



HURRICANE CITY

UTAH

Mayor
Nanette Billings

City Manager
Kaden DeMille

Water Board

Ken Richins – Water Superintendent
Mac J Hall, Chair
John Slack
Leah Thompson
Bevin Johnson
Casey Lofthouse
David Hirschi- councilman
Gary Cupp
Mike Vercimak
Dayton Hall

Water Board Meeting Agenda

Tuesday, January 30, 2024

6:00 PM

Water Department Meeting Room – 646 W 600 N

Notice is hereby given that the Water Board will hold a Regular Meeting in the Water Department Meeting room located at 646 W 600 N, Hurricane, UT. A silent roll call will be taken, along with prayer by invitation.

AGENDA

1. Call to order, prayer
2. Approval of Minutes from November 28, 2023
3. Irrigation expansion progress report – Mac Hall
4. Report on the WCWCD water/landscaping efficiency standard – Dayton Hall
5. Discussion about water and the WCWCD 20-year plan – Ken Richins
6. Discussion on board of water resources loan for upcoming projects including:
Irrigation efficiency project, Gould's wash well, Sky Ranch water tank, and Sky Ranch well
7. Report on Water System
8. New Business
9. Adjourn

BOARD OF WATER RESOURCES

Feasibility Report



Applicant: Hurricane City

Project Number: RL591

Fund: Cities Water Loan Fund

Cost Estimate: \$31,300,000

Application Received: 9/27/2023

Board Meeting Date: 12/5/2023

Board Member: Spencer Jones

Project Manager: Ethan Stayner

Project Summary: The purpose of the project is to purchase and install more than 17 miles of pressurized pipeline and construct two settling ponds to expand the existing secondary system. The project also includes the installation of two wells and a 2-million-gallon (MG) tank for the existing culinary system.

Recommendation: Staff recommends the Board authorize 40.5% of the project cost, up to \$12,665,000, and that the bonded indebtedness be returned at 0% interest over 25 years with annual payments of approximately \$528,000 (including reserves).

Project Contacts:

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435-635-2811

Water Superintendent:
Ken Richins
147 North 870 West
Hurricane, UT 84737
435-635-9442

Engineer:
Glen Carnahan
Alpha Engineering
43 South 100 East, Suite 100
St. George UT 84770
435-628-6500

Location

The proposed project is located south of Gould's Wash, in the northeast portion of Hurricane City in Washington County.

Introduction & Background

Hurricane City was first incorporated in 1896. The Board has funded several projects for the Applicant including two culinary projects and two secondary water projects. These were funded between 1978 and 1992 and have all been repaid. Currently, the Board has committed funds for both a loan and an ARPA grant for secondary metering, and a Dam Safety upgrade grant for Frog Hollow Debris Basin.

Existing Conditions & Problems

The Applicant has an irrigation system, south of Gould's Wash, that is a flood irrigation system that was originally used for agricultural irrigation. This part of the city is converting quickly from agricultural land to municipal. This system is inefficient and loses water to seepage and evaporation, and it has also caused flooding on adjacent properties.

As Hurricane City continues to develop, there is a greater demand on the culinary system and there is a need for more source water and storage in that part of the city.

Proposed Project

The purpose of the project is to purchase and install more than 17 miles of pressurized pipeline and construct two settling ponds to expand the existing secondary system. The project also includes the installation of two wells and a 2 MG tank for the existing culinary system.

The irrigation system upgrades will replace the existing flood irrigation system with pressurized pipelines necessary to reach current and future residential property, and connect to the secondary system that exists North of Gould's Wash. The two concrete-lined settling ponds will reduce solids from the secondary water before delivery to customers.

The project for the culinary system includes two wells, both to be drilled to 600 feet deep, with necessary grading and pump stations. One will be constructed on city property in the southeast region of the city (Sky Ranch) with a pump booster station and a de-sanding structure. The other will be constructed on city property near Gould's Wash. There will also be a 2 MG tank constructed near the Sky Ranch well, with necessary piping, valves, and appurtenances.

Benefits

The new pressurized irrigation system will reduce demand on the culinary system from a growing population. Additionally, irrigation for lawns and gardens will be more efficient with a pressurized system and reduce losses. The new wells and storage tank provide additional sources and storage capacity for the culinary system.



Cost Estimate

The following cost estimates are based on the engineer's preliminary design and have been reviewed by staff. Together these projects total \$31,300,000.

Secondary Irrigation System Upgrades

Item	Description	Quantity	Unit	Unit Price	Total
1	4" C-900 PVC Pipe	54	LF	\$60	\$3,240
2	6" C-900 PVC Pipe	46,767	LF	\$66	\$3,086,622
3	8" C-900 PVC Pipe	30,019	LF	\$72	\$2,161,368
4	10" C-900 PVC Pipe	1,086	LF	\$79	\$85,794
5	12" C-900 PVC Pipe	4,264	LF	\$88	\$375,232
6	14" C-900 PVC Pipe	1,384	LF	\$100	\$138,400
7	16" C-900 PVC Pipe	1,349	LF	\$110	\$148,390
8	18" C-900 PVC Pipe	3,829	LF	\$120	\$459,480
9	20" C-900 PVC Pipe	1,348	LF	\$130	\$175,240
10	30" C-900 PVC/DIP Pipe	5,010	LF	\$210	\$1,052,100
11	4" Gate Valve	1	EA	\$2,500	\$2,500
12	6" Gate Valve	74	EA	\$3,000	\$222,000
13	8" Gate Valve	42	EA	\$3,300	\$138,600
14	10" Gate Valve	2	EA	\$4,800	\$9,600
15	12" Gate Valve	6	EA	\$6,500	\$39,000
16	14" Gate Valve	1	EA	\$21,000	\$21,000
17	16" Gate Valve	1	EA	\$24,000	\$24,000
18	18" Gate Valve	2	EA	\$27,000	\$54,000
19	20" Gate Valve	2	EA	\$32,000	\$64,000
20	30" Gate Valve	1	EA	\$48,000	\$48,000
21	Mobilization & Traffic Control	1	LS	\$1,087,533	\$1,087,533
22	3 MG Settling Pond	2	LS	\$734,776	\$1,469,552
23	1.3 MG Sludge Pond	1	LS	\$350,000	\$350,000
24	Pump Station	1	LS	\$1,250,000	\$1,250,000
25	Control Valve Vault, Connections, Pigging & Pond Piping	1	LS	\$2,913,750	\$2,913,750
26	Asphalt Replacement	668,706	SF	\$4.40	\$2,942,306
27	Earthwork, Material & Backfill	1	LS	\$776,352	\$776,352
Secondary System Construction Cost					\$19,098,059
Contingency					\$2,784,941
Administration/Legal					\$100,000
Pond Site Purchase					\$1,750,000
Secondary System Subtotal					\$23,733,000



Culinary System Upgrades

Item	Description	Quantity	Unit	Unit Price	Total
1	Sky Ranch Tank	1	LS	\$2,766,838	\$2,766,838
2	Sky Ranch Well	1	LS	\$2,068,500	\$2,068,500
3	Gould's Wash Well	1	LS	\$1,218,000	\$1,218,000
Culinary System Construction Cost					\$6,053,338
Contingency					\$613,662
Engineering					825,000
Administration/Legal					75,000
Culinary System Subtotal					7,567,000

Cost Sharing & Repayment

The recommended cost sharing and repayment are:

Agency	Cost Sharing	% of Total
Board of Water Resources	\$12,665,000	40.5%
NRCS PL-566 Grant	\$16,400,000	52.4
Applicant	\$2,235,000	7.1
TOTAL	\$31,300,000	100%

Funding from the Natural Resources Conservation Service (NRCS) has been awarded to the Applicant for the secondary irrigation system expansion. The NRCS will pay for 100% of engineering costs and up to 75% of construction costs for this portion of the project.

Staff recommends the Board authorize 40.5% of the project cost, up to \$12,665,000, and that the bonded indebtedness be returned at 0% interest over 25 years with annual payments of approximately \$528,000 (including reserves).

Economic Feasibility

There is no viable alternative for this project; therefore, a benefit/cost ratio of 1.0 has been assigned.



Financial Feasibility

Based on the Board's water service affordability guidelines, residents in Hurricane could pay up to \$56.12 monthly for water. The average secondary water bill was estimated, based on about 25% of the culinary connections also being on the secondary system. The cost of all water, based on 9,077 culinary connections, is shown in the following table.

Water Cost	Annual Cost	Cost/Conn/Mo
Avg. Water Bill	\$4,285,070	\$39.34
Avg. Secondary Water Bill	\$326,772	\$3.00
Property Tax for Water	\$1,105,579	\$10.15
Proposed Board of Water Resources Loan	\$528,000	\$4.85
TOTAL	\$6,245,421	\$57.34

Based on the table, it is noted that the Board repayment will push the Applicant above the affordability guideline by just more than one dollar.

Water Rights & Supply

Hurricane City has the necessary water rights for this project and plans to purchase additional shares from Hurricane Canal Company as they become available.

Easements

The City is in the process of obtaining two small easements. The rest of the construction will take place on city property or existing right-of-way.

Environmental

As part of the requirements for the funding from the NRCS, Environmental Assessment (EA) was completed. In addition to water conservation, this project is expected to positively impact the environment by reducing flood damage to private land, protected watershed, and public recreation areas.

Water Conservation

The expansion of the pressurized irrigation system is expected to save between 800 to 1,200 acre-feet annually.

Applicant's Responsibilities

The Applicant will be required to make all arrangements to sell the Board a non-voted revenue bond, as well as verify it has adequate water rights and rights-of-way to construct the project. If the project is authorized, a full list of requirements and procedures necessary to close the bond will be furnished to the Applicant.