

Build Kansas Fund | Fiscal Year 2024 Application Package | Memo



To: Senator Ty Masterson, Chair, Build Kansas Advisory Committee
Murl Riedel, Kansas Legislative Research Department
Shauna Wake, Office of the Kansas State Treasurer

From: Vanessa Lamoreaux, Kansas Department of Transportation

RE: Build Kansas Fund Application # 2024-010-GP

Date: February 1, 2024

Attached, please find an application made to the Build Kansas Fund by the City of Dodge City.

The application packet includes the following items:

- Coversheet – provides a high-level overview of the application including a unique identification number, page 1 of 10 of the Build Kansas Fund Application Package.
- Build Kansas Fund Application – includes information submitted with the Build Kansas Fund Application, pages 2-7. Page 7 provides the table of funding sources.
- Attachments –An Executive Summary, pages 9-10.

Project Overview

The City of Dodge City seeks funding from the US Department of Interior, Bureau of Reclamation for funding available through the WaterSMART: Title XVI WIIN Act Water Reclamation and Reuse Projects. The City has investigated the severity of the water issue as well as options to address the issue. The proposed project of wastewater reuse through managed aquifer recharge (MAR) is the most viable solution to the water supply crisis. MAR will discharge treated wastewater effluent into the dry Arkansas Riverbed which will recharge the Ogallala Aquifer and create additional groundwater resources at City wells.

This WaterSMART opportunity is a discretionary BIL program that has a local match requirement of 75%. The City is requesting \$20,000,000 from the Build Kansas Fund. The City is contributing \$22,750,000. This request unlocks \$14,250,000 in federal funds.

The application was submitted on December 7, 2023, but no federal award has been made. The Build Kansas Fund application was received on January 17, 2024.

Build Kansas Fund Steering Committee Recommendation

The Build Kansas Fund Steering Committee reviewed this application on January 24, 2024, following a successful completeness check. The Steering Committee **RECOMMENDS APPROVAL** of Build Kansas Funding to the Build Kansas Advisory Committee for final advice.

Build Kansas Fund | Fiscal Year 2024 Application Package | Coversheet



Build Kansas Fund Application Number	2024-010-GP
Project Name	City of Dodge City Wastewater Reuse via Managed Aquifer Recharge - Securing Future Water Supply and Restoring the Ogallala Aquifer
Entity Type	Local Government
Economic Development District (EDD) Planning Commission	Great Plains Development
Infrastructure Sector(s)	Water
BIL Program	WaterSMART: Title XVI WIIN Act Water Reclamation and Reuse Projects for Fiscal Years 2023 and 2024
BIL Program Type	Discretionary
BIL Application Deadline	12/7/2023
Build Kansas Fund Request	\$20,000,000
Technical Assistance Received	General No
	BIL Application No
	Build Kansas Fund Application Yes
	Other (Brief Description): Provided support on the budget and application process
Application Notes	Build Kansas Fund contribution of \$20,000,000 will unlock \$14,250,000 in federal BIL funding. <i>There is a 75% cost-share requirement for this funding opportunity.</i>

Steering Committee Funding Recommendation **January 24, 2024 | Recommend**

Advisory Committee Target Review **DATE**

Advisory Committee Funding Recommendation **DATE | Approve or Deny**

Completeness Review Data

Date Build Kansas Application Received:	1/17/2024
Date Of Completeness Check:	1/18/2024
Date Forwarded to Steering Committee:	1/19/2024

Title **City of Dodge City, Kansas** 01/17/2024
by **Jacob White** in **Build Kansas Fund Fiscal Year 2024 Application** id. 45233971
jmwhite@burnsmcd.com

Original Submission 01/17/2024

Score n/a

Part 1: Applicant Information

The name of the entity applying for the Build Kansas Fund: City of Dodge City, Kansas

Project Name: Wastewater Reuse via Managed Aquifer Recharge - Securing Future Water Supply and Restoring the Ogallala Aquifer

Entity type: Local Government

Applicant Contact Name: Nickolaus Hernandez

Applicant Contact Position/Title: City Manager

Applicant Contact Telephone Number: +16202258100

Applicant Contact Email Address: nickh@dodgecity.org

Applicant Contact Address: 806 N. 2nd Ave.

Applicant Contact Address Line 2 (optional):

Applicant Contact City: Dodge City

Applicant Contact State: Kansas

Applicant Contact Zip Code: 67801

Is the Project Contact the same as the Applicant Contact? Yes

Part 2: Build Kansas Fund - Eligibility Criteria

Certify that you are pursuing a viable Bipartisan Infrastructure Law (BIL) funding opportunity for which your entity is eligible: Yes

Certify that the Bipartisan Infrastructure Law (BIL) funding opportunity you are pursuing has a non-federal match component: Yes

What is the primary county that the project will occur in? Ford County

The Build Kansas Fund is intended to support Kansas-based infrastructure projects. Please provide a list of all the zip codes this project will be located in, along with an estimated percent [%] of the project located in that zip code. For example, if seeking funding for road infrastructure, provide a rough percent of the roads expected in each zip code:

[Zip Code Percentage.xlsx](#)

Part 3: Bipartisan Infrastructure Law (BIL) - Grant Application Information
Please Note: This information is related to the federal Bipartisan Infrastructure Law (BIL) funding opportunity to which you will apply. This is NOT information for the Build Kansas Match Fund.

Please enter the Bipartisan Infrastructure Law (BIL) funding opportunity title that the entity is applying for: WaterSMART: Title XVI WIIN Act Water Reclamation and Reuse Projects for Fiscal Years 2023 and 2024

What is the funding agency for this Bipartisan Infrastructure Law (BIL) funding opportunity? U.S. Department of Interior

What is the Assistance Listing Number (ALN) for this Bipartisan Infrastructure Law (BIL) funding opportunity? 15.504

What is the application due date for this Bipartisan Infrastructure Law (BIL) funding opportunity? 12/7/2023

What is the federal fiscal year for this Bipartisan Infrastructure Law (BIL) funding opportunity? 2024

Enter the amount of funding being applied for, from the Bipartisan Infrastructure Law (BIL) funding opportunity: \$14,250,000

Part 4: Build Kansas Fund - Match Application Information

Enter the required non-federal match percentage: 75.0

Enter the non-federal match amount requested from the Build Kansas Fund: \$20,000,000

Is the project able to move forward with a lesser match amount than requested? No

If you are awarded less match than the amount requested, at what amount would your project NOT be able to move forward? \$20,000,000

Expected breakdown of funding sources to support the project: Enter the funding source and projected amount from each source to support this project:

[Kansas+DOT+table.xlsx](#)

Part 5: Build Kansas Fund - Means Test

Confirm that there are no available funding sources currently planned to go unused by your entity that could be leveraged for this project: Yes

Confirm there are no available American Rescue Plan Act (ARPA) or Coronavirus State & Local Fiscal Recovery Fund monies that could be used for this match: Yes

Confirm that you have explored other readily available funding sources (federal or non-federal) to be used for this match: Yes

Briefly describe your efforts to find other available funding sources for this project: The BIL funding opportunity requires a non-Federal cost-share of 75% or more of total project costs; therefore, Federal funds cannot be used for the non-Federal cost-share. State funds that have been explored include the State Water Plan Fund, specifically the Technical Assistance Fund Grants and Water Project Fund Grants. Discussions have been held with the Kansas Water Office regarding availability of these funds for the proposed Project. While there is the potential these funds could be applied toward the Project, there is uncertainty regarding fund availability and competition; however, discussions continue with the KWO.

Part 6: Additional Information

Please upload a copy of the Bipartisan Infrastructure Law (BIL) program application associated with this request OR a 2-page executive summary providing an overview of the project:

[Build_Kansas_Executive_Summary.pdf](#)

Provide any additional information about this project (optional):

Part 7: Terms and Conditions

Understanding of Fund Release Requirements: checked

Understanding of Use of Funds: checked

Understanding of Reporting Requirements: checked

Authority to Make Grant Application: checked

Persons and Titles: Nickolaus Hernandez
The following persons are responsible for making this Build Kansas Fund application.

Position/Title: City Manager

Additional:

Position/Title:

Additional:

Position/Title:

Additional:

Position/Title:

Internal Form

Score n/a

Pre-Award Information:

Post-Award Information:

Source	Amount	Zip Code
BIL Federal Funds (applied for)	\$ 14,250,000.00	67801
Build Kansas Funds (non-federal match)	\$ 20,000,000.00	
Additional Project Contribution (if applicable)	\$ 22,750,000.00	

TOTAL PROJECT COST \$ 57,000,000.00

Zip Code	% of project in zip code	State
67801	100	Kansas

Wastewater Reuse via Managed Aquifer Recharge: Securing Future Water Supply and Restoring the Ogallala Aquifer

Executive Summary

Dodge City, Kansas is a regional economic hub for southwest Kansas that relies on groundwater from the Ogallala Aquifer as its sole source of municipal water supply. The only source of water available to the City and the region is groundwater; surface water is non-existent. The climate in Dodge City is considered semi-arid with approximately 20-inches of rainfall per year. The region is prone to drought, and the effects of climate change are worsening the water supply dilemma. For a period of 11-straight months in 2022 and 2023, all or part of Ford County was in Exceptional Drought as defined by the US Drought Monitor.

The declining water level in the Ogallala near Dodge City is well documented. The Kansas Geological Survey (KGS) conducts and provides objective and integrative geoscience research specific to water resources across the state of Kansas. Based on data collected and analyzed, they have reached the conclusion that the aquifer is in a consistent state of decline from over appropriation of water rights which has resulted in groundwater withdrawals exceeding aquifer recharge. In some locations in Ford County, water levels are already below the minimum threshold for use. In Dodge City, there are areas with less than 25 years of available water supply per projections developed by KGS.

The City has examined other sources of supply including the Dakota Aquifer which underlies the Ogallala. The Dakota aquifer is not considered a viable alternative as the aquifer is also over appropriated, has much lower yielding wells, and exhibits generally poor water quality. Rivers, streams, and creeks in the vicinity are also not viable supply alternatives as these systems only flow during extreme precipitation events.

As the Ogallala aquifer continues to be depleted, degradation in water quality is also occurring. In March 2023, the City's well #3 was taken off-line due to elevated nitrates (11 mg/L) which is above the maximum contaminant level (MCL) for potable supply. City wells #15 and #19 have also been taken off-line due to elevated nitrates (13 mg/L and 30 mg/L, respectively). As the City does not have centralized water treatment, elevated nitrate levels in these wells would have resulted in blended nitrate concentrations above the MCL. The City continues to monitor nitrate levels in municipal wells and may require treatment or other mitigation strategies in the future to continue using current water resources. The assumption can be made that the City's authorized quantity of groundwater will decrease in the future due to nitrate contamination.

The City owns two wastewater treatment plants which provide treatment for a combination of municipal and industrial wastewater sources. The Hilmar Cheese Company (Hilmar) is constructing a cheese and whey processing facility in Dodge City which will require additional wastewater treatment improvements. In an effort to promote groundwater sustainability and continued economic development, the City has concluded that wastewater reuse via managed aquifer recharge (MAR) is the most viable solution to the water supply crisis. The MAR project will discharge treated wastewater effluent into the dry Arkansas Riverbed which will recharge the Ogallala Aquifer and create additional groundwater resources at existing City wells.

An upgrade of the City's existing wastewater treatment process is necessary to provide an acceptable level of treatment so that treated effluent can be introduced into the aquifer according to MAR guidelines and Kansas Department of Health and Environment (KDHE) regulations. Conceptual treatment alternatives were evaluated for compatibility with existing MAR regulations, and hydrogeologic conditions were evaluated to determine the impact of treated wastewater recharging the aquifer. Hydrogeologic modeling indicates that approximately 90% of the water recharged will be recovered in the geographic area covered by the existing City wellfield.

To meet KDHE regulations and MAR guidelines, the treatment process will consist of anaerobic-anoxic-aerobic biological nutrient removal, membrane bioreactor (MBR), UV disinfection, and soil-aquifer treatment. A membrane bioreactor (MBR) with UV disinfection followed by greater than 6-months of infiltration time for soil-aquifer treatment is the recommended treatment technology for the MBR project based upon the ability to meet KDHE discharge and MAR regulations.

Aside from the treatment process itself, the Project will consist of a booster pump station at the South WWTP, a forcemain to deliver flow to the discharge from the new MAR WWTP, and infrastructure necessary to discharge treated effluent into the Arkansas Riverbed.

Initially, the Project will treat 4.1 million gallons per day (MGD) of wastewater for discharge into the Arkansas Riverbed. Discharged water will first encounter the dry Arkansas River alluvium, which is approximately 50 feet thick near the discharge location. The alluvium is comprised of coarse sands, gravel, silt with an intermittent clay layer near transition of the alluvium to the Ogallala. Due to the unsaturated nature and relatively high permeability of the alluvial sands, infiltration of treated reuse water will be rapid, and is likely to occur within the first few hundred yards from the discharge location. Percolation will primarily be vertical until the discharge water reaches the water table, roughly 50 feet below ground surface near the discharge location. Travel time from the discharge point to the water table is expected to be less than one month of discharge at the surface. After reaching the water table, the discharge water will act as local recharge to the Ogallala aquifer with groundwater flow being primarily east-southeast. Travel time from the discharge location to the nearest downgradient municipal well is calculated to be greater than six months based on the anticipated groundwater gradients and regional values for aquifer hydraulic conductivity.

Funding is being requested for the design, permitting, and construction of this infrastructure. Project partners include the State of Kansas, the Kansas Department of Health and Environment, the Kansas Department of Agriculture – Division of Water Resources, the Kansas Water Office, Groundwater Management District 3, local industries, Ford County, and the City of Dodge City.

The goals and expected outcomes for the Project include providing water supply to meet the current and future needs of the City, extend the life of the Ogallala Aquifer, improve water quality in the Ogallala Aquifer, and provide a guide for cities throughout southwest Kansas and across the county to address declining water levels in the High Plains Aquifer. Further, the ultimate goal for Dodge City is to implement Direct Potable Reuse, and the proposed Project will include building block infrastructure to easily expand the facility in the future to meet DPR standards.

A budget of \$57,000,000 has been established for the Project to account for planning, design, permitting, construction, start-up, and commissioning. The alternative to the Project – securing existing irrigation water rights, convert those rights to municipal use, construct well infrastructure, construct treatment, and construct distribution piping – is estimated to cost the City \$116,000,000.