SEPTEMBER 2024

RED RIVER VALLEY WATER SUPPLY PROJECT

MISSOURI RIVER INTAKE OPTIONS ANALYSIS

Developed Cooperatively By:

NORTH Dakota
Be Legendary.
| Water Resources

GARRISON DIVERSION

LEGISLATIVE
REQUIREMENT & PURPOSE

In 2023, the 68th Legislative Assembly passed Senate Bill (SB) 2020, the Department of Water Resources budget bill. Section 19 of SB 2020 says:

"It is the intent of the sixty-eighth legislative assembly that the Department of Water Resources, in coordination with the Garrison Diversion Conservancy District, research and identify options for the use of the Missouri River intake constructed near Washburn. The Department of Water Resources shall report its findings and recommendation to the legislative management by October 1, 2024."

This report has been developed through a cooperative effort between the Garrison Diversion Conservancy District (Garrison Diversion) and the Department of Water Resources (DWR) to meet that requirement.

HISTORIC BACKGROUND
STATE & FEDERAL PROJECT

Red River at Fargo-Moorhead, 1970

The Dakota Water Resources Act (DWRA) of 2000 authorized the Red River Valley Water Supply Project (RRVWSP) and a $200 million federal loan authorization to provide a reliable supply of quality drinking water for the Red River Valley. The need for the project arose primarily due to the drought-prone Red River. Studies show a severe drought, similar to that of the 1930s, will likely repeat by the year 2050. In this event, water supplies in the Red River Valley would be insufficient, and a solution to provide water to eastern North Dakota was proposed with the RRVWSP. The DWRA also mandated the preparation of an Environmental Impact Statement (EIS) with joint leadership between the federal government and the State of North Dakota. Garrison Diversion was designated by the Governor to represent the State of North Dakota in the RRVWSP.

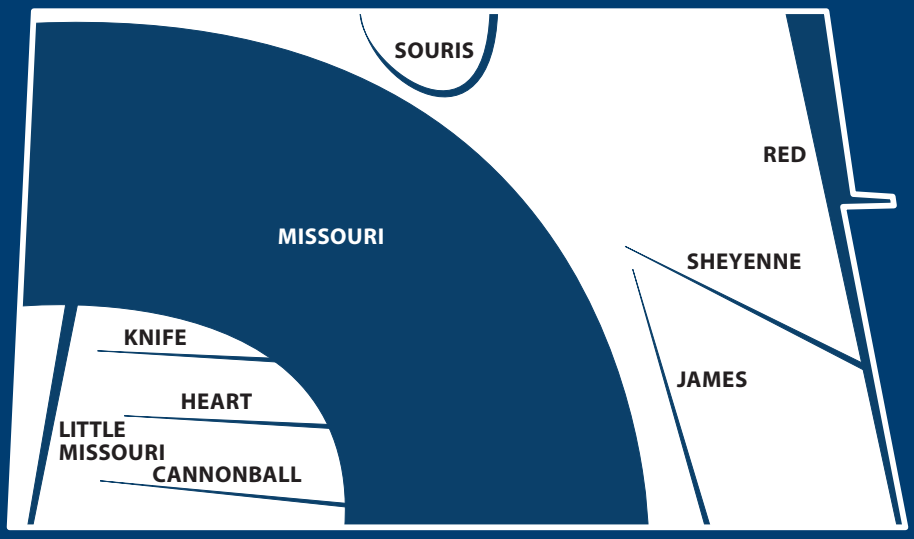
Garrison Diversion, representing the State of North Dakota, and the United States Bureau of Reclamation (USBOR), representing the federal government, were co-leads in the development of the EIS. The Final EIS was released in December 2007.

The State of North Dakota and USBOR each chose the Garrison Diversion Unit (GDU) Import to the Sheyenne River as the preferred alternative after considering water permitting and environmental impacts, as well as technical, hydrologic, and design evaluations. The Lake Agassiz Water Authority (LAWA), representing local water users, was also in agreement with the preferred alternative.

The GDU Import to the Sheyenne River Alternative would transport water through the McClusky Canal and then utilize a buried pipeline from a biota water treatment facility to the Sheyenne River north of Lake Ashtabula. Lake Ashtabula would act as a regulating reservoir. From there, water would be released down the Sheyenne River and flow into the Red River, supplying water systems in the Red River Valley with a reliable supply of drinking water. The estimated cost of construction for the GDU Import to the Sheyenne River was $660 million in 2005, or approximately $1.06 billion in 2024 dollars with inflationary factors.

In January 2009, the Secretary of the Interior signed a memorandum stating the identified treatment of Missouri River water for the Project was adequate to meet the requirements of the Boundary Waters Treaty of 1909. Project leaders continued to wait on the Record of Decision from the federal government, allowing the water supply project to move forward.

WHY THE **MISSOURI RIVER**



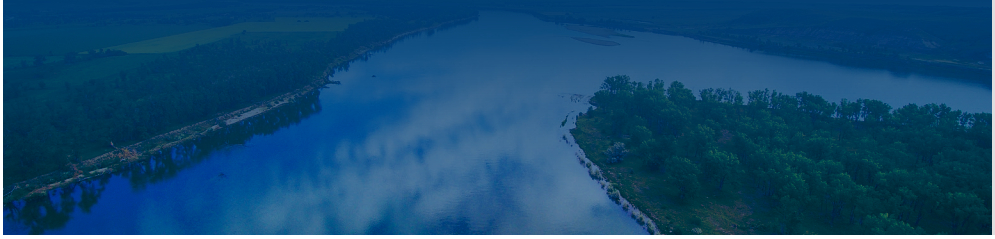
Relative annual flows of North Dakota's major rivers.

With a basin covering all or portions of ten states and two Canadian provinces, the Missouri River stretches over 2,300 miles from central Montana to its confluence with the Mississippi River, making it the longest river in the United States.

Six dams and reservoir projects make up the Missouri River reservoir system, including Garrison Dam in North Dakota. Each of the reservoir projects were constructed by the federal government and are operated and maintained by the United States Army Corps of Engineers (USACE) for the purposes of flood control, water supply, recreation, irrigation, hydropower, water quality, fish and wildlife, and navigation.

The Missouri River is a tremendous resource for many of North Dakota's municipal, rural, industrial, and agricultural water users as the largest surface water supply in the state by far.

There are currently several water supply intakes along the Missouri River for various purposes in North Dakota, and four of those are large regional water supply systems – the Northwest Area Water Supply Project, RRVWSP, Southwest Pipeline Project, and Western Area Water Supply.



HISTORIC BACKGROUND
STATE & LOCAL PROJECT

By 2013, with no federal authorization in place, Garrison Diversion and LAWA began to look for a state and local alternative to the project. (An overview of the partnering entities involved in supporting advancement of the RRVWSP is included in Appendix A.)

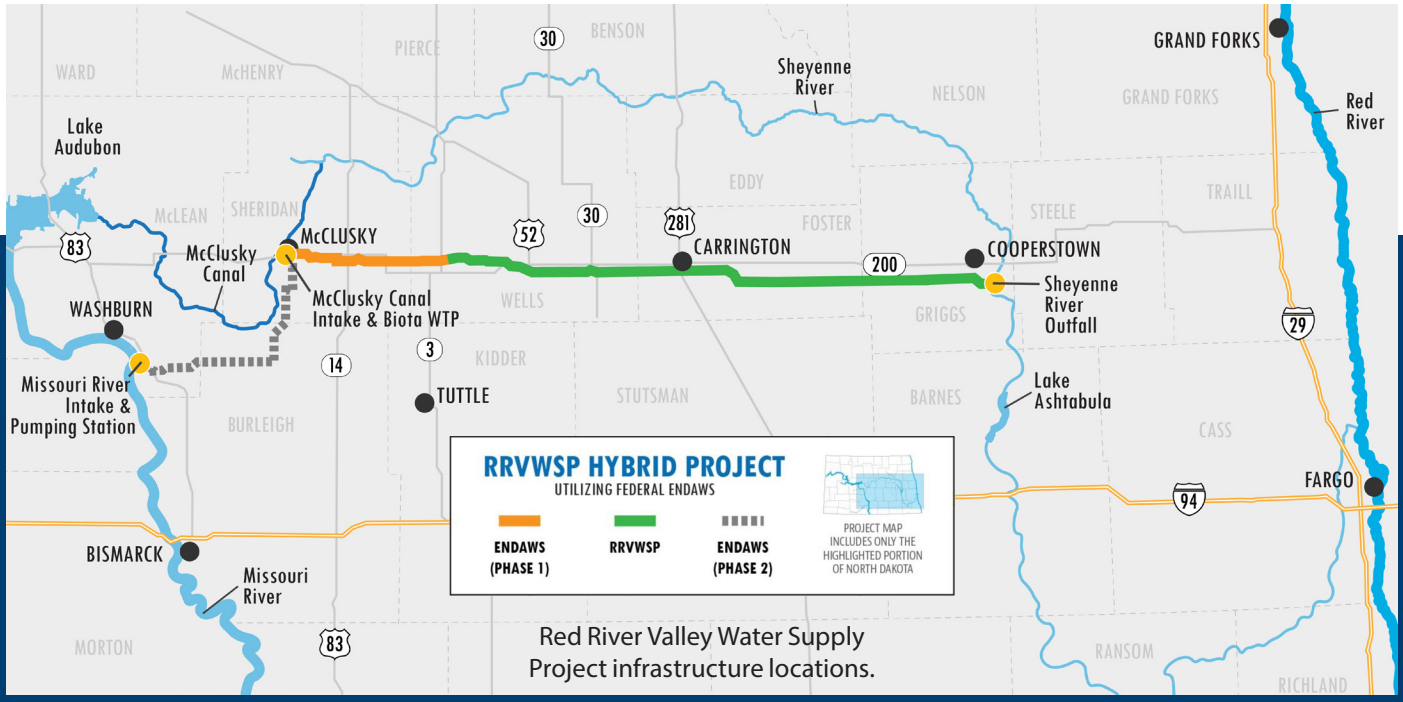
After completing additional studies and examining numerous alternatives, an updated route not utilizing federal facilities was determined for the RRVWSP. The Project was planned to bring Missouri River water from an intake south of Washburn to the Sheyenne River, closely running along the Hwy 200 corridor in central North Dakota.

The RRVWSP was ultimately expanded to include central North Dakota, in response to the 2015 Legislative Session. The state and local project version of the RRVWSP will benefit users along the pipeline route throughout central North Dakota and the Red River Valley, providing an advantage over the original federal project, as that project only served users in the Red River Valley. (See total project costs in the following section outlining the Eastern North Dakota Alternate Water Supply alternative.)

The RRVWSP as currently designed will provide a supplemental and emergency water supply to water users in central and eastern North Dakota. Additionally, the project will also provide water to support industrial development, and can add an environmental benefit to the Sheyenne and Red Rivers during times of severe drought by augmenting water flow.

Red River Valley Water Supply Project 72-inch pipeline installation near Carrington, ND.

HISTORIC BACKGROUND
EASTERN ND ALTERNATIVE WATER SUPPLY



Red River Valley Water Supply Project infrastructure locations.

While the state and local project route was developed and finalized in 2015, RRVWSP leaders continued to work on a plan to utilize federal facilities already in place as an alternative water supply for the Project. In 2021, the USBOR signed a Record of Decision selecting the preferred alternative proposed for the Eastern North Dakota Alternate Water Supply (ENDAWS), an alternative bulk water supply source for the RRVWSP.

This alternative will include the construction of infrastructure to provide up to 165 cubic feet per second (cfs) of water from the McClusky Canal. Water will be delivered through a buried pipeline along a northern route, connected with the main transmission pipeline of the originally-planned state and local RRVWSP.

Moving forward with the route utilizing the McClusky Canal, ENDAWS ultimately saves the RRVWSP approximately $200 million in construction costs and an additional $3-4 million in annual operating costs. The current total estimated cost of the RRVWSP is $1.4 (Nominal$) billion for main transmission facilities.

Since 2013 when the RRVWSP proceeded as a state and local effort, a total of $383 million has been invested in overall project advancements, with $297 million from the state, and $86 million in local contributions.

RRVWSP MAIN TRANSMISSION PROJECT

HISTORIC FUNDING

Local	$86M
State	$297M

FUTURE FUNDING

Est. Remaining Costs	$1.03B
Local	$257M
State	$773M

MISSOURI RIVER
INTAKE CONSTRUCTION

Missouri River Intake Under Construction

Construction on the Missouri River Intake started in December 2020 and was completed in the spring of 2023 under two contracts. Contract 1 was awarded to ICS and completed the Missouri River Intake Wet Well and Site Development. Contract 2, awarded to Michels, completed the intake, screen structure, and tunnel. The total cost of the two contracts, including construction phase services for the Missouri River Intake, is $27,422,612.

The conventional intake on the Missouri River is located approximately six miles southeast of the City of Washburn, North Dakota. Raw water will enter the system through a conventional submerged intake structure in the Missouri River. The intake structure will include a screen assembly to exclude sand, rocks, timber, aquatic organisms, plant matter, trash, frazil ice, etc., from the pumps and piping.

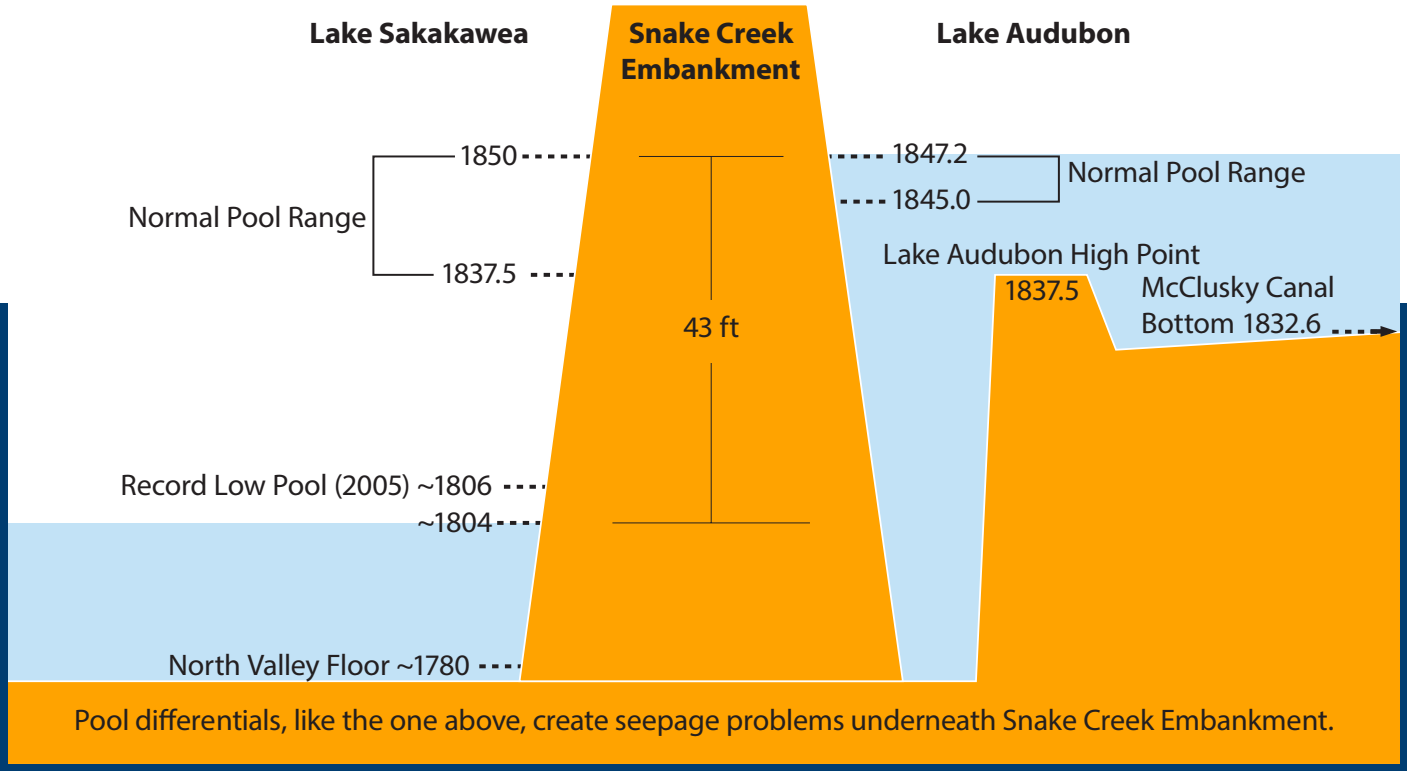
The current design capacity of the Missouri River Intake Pumping Station is for 165 cfs (74,062 gallons per minute (gpm)), as is the future screen capacity at design flow. The screen size and capacity could be increased or decreased with minimal impact. Physical modeling up to 185 cfs has been completed.

Additionally, the physical layout of the intake, tunnel and wet well as constructed hydraulically supports a 220 cfs capacity, though it would be necessary to buy larger screens and address the wet well modeling aspect to be compliant with Hydraulic Institute standards before increasing the flow above 185 cfs.

Even with pursuing the more cost-efficient McClusky Canal Intake, the intake on the Missouri River has not been abandoned. The Missouri River Intake will serve as a back-up water supply for the RRVWSP. Additionally, large industry, city, and rural users are potential parties who may benefit from the use of the already-completed Missouri River Intake. Those opportunities are outlined in later sections of this report.

Completed Missouri River Intake

INTAKE REDUNDANCY &
SNAKE CREEK EMBANKMENT ISSUES



Pool differentials, like the one above, create seepage problems underneath Snake Creek Embankment.

With regard to the Missouri River Intake serving as a back-up for the RRVWSP, the need for that redundancy has been underscored in recent years following ongoing challenges with the Snake Creek Embankment (SCE). SCE separates Lake Sakakawea and Lake Audubon and is a critical piece of GDU infrastructure which also serves as a transportation and utility corridor. In addition, reservoir operations support irrigation; recreation; fish and wildlife; augmentation of stream flows; groundwater recharge; and municipal, rural, and industrial water supplies.

In the early 2000s, drought conditions in the Missouri River Basin caused low reservoir levels in Lake Sakakawea - including a 41.1-foot lake level differential between Lakes Sakakawea and Audubon. This difference increased seepage underneath the SCE (dam foundation). At that time, it was discovered multiple relief wells were not functioning properly because of deferred USACE maintenance. In response, USACE conducted studies to identify alternatives for future action. An engineering analysis concluded limiting the lake level differential threshold to 43 feet would limit future risks. USACE implemented this non-structural management solution in 2019. However, the USACE was directed by America's Water Infrastructure Act of 2020 to reassess this approach and consider a structural solution.

USACE is currently completing this assessment. Under the current non-structural solution, if an extended drought triggers the 43-foot management threshold, then the USACE would usurp Garrison Diversion management of Lake Audubon elevation and may endanger service levels required for the function of drought resilience infrastructure serving central and eastern North Dakota – including the McClusky Canal, ENDAWS, and other authorized purposes.

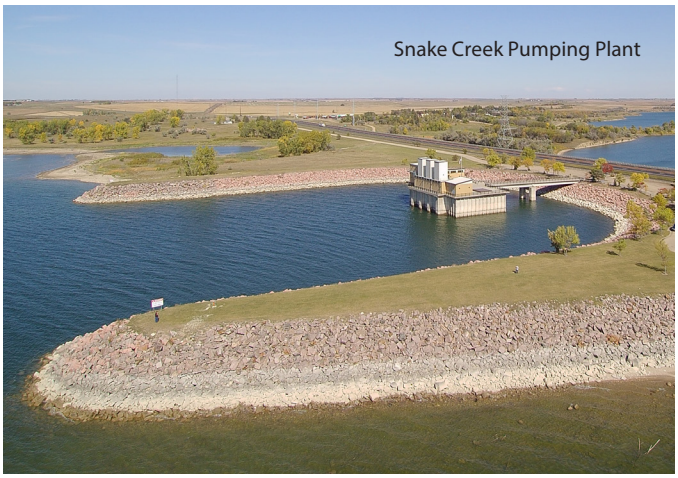
North Dakota's Congressional Delegation, Governor's Office, DWR, and Garrison Diversion have been very active in working with the USACE to support a structural solution protecting the efficacy of GDU assets.

POTENTIAL MISSOURI RIVER
INTAKE OPPORTUNITIES

Snake Creek Embankment

In addition to serving as an alternate intake for the RRVWSP, project leaders continue to meet with potential water users to discuss feasibility, pipeline routes, and costs associated with utilizing the Missouri River Intake. These discussions and opportunities involve public municipal and rural water supply systems, as well as private industry. Because of the potential for economic development and private end users accessing water via the Missouri River Intake, the North Dakota Department of Commerce has also been closely involved in those discussions. Specific opportunities are summarized below.

It should be noted that in order to deliver water to potential users, the pump house structure, pumps, and screens for the Missouri River Intake must be purchased and installed.



Snake Creek Pumping Plant

CITY OF
WASHBURN

Following the flood events of 2011, Washburn's raw water intake on the Missouri River began to experience escalating problems from sedimentation, resulting in limited capacity during low river flows. In response, Washburn first approached the DWR and State Water Commission (SWC) in 2013 for cost-share assistance to construct a new horizontal collector well intake on the Missouri River. After years of reviewing alternative options, engineering design, and going through a bid process for a conventional intake that was not awarded, Washburn was not able to move their intake efforts forward.

Then, in 2022, due to Washburn's proximity to the RRVWSP Missouri River Intake, Garrison Diversion proposed a joint intake owned and operated by Garrison Diversion as part of the RRVWSP. Under this scenario, Washburn would then become a user of the RRVWSP. To more clearly articulate this potential relationship, a technical memorandum was completed in August 2022 – referred to as the "Washburn Intake Alternative Analysis."[1]

Specifically, Garrison Diversion tasked their consultant with comparing the cost effectiveness of two alternatives: 1) an independent Washburn raw water intake on the Missouri River; and 2) Washburn as a user of the RRVWSP Missouri River Intake. As outlined in the analysis, current and multiple 2075 water demands were considered.

WASHBURN WATER DEMAND ALTERNATIVES SUMMARY

	Domestic Demand (gpm)	Industrial Demand (gpm)	Total (gpm)
CURRENT (2022) - 200 GPM			
Represents the City of Washburn's current water demands.	200	0	200
2075 INTERMEDIATE - 450 GPM			
Represents a future projection of Washburn's water demands, which provides 25% growth in domestic water demands and provides 200 gpm for industrial purposes.	250	200	450
2075 HIGH - 700 GPM			
Represents a future projection of Washburn's water demands, which provides 50% growth in domestic water demands and provides 400 gpm for industrial purposes.	300	400	700
MAXIMIZE PIPE - 1,700 GPM			
Represents maximizing the capacity of Washburn's proposed transmission line from the RRVWSP.	300	1,400	1,700

Burian & Associates LLC., (For: Garrison Diversion Conservancy District) August 11, 2022, Washburn Intake Alternative Analysis.

CITY OF **WASHBURN** (CONTINUED)

From 2023 through 2024, Garrison Diversion revisited and further evaluated potential route alternatives for the Washburn Raw Water Supply pipeline, which extends from the RRVWSP's Missouri River Intake to the Washburn Water Treatment Plant (WTP). Three pipeline alignment alternatives were analyzed, taking into account constructability, permitting, easements, and other potential challenges. The routes generally included: (1) the shortest route which traversed portions of southwest Washburn; (2) an intermediate route that generally followed U.S. Highway 83 through the city; (3) and the longest route which generally followed a more greenfield path around the east side of the city. The third alternative was recommended due to its cost-effectiveness, ease of access, minimal disturbance to city streets and businesses, and the anticipated reduction in permitting requirements.

This pipeline is conceptually designed as a 12-inch diameter pipe to accommodate the projected municipal water needs, adjacent rural water district needs, and limited future industrial water demands through a planning horizon of 2075. The pipeline will convey raw water to the Washburn WTP to ensure that the City of Washburn's and the region's water demands can be met even during extreme drought conditions. The pipeline has a maximum capacity of 1,900 gallons per minute (gpm), or 4.23 cubic feet per second (cfs). The table below summarizes the estimated capital costs for the pipeline in 2023 dollars and escalated to 2026 dollars.

To accommodate the potential additions of McLean County Energy Center and Riverdale, adjustments have been considered. These adjustments include increasing the pipeline diameter to 36 inches to provide 22 cfs for McLean County Energy Center and 1.6 cfs for the City of Riverdale and its consecutive users.

CAPITAL COSTS FOR PIPELINE IN 2023 DOLLARS & ESCALATED TO 2026 DOLLARS

Route Three (East of Washburn)	Cost (2023 & 2026)
Subtotal Pipeline Opinion of Construction Costs ($2023)	$6,608,000
Subtotal Non-Construction Opinion of Cost ($2023)	$1,573,000
Total Project Opinion of Cost ($2023)	$8,181,000
Escalation to Midpoint of Construction Costs ($2026)	$1,042,000
Subtotal Non-Construction Opinion of Cost ($2026)	$1,780,000
Total Project Opinion of Cost ($2026)	$9,430,000

CITY OF
RIVERDALE

The City of Riverdale's Water Treatment Plant (WTP) is supplied with raw water from the base of the Garrison Dam located near the power plant portion of the dam. The water is then pumped along the backside of the dam, under the bridge-deck of the spillway, and over to the WTP on the west side of Riverdale. The Riverdale WTP serves the City of Riverdale, Pick City, Underwood, Lake Sakakawea State Park, Garrison Dam, and a portion of the McLean-Sheridan Rural Water District system.

The existing water supply line was replaced in the 1980s, except for the section under the bridge-deck of the spillway. This piece of line is insulation wrapped cast iron and heat trace wire to prevent the line from freezing. The line was installed in 1966. The existing cast iron line is corroded, rusted, heavily pitted and is at the end of its service life. In addition, the heat trace lines no longer work, leaving the line susceptible to freezing.

Since originally approaching the DWR and SWC for cost-share assistance in 2021, Riverdale has looked at a series of alternatives. The most recent preferred alternative involves rerouting the supply line south of the bridge deck under the spillway, and up to the existing Riverdale WTP. This is also preferred by the USACE.

Capital cost estimates for this alternative are $11.8 million ($2024). Under current DWR Cost-Share Program requirements for municipal water supply projects, the local share of the project would be 40%, or $4.7 million, making the project financially challenging for water users in the system.

In comparison, a high-level cost estimate to run a 12-inch pipeline from the Washburn area (McLean County Energy Center) utilizing the RRVWSP Missouri River Intake is approximately $20 million. Under current DWR Cost-Share Program requirements for regional and rural water supply projects, the local share of the project would be 25%, or $5 million, making the local cost of the project similar to the Riverdale (Garrison Dam) intake option. However, the state's share of the RRVWSP Missouri River intake alternative to supply water to Riverdale is much higher at $15 million versus $7.1 million for the Garrison Dam route option.


Pick City, ND

MCLEAN COUNTY
ENERGY CENTER


Coal Creek Station

In May 2022, Rainbow Energy Center, LLC (REC) acquired Coal Creek Station power plant. It is located near the Missouri River between Underwood and Washburn (and more generally referred to in this report as the McLean County Energy Center). The plant currently employs approximately 200 people from surrounding areas.

According to the REC website, the power plant has a long history in North Dakota. Ground broke in 1974 and the first unit began generating electricity in 1979. Each year the plant utilizes approximately eight (8) million tons of lignite coal to fuel the plant. Falkirk Mining Company, a NACCO Natural Resources company is the plant's sole lignite supplier. This reliable electrical generation sends approximately 1,151 megawatts (MW) per hour to Minnesota via Nexus Line.

Coal Creek Station also provides water supply and wastewater disposal services to Blue Flint Ethanol Plant (BFEP). In recent years, Harvestone Low Carbon Partners (HLCP) purchased the ownership interests of Midwest AgEnergy (MAG), which owns the BFEP.

According to the HLCP website, BFEP produces over 70 million gallons of ethanol, as well as distillers grains for livestock feed and corn oil for biodiesel production. The plant also provides E85 to retail fuel stations across the state. The BFEP was built next to Rainbow Energy's Coal Creek Station, North Dakota's largest power plant, to capture co-location efficiencies. In addition to receiving water and wastewater services from Coal Creek Station - instead of burning fuel to make fuel, BFEP uses waste steam from Coal Creek Station to provide the energy needed for the refining process and to dry distillers grains. This partnership with Rainbow Energy helps make BFEP one of the most cost-effective, energy efficient and environmentally friendly biorefineries in the country.

Additional opportunities continue to be evaluated in the McLean County Energy Center area. With advantages to economic efficiencies because of existing infrastructure, and the availability of reliable water supplies from the Missouri River, the McLean County Energy Center offers significant economic development options for the region.

OTHER ECONOMIC
DEVELOPMENT OPPORTUNITIES

North Dakota Department of Commerce provided insight into various industries and opportunities they are aware of in western regions across the state, in addition to the RRVWSP corridor. In general, those industries are power generation, data centers, ore processing, fertilizer production, agricultural processing, biofuel production, animal agriculture, plastics production, and oil and gas. Because the development efforts are in varying states of advancement, they were also presented as such. The states of development were identified by three categories:

I. Known Knowns (KK) – Projects with known details either announced or are nearly so.

II. Known Unknowns (KU) – Anticipated projects based on economic development inquiries and preliminary development.

III. Unknown Unknowns (UU) – Projects without specific information but anticipate a high likelihood of advancement based on current industry knowledge and best estimation.

The following table summarizes various industries or opportunities that could benefit from the overall RRVWSP or the Missouri River Intake in particular, including rough estimates of water usage. It should be noted that many future projects are heavily power or pipeline natural gas dependent. If a significant natural gas pipeline is developed from the Bakken Oilfield to eastern points, it will open more opportunities and require additional water resources.


Grand Forks, ND

Region	Industry & Certainty Level	Location	Estimated Water Needs (gpm)	Estimated Timeline
South Sakakawea & Missouri River	Ore Processing (KK)	Beulah	300-500	2025-2028
	Oil & Gas (KK)	Regional	500-1,000	2026-2029
	Power Production (KU)	Regional	3,000-10,000	TBD
	Data Center (KU)	Regional	0-10,000	TBD
	Oil & Gas (UU)	Regional	500-1,000	TBD
	Ag. Processing (UU)	Regional	750	TBD
Missouri River East	Ore Processing (KK)	Underwood	1,800	2025-2027
	Data Center (KU)	Regional	0-10,000	TBD
	Power Production (KU)	Regional	3,000-10,000	TBD
	Biofuel Production (KU)	Regional	300-1,000	TBD
	Ag. Processing (UU)	Regional	750	2026-2029
Missouri River West	Data Center (KU)	Regional	0-10,000	TBD
	Power Production (KU)	Regional	3,000-10,000	TBD
	Biofuel Production (KU)	Regional	300-1,000	TBD
RRVWSP Pipeline Corridor	Data Center (KU)	Regional	0-10,000	TBD
	Power Production (KU)	Regional	3,000-10,000	TBD
	Biofuel Production (KU)	Regional	300-1,000	TBD
	Ag. Processing (UU)	Regional	750	2026-2029
TOTAL ESTIMATED INDUSTRIAL WATER NEEDS (NEW)			17,500 – 88,800	TBD
MISSOURI RIVER INTAKE CAPACITY			74,000 – 100,000	TBD

POTENTIAL WATER NEEDS SUMMARY
& INTAKE CAPACITY COMPARISON

In looking at potential domestic water users that could utilize the Missouri River Intake, the most likely estimated range for Washburn (including portions of McLean-Sheridan Rural Water District) is 200-250 gpm, and the most likely domestic water need for Riverdale (including Pick City, Lake Sakakawea State Park, Garrison Dam, Underwood, and portions of McLean-Sheridan Rural Water District) is 200-300 gpm. In terms of industrial development, if all opportunities currently being looked at are developed as outlined in the previous table, the range of water needs for those users is 17,500-88,800 gpm. The following table outlines the potential available water from the Missouri River Intake to serve the aforementioned domestic and industrial water needs in the region.

McLean-Sheridan Rural Water

Domestic Water Needs (Washburn & Riverdale)
400-550 gpm

New Industrial Potential Water Needs
17,500-88,800 gpm

Total Domestic & Industrial Water Needs
17,900-89,350 gpm

Missouri River Intake Capacity Comparison
74,000-100,000 gpm

MISSOURI RIVER FUTURE INTAKE USE
RECOMMENDATIONS

Based on the information and opportunities outlined in this report, the following recommendations are offered as options for future use of the Missouri River Intake near Washburn.

Recommendation 1: Garrison Diversion will continue ongoing discussions with the City of Washburn to utilize the Missouri River Intake as its new/replacement water supply.

- Washburn's well-documented intake problems with its existing intake continue to make the community vulnerable to future water supply shortages resulting from shifts of Missouri River channel flows, or low water levels. Utilization of the Missouri River Intake would provide a permanent solution for Washburn – including subsequent industrial water users in discussions with the community.

Recommendation 2: Garrison Diversion will continue ongoing discussions with the City of Riverdale to utilize the Missouri River Intake as its new/replacement water supply. This will include more refined cost estimates of the necessary water supply line from the Washburn or Underwood area.

- Riverdale's ongoing challenges with its intake water supply line located in the deck of Garrison Dam spillway continue to threaten the city with future water supply shortages in the event of a line break. Utilization of the Missouri River Intake would provide a permanent solution for Riverdale – including subsequent rural water users served by the Riverdale Water Treatment Plant.

Recommendation 3: The Department of Commerce will continue to lead efforts to work with industrial water users that are interested in locating in North Dakota and could benefit from utilization of the Missouri River Intake as a primary or supplemental water source. As part of these efforts, the Department of Commerce will work closely with the DWR and Garrison Diversion to ensure water availability and water needs are part of the decision-making process as early as possible.

- Many of the ongoing economic development discussions the Department of Commerce engages in are confidential – at the request of private corporations or investors. However, if a range of potential water needs are known at the regional level (as outlined in this report), it is still beneficial to all parties to discuss water availability options with DWR and Garrison Diversion.

Recommendation 4: The DWR, Garrison Diversion, and LAWA must continue discussions with the USACE to implement a structural approach to existing Snake Creek Embankment deficiencies.

- The USACE's current decision to implement a non-structural approach to Snake Creek Embankment deficiencies during a severe drought makes the availability of the Missouri River Intake critical as a supplemental water supply for the RRVWSP. However, this is an unnecessary risk the USACE can mitigate by implementing a structural approach.

CONCLUSION

The existence of the Missouri River Intake at its location south of Washburn is well positioned to support future water demands for domestic water users, as well as future industrial economic development opportunities. In addition, with ongoing uncertainties related to USACE Snake Creek Embankment operational decisions, the added redundancy the Missouri River Intake provides to GDU works is significant to North Dakota's long-term resiliency to drought. And finally, the existence of the Missouri River Intake is an important step in North Dakota's long-standing goal to develop abundant Missouri River system water whenever possible for the benefit of current and future generations - because the use of Missouri River water is dependent on access to Missouri River water, which the Missouri River Intake can provide.

"The Missouri River Intake at its location south of Washburn is well positioned to support future water demands for domestic water users, as well as future industrial economic development opportunities."

APPENDIX A

RRVWSP PARTNERING ENTITIES

GARRISON DIVERSION CONSERVANCY DISTRICT

The Garrison Diversion Conservancy District (Garrison Diversion) consists of 28 member counties in North Dakota. Each county elects a citizen at the general election to serve a four-year term as a member of the Garrison Diversion board of directors and supports the operations of Garrison Diversion by issuing a one-mill levy.

Garrison Diversion directors serve on one or more of eight standing committees, which provide oversight to the activities of Garrison Diversion. The eight standing committees are: Executive, Agriculture and Natural Resources, Engineering and Operations, Public Relations, MR&I (Municipal, Rural and Industrial), Red River Valley, Recreation, and Missouri River.

Garrison Diversion is headquartered in Carrington, North Dakota, with operations and maintenance (O&M) offices in McClusky, New Rockford, and the Snake Creek Pumping Plant, employing nearly 30 people. The staff consists of several management positions, a professional engineer, support staff, and multiple O&M workers.

LAKE AGASSIZ WATER AUTHORITY

Governor John Hoeven signed the Lake Agassiz Water Authority (LAWA) bill during the 2003 Legislative Session, which instated LAWA as a new water authority in North Dakota. It was created because of increasing water demands caused by the Red River Valley's growing population and the likelihood of a severe drought occurring in the next 50 years. LAWA is comprised of cities and water districts in central and eastern North Dakota, and three cities in Minnesota. United, the bodies concerned with this issue work together to create solutions, form goals and plan for future water supply needs in the Red River Valley.

The LAWA Board of Directors consists of representatives from six cities and six rural water systems, along with four Associate Members (non-voting) whom together represent 36 LAWA members (dues paying entities). Subcommittees of the board include the Technical Advisory Committee and Financial Advisory Committee.

DEPARTMENT OF WATER RESOURCES

During the 2021 Legislative Assembly, House Bill 1353 reorganized the Office of the State Engineer and the State Water Commission into the Department of Water Resources (DWR). The reorganization became effective on August 1, 2021. The agency's first Director was appointed, and the agency became a member of the Governor's Cabinet. DWR was previously called the State Water Commission, which itself was created by Legislative action in 1937 for the specific purpose of fostering and promoting water resources development throughout the state.

DWR has the authority to investigate, plan, construct, and develop water-related projects, and serves as a mechanism to financially support those efforts throughout North Dakota. There are six divisions that make up the DWR: Administration, Atmospheric Resources, Planning and Education, Regulatory, Water Appropriation, and Water Development. As of 2024, DWR has 93 full time employees.

DWR is primarily located in Bismarck, North Dakota. In addition, DWR has field offices in Fargo, Max, and near Minnewaukan.

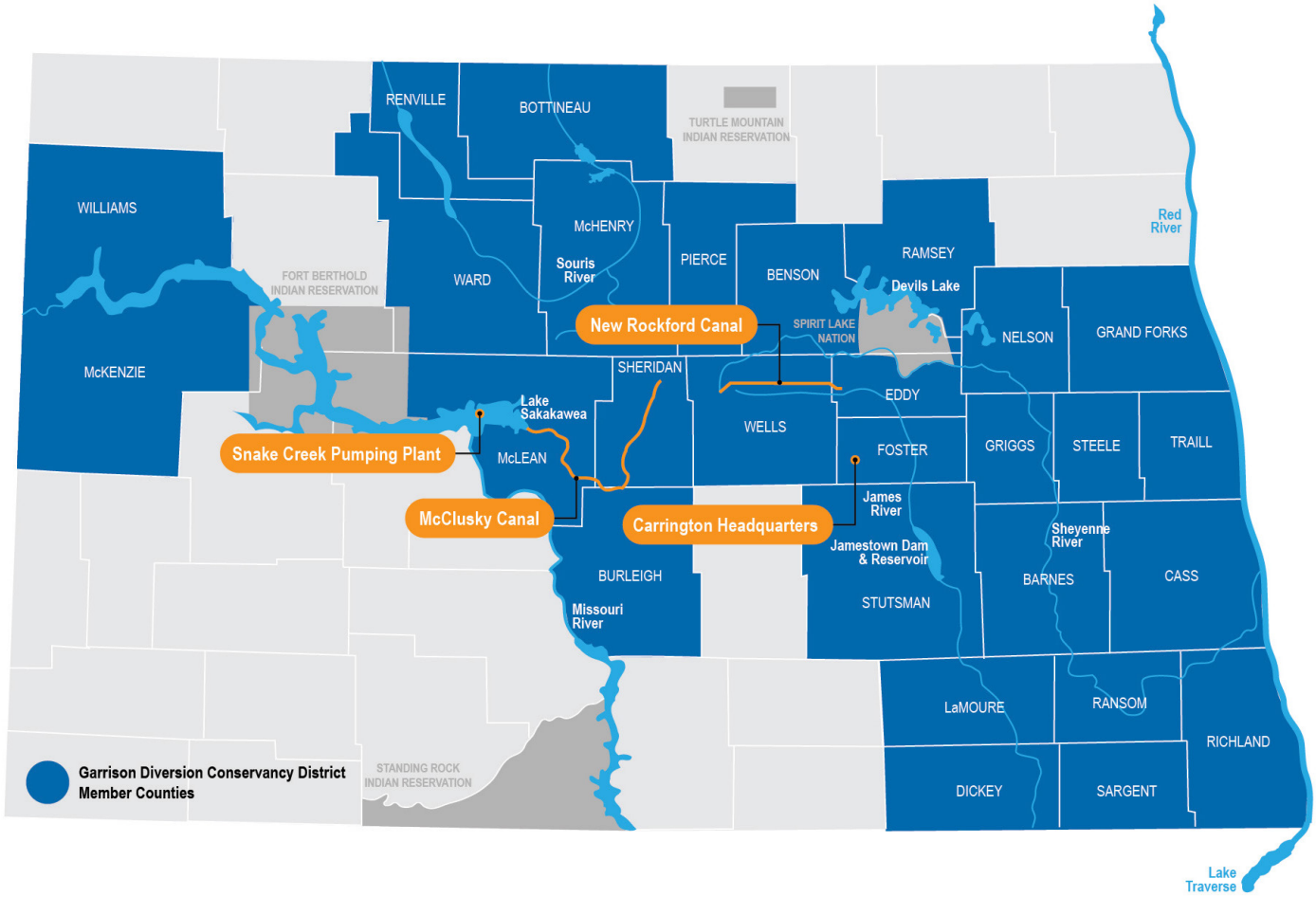
UNITED STATES BUREAU OF RECLAMATION

Established in 1902, the United States Bureau of Reclamation (USBOR) is best known for the dams, powerplants, and canals it constructed in the 17 western states. These water projects led to homesteading and promoted the economic development of the West. Today, USBOR is the largest wholesaler of water in the country - bringing water to more than 31 million people, and providing one out of five western farmers (140,000) with irrigation water for 10 million acres of farmland that produces 60% of the nation's vegetables and 25% of its fruits and nuts.

Today, USBOR is a contemporary water management agency with a Strategic Plan outlining numerous programs, initiatives, and activities that will help western states, Native American Tribes, and others meet new water needs and balance the multitude of competing uses of water in the West.

The USBOR office primarily involved with the RRVWSP is the Dakotas Areas Office (DAO), located in Bismarck, North Dakota. The USBOR DAO is part of the larger Missouri Basin and Arkansas-Rio Grande-Texas Gulf Region.

GARRISON DIVERSION
MEMBER COUNTIES



Red River Valley Water Supply Project 72-inch pipeline installation near Carrington, ND.

CONTACT INFORMATION

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