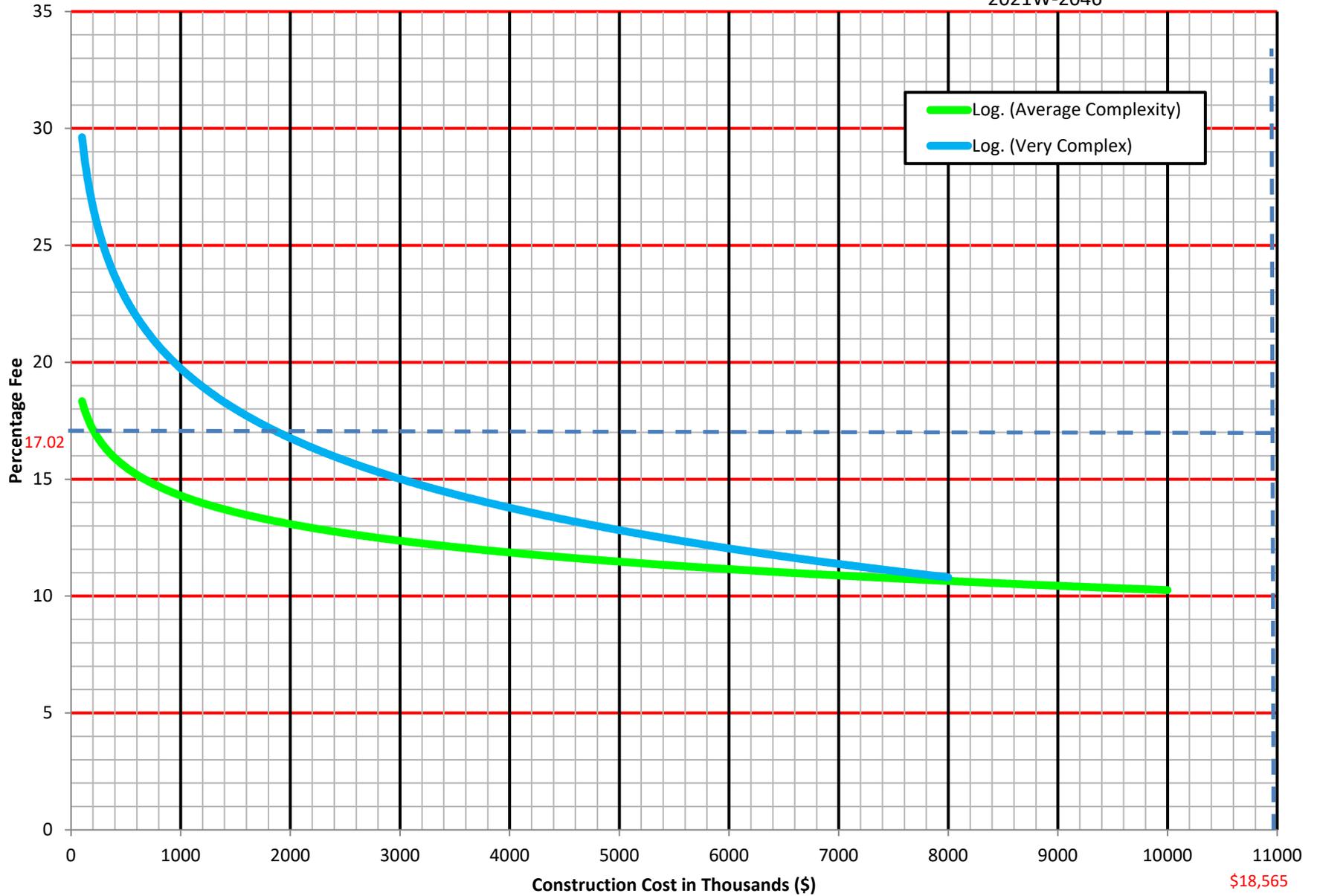
Graph 2. Design Fee vs. Construction Costs for Modifications

Town of West Union
2021W-2046



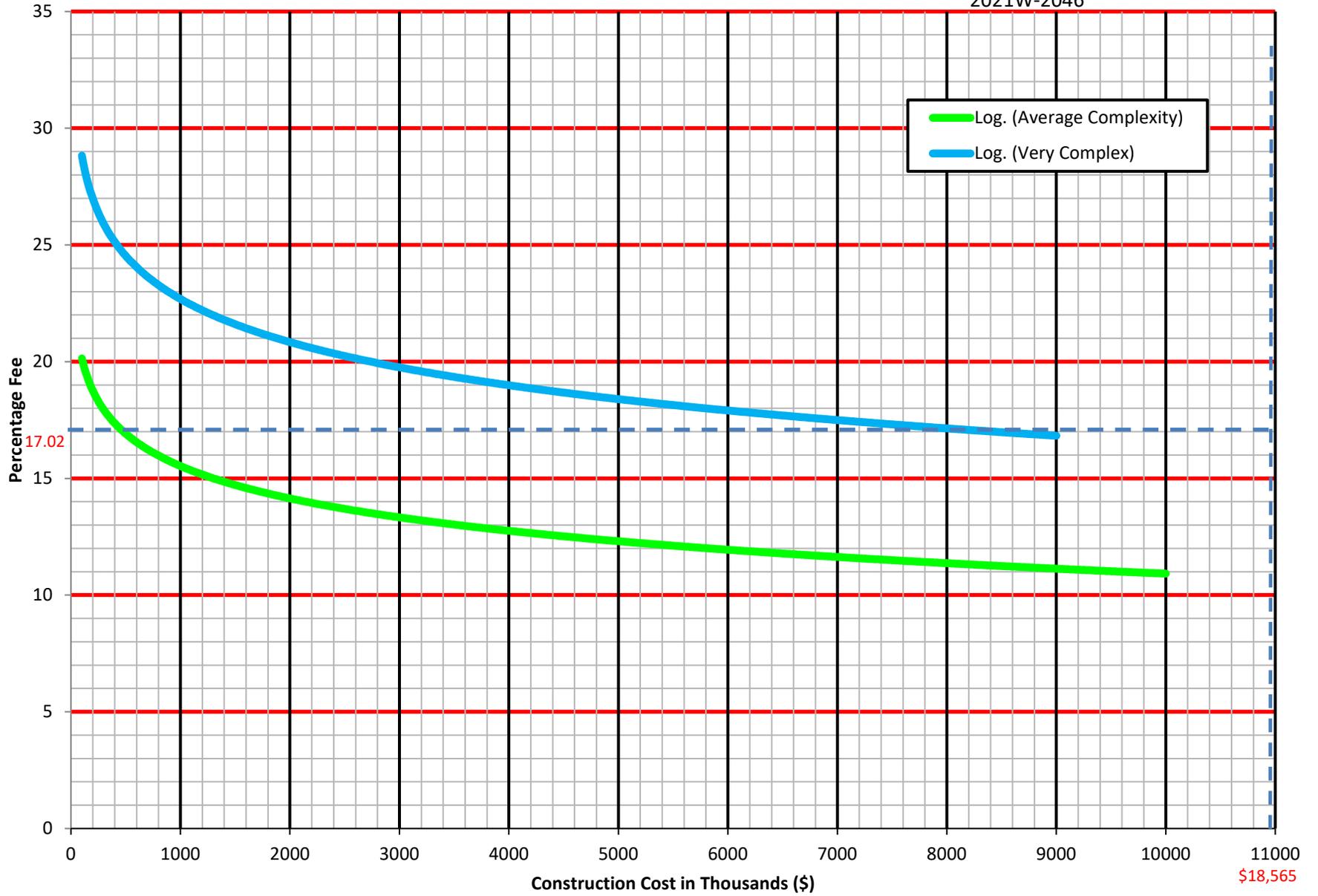
Graph 3 Total Fee vs. Construction Cost for New Construction

Town of West Union
2021W-2046



Graph 4 Total Fee vs. Construction Cost for Modifications

Town of West Union
2021W-2046





west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0497

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

M E M O R A N D U M

MEMO TO: Stephanie D Hickerson, P. E.
Office of Environmental Health Services
Bureau for Public Health

FROM: John M. Perkins 
Supervisor
General Permits & Support Team

DATE: November 15, 2021

SUBJECT: Infrastructure Preliminary Application for the Town of West Union: System Improvements in Doddridge County, WV.

We have reviewed the above referenced project application information. The Town of West Union, discharges its backwash to its site, which is covered under WV/NPDES Site Registration No. WVG640117, and expires July 18, 2023

If the Town of West Union is considering repairing and painting an existing water treatment plant or storage tanks, then the scope of this project requires precautions to prevent contamination of the waters of the state. Prior to beginning any removal of old paint, the Town of West Union should contact Mr. Jeremy Bandy or a member of his staff at (304)-926-0499, extension 43894 for guidance in determining whether the paint to be removed is considered a hazardous waste. If so, proper containment and disposal procedures must be followed for the paint and any material associated with the sandblasting. If it is determined that the paint is not hazardous, the Town of West Union should contact Yogesh Patel or a member of his staff at (304)-926-0499, extension 43877 for proper disposal options.

Construction activities with a disturbed area of one (1) acre or greater are now required to register for the NPDES Storm Water Construction General Permit No. WV0115924 that became

effective on March 9, 2019. Projects registered under the previous General Permit No. WV0115100 were automatically provided coverage under WV/NPDES General Permit No. WV0115924. For more information, they may contact Larry Board at (304)-926-0499, extension 43883.

In light of the above, we have no objection to this project as long as the appropriate provisions are taken to assure compliance with Chapter 22, Article 11, of the Code of West Virginia and any associated regulations. The responsible party may contact Mylinda Maddox (304) 926-0499 ext. 43825, should additional information be required.

JMP:mam

cc: Katheryn Emery



west virginia department of environmental protection

Office of Abandoned Mine Lands & Reclamation
601 57th Street SE
Charleston, WV 25304

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

MEMORANDUM

To: Stephanie Hickerson, P.E., Manager
Infrastructure and Capacity Development

From: Roger A. Earle, P.E., Waterline Coordinator *RAE*
Office of Abandoned Mine Lands & Reclamation

Date: December 17, 2021

Subject: Town of West Union – System Improvements
IJDC Preliminary Application: 2021W-2003

AML does not participate in routine improvements or replacement of existing systems. Therefore, AML funds will not be available for this project.

OEHS District Review for Infrastructure Council Water Projects

Water System:	Town of West Union	IJDC Number:	2021W-2046
Project Description:	Water System Improvements Project	Review by:	Bob Smith, P.E., M.B.A.
County:	Doddridge	Date:	December 6, 2021

<u>No.</u>	<u>Review Criteria</u>	<u>Yes</u>	<u>No</u>	<u>N/A</u>	<u>Comments (Especially if No is indicated or providing a DWTRF score)</u>
1.	Does the district agree that the project scope seems to be the most feasible solution?	X			
2.	Is this the most practical project to correct the problem stated in the application?	X			
3.	Does the project solve the major operation maintenance problems in the water system?	X			
4.	Does the project eliminate deficiencies noted in the sanitary survey?	X			
5.	Should these improvements be made to this system versus another system that could serve the same area?	X			
6.	The application has an alternative in it evaluating the most likely consolidation option?	X			
7.	Do you agree with the need statement for the project?	X			
8.	Has the engineer included all justification (that you are aware of) in the project application?	X			
9.	Is the management of the water system capable of completing this project?	X			
10.	Other comments				N/A.

<u>No.</u>	<u>Review Criteria</u>	<u>Yes</u>	<u>No</u>	<u>N/A</u>	<u>Comments (Especially if No is indicated or providing a DWTRF score)</u>
11.	For new projects or projects with revised scope, provide DWTRF Priority Ranking Public Health Score (indicate score in the comments section with explanation).				DWTRF Priority Ranking Public Health Score is: 30 Public Health Score is: 10 Compliance Score is: 10
12.	For new projects or projects with revised scope, provide DWTRF Priority Ranking Compliance Score (indicate score in the comments section with explanation).				Affordability Score is: 10 Total Points are: 30



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DEPARTMENT OF HEALTH AND HUMAN RESOURCES
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Ayne Amjad, MD, MPH
Commissioner & State Health Officer

MEMORANDUM

TO: Stephanie Hickerson, P.E., Manager
Infrastructure and Capacity Development Unit

FROM: Valerie A. Plance, ERS III
Capacity Development Program

DATE: December 8, 2021

RE: Town of West Union (PWSID# 3300901)
IJDC Application No.: 2021W-2046
Doddridge County

The Town of West Union preliminary infrastructure application indicates that they are not seeking DWTRF monies. The system marked the question in the application concerning an asset management plan as “No.” The Town of West Union does not have an approved AMP on file with the BPH.

The question about having had a capacity development assessment (CDA) within the last 5 years was marked as “yes.” The last assessment of the system was in March 2005.

Additional information that may be helpful to the IJDC in their decisions regarding approval of this project relates to the system’s overall compliance. The Town of West Union has a score of 5 on the October 2021 quarter of the EPA’s Compliance Tracking Tool (ETT.) The score was attained through violations for:

- Failure to address sanitary survey deficiencies

Based upon information from the Municipal Bond Commission, as of October 2021, the Town of West Union is current on their water reserve funding requirements.

If you require further information from the capacity development program, please contact me.

VAP