

APRIL 2024

WATER IMPROVEMENT PROJECTS OVERVIEW



PROJECT CONTACTS:

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WHAT WE ARE DOING		WHY WE ARE DOING IT	
<ul style="list-style-type: none"> • Emergency Connection • Water main replacement • New Jordan Aquifer Well No. 10 • New raw water transmission main • Construction of a new one-million-gallon water tower • New drinking water treatment plant 		<p>The construction of a new plant and other upgrades will: improve our drinking water quality; strengthen water supply resiliency; build capacity for growth; and the new nanofiltration technology used to filter and soften water will provide a far superior alternative to Zeolite softening.</p>	
PROJECT	STATUS	OVERVIEW	SCHEDULE
Emergency Water Connection <input checked="" type="checkbox"/>	Complete	The Emergency Connection was constructed as a back up to the current water plant. It was a precautionary measure that is not anticipated to be put into service but is available if an emergency arises. This connection is fully established, ensuring readiness for such contingencies during the design and construction of the new treatment plant.	Complete
Water Main Replacement <input checked="" type="checkbox"/>	On-Going	This is part of an on-going effort to improve the water distribution system. This work has resulted in a reduction of water main breaks and improved system reliability. Seven projects have replaced approximately three miles of water main in the last five years. More projects are planned.	On-Going
New Jordan Well No. 10 <input checked="" type="checkbox"/>	Design approval from Iowa DNR. The project is currently out for bid.	The Jordan Well No. 10 project will create a new drinking water supply well for the upcoming water treatment plant. It will be situated at 703 Broad Street, adjacent to the new plant. Drilling operations are scheduled to start in June 2024 and are expected to last around 100 days. The Jordan aquifer is a reliable water source, and is permitted by the Iowa DNR to remain reliable.	Begin construction in June 2024. Construction is anticipated to be completed in October 2024.
New Raw Water Transmission Main <input checked="" type="checkbox"/>	Design is 100% complete and currently under Iowa DNR permit review.	The new raw water transmission main project targets a notorious section prone to breaks, carrying water from Well 8 and Well 9 to the treatment plant. By enhancing system durability, it aims to reduce break incidents, supporting continued well operation at the new treatment plant. The project awaits regulatory agency approval and is set to begin in summer 2024, with construction expected to last around a year.	Begin construction in August 2024. Construction is anticipated to be completed in July 2025.
Construction of a New One-Million-Gallon Water Tower	Awaiting Federal Aviation Administration (FAA) approval. Land acquisition in process with willing landowner.	The City is expanding its finished water storage capabilities. The current 300,000-gallon water tower is in good condition and continues to serve the community; however, this new tower will provide additional capacity and allow for the retirement of the 300,000-gallon tower in the future. A new one-million gallon water tower, located near East Street, south of Ogan Avenue, will provide better resiliency, support growth, and improve system reliability.	Begin construction in October 2024. New tower is anticipated to be on-line in June 2026.
New Drinking Water Treatment Plant <input checked="" type="checkbox"/>	Design is 95% complete and under final review by the Iowa DNR, scheduled for finalization by June 2024.	The new water treatment plant, located at 703 Broad Street, will utilize nanofiltration technology to filter constituents such as radium and hardness. A new clearwell will store finished water onsite. The new plant will have the capacity to produce 2.6 million gallons per day. The existing treatment plant building and storage reservoir will be demolished.	Begin construction in October 2024 and is anticipated to be substantially complete in October 2026.

Environmental clearance obtained from Iowa DNR

BETTER WATER FOR GRINNELL. **BETTER WATER FOR EVERYONE.**

Information provided by the City of Grinnell's Water Department and Project Partners / Consultants.

Information is subject to changes as projects progress.

FREQUENTLY ASKED QUESTIONS (FAQ)



Why is the project taking so long?

Projects of this magnitude generally require two years of planning, design, and permitting, and approximately two years of construction. The new drinking water treatment plant is on-track to be on-line by October 2026.

Is the water currently safe?

Yes, the water is safe. Water contains naturally occurring elements. The City works closely to monitor and test the water quality regularly as required to do so by IDNR and EPA as part of their operating permit. Recent testing showed the water contained a higher level of radium than previous readings; however, there is no immediate cause for concern.



Scan the QR code for more information on how the City is addressing this.

Will I still need to use my water softener with the new water treatment plant?

The use of water softeners is a personal preference based on individual customer water quality needs. The new drinking water treatment plant will reduce the water hardness down from 22 grains currently to 7 grains, a 68% reduction. The City needs to keep a safe level of water hardness in the water, so it does not become corrosive. If customers continue to use water softeners, they will need to adjust their softener to the new water quality to see the cost savings in using less softener salt and minimize the harmful environmental impacts of water softener use.

Will my water bill increase?

Yes. The City is looking at multiple funding options, including grants, low interest loans, and federal funding, in order to keep rate increases as reasonable as possible. Once project costs are more accurately known after bidding, future communication will be sent out on expected rate increases. Water improvement projects will be funded through the following sources:

- Low interest and/or forgivable State Revolving Fund (SRF) loans
- Federal money through community project funding program
- Water rate increases

Is the Jordan Aquifer a reliable source of water?

Yes. The Jordan Aquifer is a reliable source of water for many communities in the State of Iowa, including Grinnell. Like any natural resource, its quantity is not infinite. Water is withdrawn from the Aquifer, and there is a natural re-charge as well. The State has spent several years studying the long-term viability of the aquifer and has implemented water conservation practices to ensure it remains reliable. During the planning phase, the City and their consultant team modeled aquifer drawdowns for Grinnell, and determined the long-term pumping levels will remain well above the conservation limits regulated by the State. The Jordan Aquifer is one-half mile underground. Water in the aquifer arrived there thousands of years ago and as such, contains no pollutants introduced by humans from the surface.

CURRENT VS. FUTURE WATER QUALITY COMPARISON

Parameter	Unit	Current (Average)	Future (Estimated, Average)	Percent Reduction
Alkalinity	mg/L-CaCO ₃	290	106	63%
Barium	mg/L	0.02	<0.01	50%
Calcium	mg/L CaCO ₃	82	27	67%
Chloride	mg/L	20	9	55%
Fluoride	mg/L	1.3	0.5	62%
Iron (Total)	mg/L	0.2	<0.1	50%
Magnesium	mg/L CaCO ₃	38	13	66%
Manganese	mg/L	0.01	<0.005	50%
Radium (Combined)	pCi/L	6.2	2.3	55%
Sulfate	mg/L	296	97	67%
Total Dissolved Solids	mg/L	678	248	63%
Total Hardness	grains	22	7	68%