

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

ELECTRONIC RATTLESNAKE RIDGE WATER)
DISTRICT UNACCOUNTED FOR WATER LOSS) CASE NO. 2024-00176
REDUCTION PLAN, SURCHARGE AND)
MONITORING)

KENTUCKY PUBLIC SERVICE COMMISSION (KY PSC)
FRANKFORT, KY 40601

FILED ELECTRONICALLY, 807 KAR 5:001

RATTLESNAKE RIDGE WATER DISTRICT
ATTN: REBECCA KITCHEN
P.O. BOX 475
GRAYSON, KY 41143

WHITLEY HILL BAILEY, PLLC
106 PARK STREET
GRAYSON, KY 41143

RATTLESNAKE RIDGE WATER DISTRICT'S MOTION
TO AMEND QUALIFIED INFRASTRUCTION IMPROVEMENT PLAN AND
NOTICE OF REQUEST FOR USE OF SURCHARGE FUNDS

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NOTICE OF REQUEST FOR USE OF SURCHARGE FUNDS

Pursuant to 807 KAR 5:001, Section 5, Rattlesnake Ridge Water District ("RRWD") moves to amend its Qualified Infrastructure Improvement Plan ("QIIP") which was filed in this case on July 21, 2025. RRWD moves to substitute the amended QIIP for its original QIIP, and seeks approval for authority to expend surcharge funds to replace a broken water line lying beneath Grayson Lake. In support thereof, RRWD states as follows:

AMENDMENT OF QUALIFIED INFRASTRUCTURE IMPROVEMENT PLAN

1. On July 21, 2025, Rattlesnake Ridge Water District file its Qualified Infrastructure Improvement Plan.
2. Since the filing of the QIIP, Rattlesnake Ridge Water District has encountered a substantial change in circumstances resulting in significant water loss and potential disruption of services. An Amended QIIP is necessary to remediate this issue and prevent future water loss.
3. Specifically, on August 3, 2026, RRWD learned that there is a critical break in a water line under Grayson Lake. This line begins at the RRWD Water Treatment Plant in Elliott County and extends under Grayson Lake into Carter County.

4. The broken line is leaking at an estimated 44.1 gallons per minute resulting in water loss of 2 million gallons per month.
5. The 6 inch broken line services the Rattlesnake Water Tank which is utilized by ½ of RRWD water system and also services individuals and public locations such as Grayson Lake Campground and Grayson Lake Golf Course.
6. As a temporary solution, Rattlesnake Ridge Water District has isolated the broken line and is utilizing a heavily relied upon 10 inch water line to back feed water to the effected customers at this time. In the event that this 10 inch line fails, four thousand (4,000) customers will be without water. RRWD is concerned with overburdening this line.
7. Additionally, replacing the currently broken 6 inch line beneath the lake could, in the event of an emergency failure of the 10 inch water line, act as a backup to prevent long-term disruption in services.
8. Rattlesnake Ridge could not have anticipated this line failure and; resultantly, same was not included in the initial QIIP. Rattlesnake Ridge Water District requests leave to amend its QIIP and requests an Order approving the Amended QIIP.
9. Rattlesnake Ridge Water District tenders it's Amended Qualified Infrastructure Improvement Plan hereto as Attachment A.

REQUEST FOR USE OF SURCHARGE FUNDS

10. Additionally, Rattlesnake Ridge Water District requests use of less than \$435,000.00 of surcharge funds to replace the 6 inch line that is broken beneath Grayson Lake.
11. The tendered Amended QIIP establishes the necessity for replacing the 6 inch line broken beneath the Grayson Lake. Table 7 of Rattlesnake Ridge Water District's

Amended QIIP, proposes replacement of the 6 inch line under proposed use of water loss surcharge proceeds.

12. Attached hereto as Attachment B is a proposed plan for replacement of the line.
13. Replacement of this line is imperative, emergent and must be done to stop significant water loss. Replacement of the line could also prevent future disruption of water services to four counties in the event of a catastrophic break in 6 inch line that RRWD is very dependent upon.
14. The estimated cost of the replacement of the 6 inch line is Four Hundred (\$400.00) Dollars per foot due to having to bore beneath Grayson Lake. The line is over 1,000 feet long and the total expected cost of the repair is Four Hundred Thirty Five Thousand (\$435,000.00) Dollars. Rattlesnake Ridge has located only two potential contractors willing to give quotes on a project of this nature and their invoices are attached hereto as Attachment C.
15. Rattlesnake Ridge Water District currently has \$545,355.99 in its surcharge account, as evidenced by its report filed on the 12th day of August, 2026.
16. Use of the Surcharge Account funds for this purpose will not disrupt other QIIP milestones.
17. Rattlesnake Ridge Water District requests, by this motion, use of the surcharge funds for replacement of the 6 inch line beneath the Grayson Lake in an amount not to exceed \$435,000.00

WHEREFORE, Rattlesnake Ridge Water District moves to substitute the amended QIIP for its original QIIP, and seeks approval for authority to expend surcharge funds to replace a broken water line lying beneath Grayson Lake.

CERTIFICATION/VERIFICATION

I, Rebecca Kitchen, Manger of Rattlesnake Ridge Water District, hereby certifies that I have read the foregoing information and, to the best of my knowledge and belief, all averments and statements contained herein are true and correct.

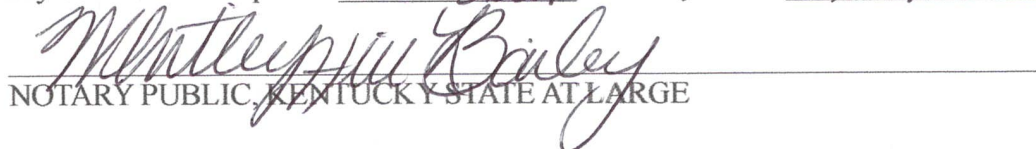

REBECCA KITCHEN

STATE OF KENTUCKY

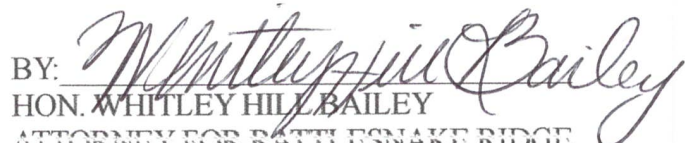
COUNTY OF CARTER

Acknowledged, subscribed and sworn to before me by REBECCA KITCHEN, this the 23rd day of September 2026

My commission expires: 7-28-2029 Notary ID #: KYNP103355


NOTARY PUBLIC, KENTUCKY STATE AT LARGE

RESPECTFULLY SUBMITTED,

BY: 
HON. WHITLEY HILL BAILEY
ATTORNEY FOR RATTLESNAKE RIDGE
106 PARK STREET
GRAYSON, KENTUCKY 41143-0608
(606) 474-0011
WHITLEYHILLBAILEY@GMAIL.COM

ATTACHMENT A

**RATTLESNAKE RIDGE WATER DISTRICT
AMENDED
QUALIFIED INFRASTRUCTURE IMPROVEMENT PLAN**

PURPOSE

On July 12, 2024, the Public Service Commission of Kentucky (“Commission”) issued an Order in Case No. 2024-00176 directing Rattlesnake Ridge Water District (“RRWD”) to prepare an Qualified Infrastructure Improvement Plan (QIIP), including a comprehensive unaccounted-for water loss reduction plan that establishes priorities and a time schedule for eliminating each source of unaccounted-for water loss and provides a detailed spending plan for the proceeds of a surcharge.

BACKGROUND

RRWD was established in 1961 but did not commence operations until 1983. The existing system consists of approximately 700 miles of water mains of various sizes with 11 distribution water storage tanks and 10 booster pump stations that serve approximately 4,030 customers in Carter, Elliott, Lawrence, and Morgan Counties. The topography of Carter and its surrounding counties is mountainous with narrow valleys that follow state and county roads. The differences in elevations range from 600 feet in elevation in the valleys to over 1,200 feet on the ridge tops. These divergent elevations are reflective in the 10 pressure zones using 11 tanks to provide service to its customers. The RRWD produces all of its water at their Water Treatment Plant located along Grayson Lake.

RRWD has experienced higher than desired water loss in the last decade ranging from 59% to 65% of total water produced and introduced into RRWD’s distribution system. In April of 2020 RRWD entered into an agreement with Bluegrass Engineering, PLLC for their Phase 12 Water System Improvements Project. This project was directed toward combating water loss. The project consisted of replacing approximately 4,030 water meters with new radio read meters, installation of 9 zone meters, replacement of approximately 700 service lines from main to meter, and the replacement of approximately 15,000 L.F. of 2”, 3”, and 4” water mains. This project helped reduce RRWD’s annual water loss from ~60% to ~28%.

CAPITAL IMPROVEMENTS FOR WATER LOSS COMPLETED PROJECTS

RRWD completed their Phase 12 Water System Improvements Project aimed at reducing water loss in their distribution system. RRWD had an abundance of existing water meters that would read slow and in some cases not read at all. The district replaced approximately 4,000 customer meters and replaced their larger 1” and above wholesale meters. RRWD also replaced approximately 750 service lines from water main to meter to a more reliable material. 9 zone meters were installed throughout the system to help the district locate areas where there may be leaks. This project was an overall success in reducing water loss. RRWD’s water loss went from ~60% to ~28% and lower.

CAPITAL IMPROVEMENTS FOR WATER LOSS FUTURE PROJECTS

RRWD's service area is mountainous with narrow valleys that follow state and county roads. The differences in elevations range from 600 feet above sea level to over 1,200 feet above sea level. Due to the difference in elevations, RRWD operates on a higher Hydraulic Grade Line (HGL), which leads to high water pressures in the valleys where most of the customers are located. When RRWD has a leak or break in these high pressure zones they lose water at a faster rate. RRWD proposes to install Pressure Reducing Valves where hydraulically applicable in order to reduce some of the high pressure areas as well as decrease the amount of water lost to breaks and leaks.

RRWD has approximately 700 miles of water mains of various sizes. With the amount of water mains that RRWD has in the ground, finding leaks and breaks can become difficult. The difficulty increases with a lack of valves in the system due to not being able to properly isolate the system. This leads to an increase in water loss due to the fact it takes more time to locate and isolate a leak or break. Installing additional valves within the distribution system will lead to time and water saved when looking for and repairing leaks and breaks.

As part of the Phase 12 Water System Improvements Project, RRWD installed 9 zone meters at the introductory point of each pressure zone. These zone meters allow RRWD to collect data daily to establish normal usage metrics within that pressure zone. RRWD also has each customer account associated with their respective pressure zone. With the new zone meter readings and having all accounts sortable based upon pressure zone, usage within a pressure zone could be calculated and monitored to help detect a possible source of water loss. Due to RRWD distribution mains being approximately 700 miles long, the 9 zone meters installed are not enough to help find leaks and breaks within a timely manner. Additional zone meters should be installed in each pressure zone in order to better isolate leaks and breaks, which will lead to the reduction of total water lost in the system.

Leak detection equipment such as manual listening devices (ground microphone, listening stick) and acoustic noise loggers that are installed at points within the distribution system can help locate leaks. RRWD can install acoustic noise loggers permanently to provide continuous leak detection. RRWD currently does not have any of the above-mentioned leak detection equipment. With the purchase of leak detection equipment, RRWD can be more efficient in locating leaks saving time and water in the process.

RRWD is intends to purchase a water meter testing bench. The meter testing bench will allow RRWD staff to test customer meters within their system in order to determine if the meter is reading accurately. If a water meter is reading slow, then the district is not billing the correct amount on the monthly bills resulting in a higher calculated water loss percentage. The testing bench will also allow RRWD to efficiently test their meters and switch them out in a timely manner reducing the amount of water loss in their system.

RRWD has identified problem areas within the distribution system that is constantly leaking/breaking. Replacing these problematic water mains has become a top priority in order to reduce the amount of water loss within their distribution system. There is presently a critical break

in a water line under Grayson Lake. This line begins at the RRWD Water Treatment Plant in Elliott County and extends under Grayson Lake into Carter County. The broken line is leaking at an estimated 11.1 gallons per minute resulting in water loss of 2 million gallons per month. Diamond Ridge Road has 1,000 L.F. of 3" water main that keeps failing due to soil failure (slipping) of the hillside. Horton Flats Road has approximately 7,500 L.F. of 4" and 3" problematic water main due to the amount of leaks and breaks that have been repaired in this section. KY 1496 has approximately 20,000 L.F. of 4" water main that keeps requiring repairs due to leaks and breaks. There is approximately 500 L.F. of 6" water main that requires repairs due to leaks and breaks in front of Willard School. Huff Run Road has approximately 15,000 L.F. of 8" water main that has been problematic due to the number of breaks in the main.

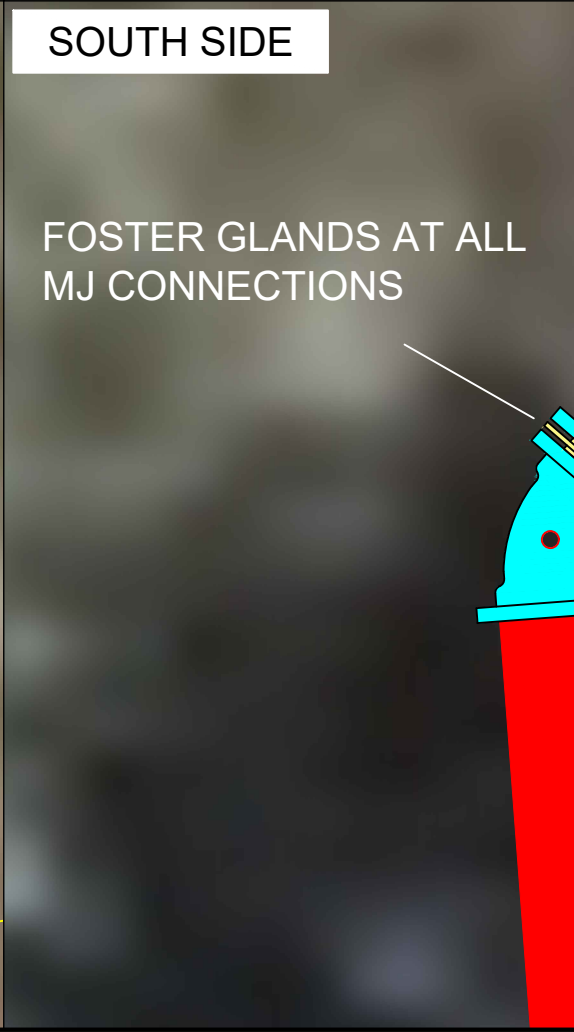
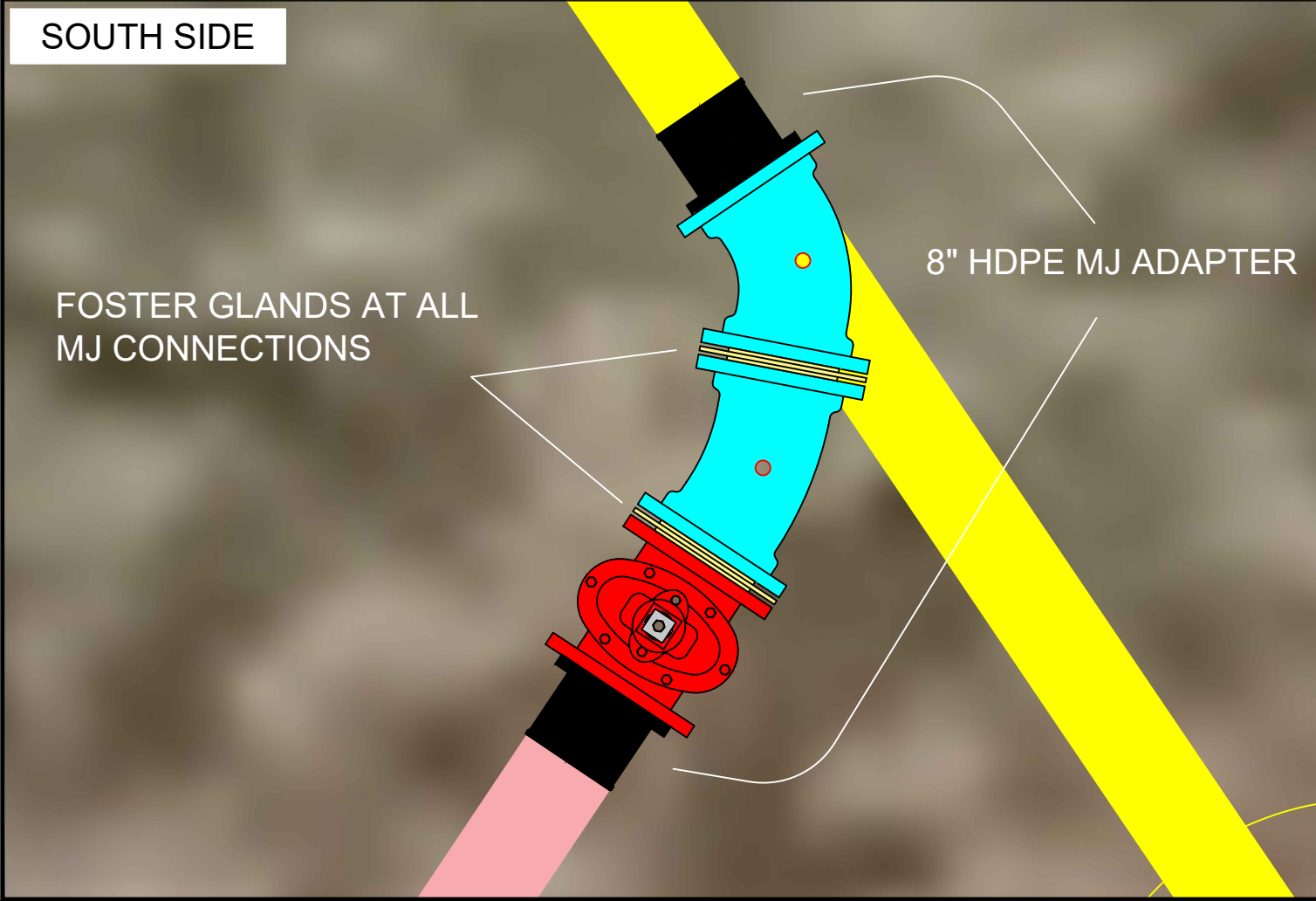
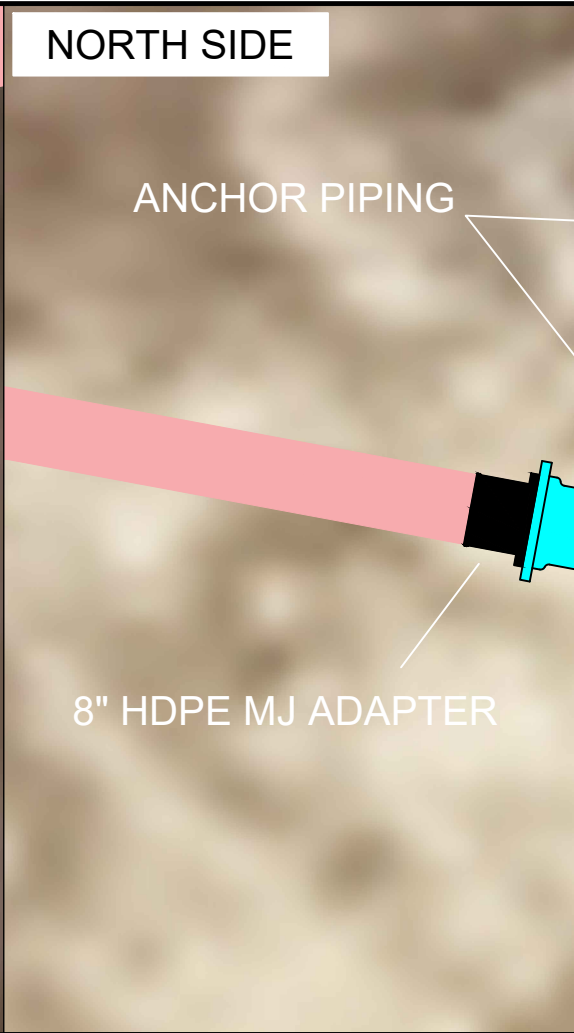
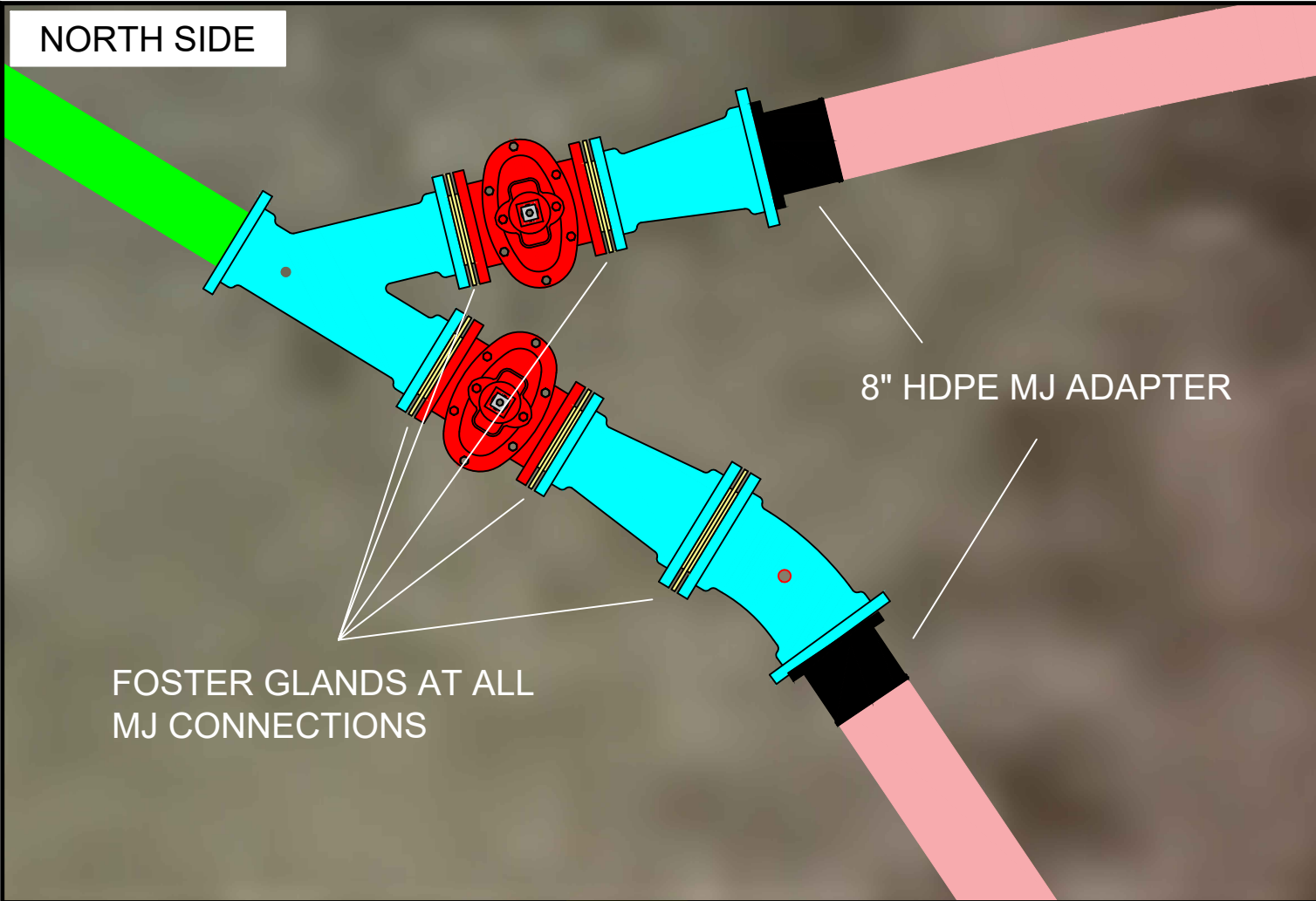
Table 7 – Qualified Infrastructure Future Expenditures

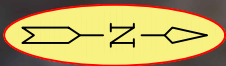
Project	Project Description	Project Cost
Pressure Reducing Stations	Installation of pressure reducing stations on five branch lines.	\$ 50,000
Water Valve Insertion	Installation of water valves of various sizes within the system to help reduce the amount of time it takes to find and repair leaks.	\$ 100,000
Zone Meters	Installation of zone meters to help narrow down areas that may have potential leaks.	\$250,000
Leak Detection Equipment	Purchase of leak detection equipment to find leaks quicker.	\$ 25,000
Water Meter Testing Bench	Purchase of a water meter testing bench to test meters for accuracy	\$ 50,000
Grayson Lake 6 Inch Line Replacement	Replacement of broken line.	\$435,000
Diamond Ridge RD Water Main Replacement	Replacement of problematic water main.	\$ 60,000
Horton Flats Road Water Main Replacement	Replacement of problematic water main.	\$ 325,000
KY 1496 Water Main Replacement	Replacement of problematic water main.	\$ 850,000
Willard School Water Main Replacement	Replacement of problematic water main.	\$ 50,000
Huff Run Road Water Main Replacement	Replacement of problematic water main.	\$ 800,000

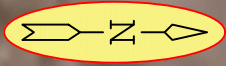
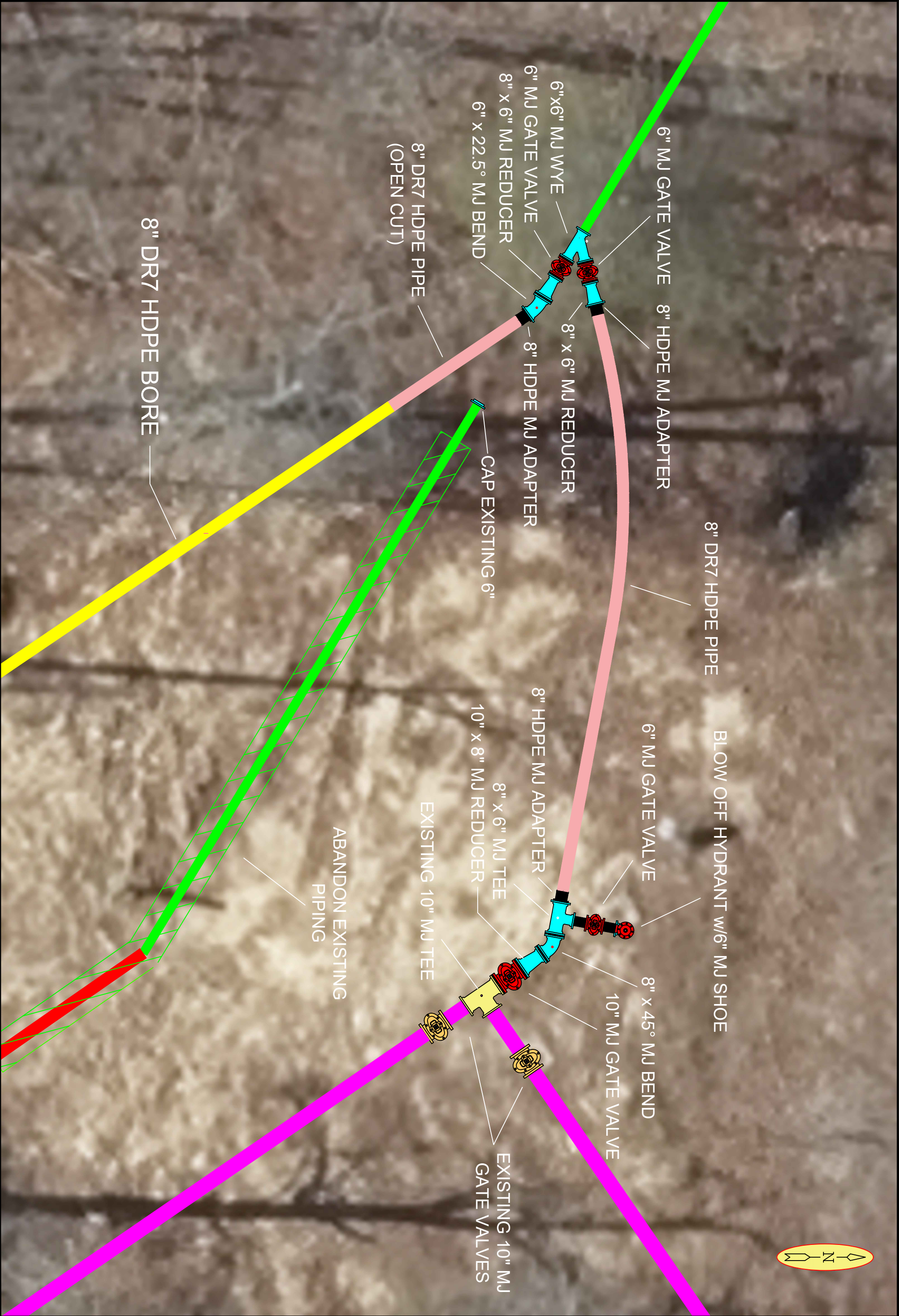
CONCLUSION

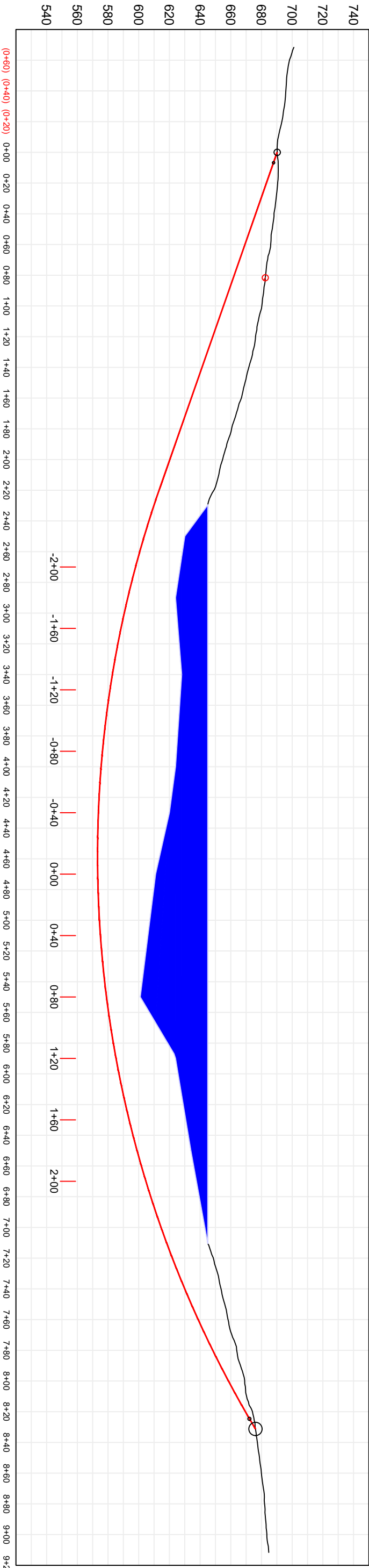
RRWD has been proactive in their pursuit to reduce water loss within their distribution system. The Phase 12 Water System Improvements project has reduced their water loss from ~60% down to ~28%. The above capital improvements projects will help further RRWD's goal to achieve a tolerable water loss for the system.

ATTACHMENT B









Bore Horizontal Length

825

ft

Bore Path Length

868

ft

Depth under Lake Channel

22

ft

Bend Radius

728

ft



G&W CONSTRUCTION, INC.
6730 FLEMINGSBURG RD.
MOREHEAD, KY 40351
606.784.2396

DIRECTIONAL BORE
PROFILE

PROJECT LOCATION: 38.202215, -83.014532

DATE: 9.4.26

RATTLESNAKE RIDGE WATER DISTRICT
LAKE CROSSING LEAK REPAIR
GRAYSON LAKE - GRAYSON, KY

SHEET NO.



1	SHEET No.	RATTLESNAKE RIDGE WATER DISTRICT LAKE CROSSING LEAK REPAIR GRAYSON LAKE - GRAYSON, KY	PROJECT LOCATION: 38.202215, -83.014532			G&W CONSTRUCTION, INC. 6730 FLEMINGSBURG RD. MOREHEAD, KY 40351 606.784.2396
			DATE: 9.4.26	DIRECTIONAL BORE PLAN VIEW		

ATTACHMENT C

From: Rattlesnake Ridge Water District rrwdwc@yahoo.com
Subject: Fw: Grayson Lake Crossing - Proposal
Date: September 11, 2026 at 8:43 AM
To: Whitley Hill Bailey whitleyhillbailey@gmail.com

----- Forwarded Message -----

From: Rattlesnake Ridge Water District <rrwdwc@yahoo.com>
To: ckenney0710@gmail.com <ckenney0710@gmail.com>
Sent: Friday, September 11, 2026 at 08:43:09 AM EDT
Subject: Re: Grayson Lake Crossing - Proposal

thanks a bunch for everything

On Thursday, September 10, 2026 at 05:47:27 PM EDT, <ckenney0710@gmail.com> wrote:

Becky,

Our quote for the Grayson Lake Crossing is \$ 419,990.00.

This quote includes the following:

1. Pre-Bore survey, expose existing water mains and verify any realignment necessary from the current projected centerline.
2. Pre-Bore sonar topography mapping of lake bottom along the proposed centerline of the bore.
3. Directional bore and installation of 8" DR7 IPS HDPE under lake.
4. Provide all materials, labor & equipment for installation of tie-ins and connections as shown on attached drawings or similar to.
5. Chlorination of new piping installed. Collection of water samples and lab testing by others.
6. Leveling of excavations post pipe installation, and seeding of disturbed areas.

At this time, we are assuming water for the boring operation will have to be furnished by the water district via a nearby hydrant.

If you have any questions or concerns, please feel free to contact me anytime.

Regards,
Cameron Kenney

G&W Construction
Cell: (859) 398-0845
Email: ckenney0710@gmail.com





Triple B Construction LLC

2405 South Big Run Road
Ashland Ky 41102
606-929-9266

Estimate

Date	Estimate #
9/21/2026	343

Name / Address
Rattlesnake Ridge Water District PO BOX 475 Grayson KY 41143 606-474-7570

**Estimates good
for 30 days!**

Project	Rep
	Net 15

Description	Qty	Rate	Total
Bruin Bridge Lake Bore		395,000.00	395,000.00
1000' of 8" DR9 HDPE Bore GPS coordinates every 15' of bore will be provided once bore is complete (depths and locations)			
Installation of 5 gate valves and a blow off at tie in areas			
All materials and labor included dump site provided by Rattlesnake fresh water to be provided by Rattlesnake Drill cuttings will be ran through a reclaimer during bore to minimize water usage			
Sales Tax		6.00%	0.00
		Total	\$395,000.00

RESOLUTION

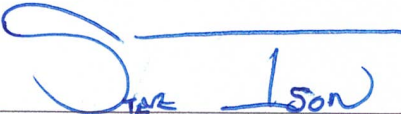
RESOLUTION #9826

RRWD Board of Commissioners approves the Amended Qualified Infrastructure Improvement Plan and use of surcharge funds in the amount of \$435,000 for replacement of the broken 6 inch water line beneath Grayson Lake. The Board of Commissioner's approves this work to be performed by G & W Construction or BearTrax Construction. The Board of Commissioner's sets forth the contractor with the earliest project completion date shall be chosen, so long as both the contractor can complete the project for \$435,000 or less. The Board of Commissioner's identifies Rebecca Kitchen as the authorized individual to execute a contract with G & W Construction or BearTrax Construction. The Board of Commissioner's further approves the filing of a motion for Amended QIIP and request for use of surcharge funds in the amount of \$435,000 for replacement of the broken 6 inch water line beneath Grayson Lake in PSC case number 2024-176.

Rattlesnake Ridge Water District approves this resolution to reduce water loss and ensure reliable water service to all customers.

RATTLESNAKE RIDGE WATER DISTRICT

BY:



Steve Ison, Chairman

ATTEST:


BY: Mike Copley, Secretary