

Agenda
Utah Board of Water Resources
Board Briefing Meeting

January 23, 2020

Department of Natural Resources

Auditorium

1594 West North Temple, Salt Lake City, Utah

8:30 am

- I. WELCOME/CHAIR'S REPORT
*Chair Blain Ipson

- II. DISCUSSION OF BOARD AGENDA ITEMS
(See Board Meeting Agenda)

- III. INFORMATION TO THE BOARD

- IV. OTHER ITEMS TO DISCUSS

Agenda
Utah Board of Water Resources
Board Meeting
January 23, 2020
Department of Natural Resources Auditorium
1594 W. North Temple, Salt Lake City
10:00 AM

APPROVAL OF MINUTES

NRCS SNOW REPORT:

<u>Proj. No.</u>	<u>Applicant</u>	<u>County</u>	<u>Proj. Manager</u>
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FEASIBILITY REPORTS:

RE431	Henefer Town	Summit	Russell
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COMMITTAL OF FUNDS:

RE415	Blanding City	San Juan	Ben
RL586	Pleasant Grove City	Utah	Marisa

SPECIAL ITEMS:

RE420	Bear River Canal Company (Additional Funds)	Box Elder	Ben
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NEW APPLICATIONS:

RE432	Davis & Weber Counties Canal Company	Davis	Tom
RE433	West Cache Irrigation Company	Cache	Russell

PLANNING REPORT:

- Anny Baynard – Secondary Metering

LAKE POWELL PIPELINE REPORT:

- Committal of additional funds for USBR for work on LPP

DIRECTOR'S REPORT

ADJOURNMENT

BOARD OF WATER RESOURCES
Feasibility Report



Applicant: **Henefer Town**

Project Number: RE431
Fund: Conservation and Development Fund
Cost Estimate: \$3,260,000

Application Received: 11/4/2019
Board Meeting Date: 1/23/2020

Board Member: Kyle Stephens
Project Manager: Russell Hadley

Project Summary: The purpose of the project is to install a pressurized and metered secondary lawn and garden water system throughout the town and line two sections of the Henefer Irrigation Company's ditches (the main ditch, approximately 4,000 feet, and the Big Ditch, 3,600 feet).

Recommendation: Staff recommends the board authorize 45.9% of the project cost, up to \$1,496,000, and that the bonded indebtedness be returned at 1% interest over 20 years with annual payments of approximately \$88,000 (including reserves).

Project Contacts:

Mayor:
Kay Richins
PO Box 112
Henefer, UT 84033
801-599-8003

Secondary Contact:
Shelley Richins, Clerk
PO Box 112
Henefer, UT 84033
435-336-5365

Engineer:
Brian Deeter - J-U-B Engineers
466 North 900 West
Kaysville, UT 84037
Office: 801-547-0393
Cell: 801-726-5819



Location

The proposed project is located in Henefer Town in Summit County.

Introduction & Background

The applicant serves culinary water to 260 connections. Water is supplied by the Franklin and Batchelor Springs producing about 373 gpm and storage is held in 4 tanks with a total of 575,000 gallons. The system is rated “Approved” by the state Division of Drinking Water. Agricultural water is also supplied by Franklin and Batchelor Creeks, irrigating almost 1,160 acres of cropland.

Existing Conditions & Problems

Because the area has an impenetrable clay layer at ground level and the alluvial aquifer is relatively small, culinary wells only produce about 40 gpm no matter how deep they are drilled. This limits options for future supplies of culinary water. The culinary system should be considered at capacity with current supplies. Storage capacity is also borderline when lawns and gardens are watered with culinary supplies. Also, the two agricultural ditches in town have had seepage issues and there have been a few home flooding events, mostly caused by gophers digging holes in the ditch banks.

The applicant has issued a “new connection moratorium” the last two years; no new connections will be allowed on to the culinary system until the culinary supply can be increased or the demand reduced.

Proposed Project

In order to conserve culinary water for future growth, the applicant plans to install a pressurized and metered secondary water system throughout the town and line two large sections of the Henefer Irrigation Canal (the Main Ditch, approximately 4,000 feet, and the Big Ditch, 3,600 feet). Pipe in sizes from 4 to 10-inch will be installed. A small head pond and pump station will also be constructed.

Benefits

Construction of a secondary lawn and garden system will conserve up to an estimated 116 acre-feet of culinary water. Lining 7,600 feet of the ditches will also save about 918 acre-feet of agricultural water based on a measured 24.9% loss. Safety issues from the unlined canals flooding will also be addressed.

Cost Estimate

The following cost estimate is based on the engineer’s preliminary design and has been reviewed by staff:

Item	Description	Quantity	Unit	Unit Price	Total
1	Mobilization	1	LS	\$120,000	\$120,000
2	Traffic Control	1	LS	20,000	20,000
3	Piping				
3a	10-inch	1,300	LF	35.00	45,500
3b	6-inch	11,500	LF	20.00	230,000
3c	4-inch	23,000	LF	17.00	391,000



4	Piping appurtenance	1	LS	50,800	50,800
5	Water meters & appurtenance	260	EA	1,520	395,200
6	Road repair	1	LS	268,000	268,000
7	Four Acre-foot reservoir	1	LS	242,000	242,000
8	10 HP pump station	1	LS	250,000	250,000
9	EPDM Plastic Line Ditches	7,600	LF	57.70	438,500
Construction Cost					\$2,451,000
Contingency					245,100
Design & Construction Engineering					432,000
Legal and Administrative					18,900
Permits, Fees & Testing					113,000
TOTAL					\$3,260,000

Cost Sharing & Repayment

The recommended cost sharing and repayment are:

Agency	Cost Sharing	% of Total
Board of Water Resources	\$1,496,000	45.9%
WaterSmart Grant	1,500,000	46.0
Applicant	264,000	8.1
TOTAL	\$3,260,000	100%

The WaterSmart Grant has been awarded; an environmental assessment needs to be completed before funds can be finalized.

Staff recommends the board authorize 45.9% of the project cost, up to \$1,496,000, and that the bonded indebtedness be returned at 1% interest over 20 years with annual payments of approximately \$88,000 (including reserves).

Economic Feasibility

For the metering aspect of the project, representing a total cost of \$535,000, it is in the best interests of the state to require all water to be metered. Therefore, the benefit cost ratio of just the metering project is assumed to be 1.0.

For municipal projects, the benefit of a project is defined as the cost of the best alternative project that is capable of delivering a similar benefit or water service to end users. According to the sponsor, the alternative to the proposed project is to construct a water treatment plant for \$3,300,000 and lease water from Weber Basin Water Conservancy District. If only capital costs are considered relevant to the economic analysis, and the total cost of the proposed secondary project estimated at \$2,725,000, when all project costs are compared to the benefit (capital cost of the best alternative) the benefit/cost ratio is 1.21.



Financial Feasibility

The board’s current affordability guideline suggests Henefer residents could pay up to \$75.76/month for all water service.

Water costs with the project, based on 260 connections, are summarized as follows;

Water Cost	Annual Cost	Cost/Conn/Mo
Expected Avg. Culinary Water Bill	\$118,560	\$38.00
Property Tax for Water	22,183	7.11
Proposed Board of Water Resources Loan	88,000	28.21
O&M costs for new secondary system	8,000	2.56
Pumping Costs	3,100	0.91
TOTAL	\$239,843	\$76.87

It should be noted that agricultural benefits are not included for the saved ditch water because the irrigation company agreed to let the town “change the nature of use” of the agricultural water to lawn and garden water in exchange for the ditch being lined. No agreement for repayment of any part of the project is made by the irrigation company. Also, because the croplands currently receive their full share of water (3 acre-feet/acre), it is believed the saved water will stay in the river.

Water Rights & Supply

Water rights related to this project are as follows:

35-10569, 35-5566, 35-8149, 35-8178, 35-8182, E1641, E1900, E2375, and

Henefer Irrigation Company - 35-8190, 3,455.5 AF

The applicant’s main water rights are summarized as follows:

Water Right Source/Number	Flow / Volume (cfs / ac-ft)
Batchelor Springs E1641	70.0 AF
Batchelor Creek E1900	1.0 AF
Batchelor Springs 35-8177	41.3 AF
Batchelor Creek 35-8178	24.0 AF
Franklin Creek 35-8182	<u>135.7 AF</u>
TOTAL	272.02 AF

Henefer Town currently owns 35 shares (105 AF) of Henefer Irrigation Company. They state they can buy more shares in the future as needed.

As shown, water rights and supply are extremely limited in Henefer Town. Again, area wells only produce around 40 gpm because of a constraining clay layer and the applicant has no plans to drill wells for future supplies.



Easements

No easement or rights-of-way problems are expected. The property owner for the proposed reservoir is said to be agreeable to selling the needed property.

Environmental

An environmental assessment will be done as part of the WaterSmart grant. However, no adverse environmental effects are expected beyond the usual dust and noise of the construction phase.

Water Conservation

The project will allow about 116 acre-feet of culinary-grade water to be used better than for lawn water. Installation of the meters should encourage water conservation. Approximately 918 acre-feet of agricultural water will also be conserved.

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.

Applicant: **Blanding City**

Project Number: RE415
Fund: Conservation and Development Fund
Total Cost: \$2,004,000

Application Received: 9/4/2018
Authorized: 12/6/2018
Board Meeting Date: 1/23/2020

Board Member: Norman L. Johnson
Project Manager: Ben Marett

Project Summary: The purpose of the proposed project is to install approximately 5,600 feet of pipe, 19 manholes, and multiple inlet boxes to increase the capacity of the storm sewer system and eliminate flooding.

Recommendation: Staff recommends the board commit 84.8% of the project cost, up to \$1,700,000, and that the bonded indebtedness be returned at 1.0% interest over 30 years with annual payments of approximately \$68,000 (including reserves).

Project Contacts:

Mayor:
Joe B. Lyman
50 W. 100 S.
Blanding, UT 84511
435-678-2791

Secondary Contact:
Jeremy Redd, Recorder
50 W. 100 S.
Blanding, UT 84511
435-250-3485

Engineer:
Terry Ekker
50 W 100 S
Blanding, UT 84511
435-678-2791



Location

The proposed project is located in Blanding City in San Juan County.

Project Summary

The proposed project was authorized in December 2018 and includes installing approximately 5,600 feet of reinforced concrete pipe ranging in diameter from 18 to 36 inches, installing 19 manholes and multiple inlet boxes, and will connect to the existing storm sewer system. The project will enter the construction phase in the Spring of 2020. Hansen, Allen, & Luce Engineers will design the project. Jones & Demille Engineering will monitor construction.

Since the project was authorized, the applicant has added a possible project alternative. The alternative includes installing HDPE pipe rather than reinforced concrete pipe. All other aspects of the project remain the same. This project alternate is expected to cost less but would require more construction observation from Jones & Demille. Concrete and HDPE are both excellent construction materials which should be capable of effectively transmitting storm water given correct installation. The alternative chosen, concrete vs. HDPE, will ultimately come down to project costs after bids have been received.

Cost Estimate & Sharing

The cost estimate for the project has increased since authorization. It has been over a year since the project was authorized. In that time, costs have risen slightly and design has proceeded from planning level to construction level. The current project cost estimate is commensurate with contemporary project bids. The applicant has achieved significant progress toward their bonding requirements. At this point, the applicant has adopted a bond resolution for a maximum of \$1,700,000. To prevent the necessity of obtaining a new bond resolution, the applicant has asked to cap the bond at this amount.

Agency	Authorized Cost Sharing	% of Total	Proposed Cost Sharing	% of Total
Board of Water Resources	\$1,359,000	85.0%	\$1,700,000	84.8%
Applicant	239,000	15.0	304,000	15.2
TOTAL	\$1,598,000	100%	\$2,004,000	100%

Repayment

When the project was authorized, the applicant was granted special consideration by the Board of Water Resources to extend their repayment period. This was done to keep their annual payments at a level which would not place undue hardship upon the applicant. In considering repayment terms, staff made adjustments as were necessary to retain a similar annual payment as authorized.

Staff recommends the board commit 84.8% of the project cost, up to \$1,700,000, and that the bonded indebtedness be returned at 1.0% interest over 30 years with annual payments of approximately \$68,000 (including reserves).

Applicant: Pleasant Grove City

Project Number: RL586
Fund: Cities Water Loan Fund
Total Cost: \$2,500,000

Application Received: 8/13/2019
Authorized: 10/10/2019
Board Meeting Date: 1/23/2020

Board Member: Wayne Andersen
Project Manager: Marisa Egbert

Project Summary: The purpose of the project is to upgrade source screening and install new filters for the existing secondary irrigation system. This will include three filtering stations within existing CUWCD turnout vaults and screen structure modifications in Battle Creek and Grove Greek canyons.

Recommendation: Staff recommends the board commit 72% of the project cost, up to \$1,800,000, and that the bonded indebtedness be returned at 1% interest over 25 years with annual payments of approximately \$85,000 (including reserves).

Project Contacts:

Mayor: Guy Fugal 86 South 100 East Pleasant Grove, UT 84062 801-785-5045	Finance Director: Denise Roy 86 South 100 East Pleasant Grove, UT 84062 801-785-5045	City Engineer: Marty Beaumont, P.E. 86 South 100 East Pleasant Grove, UT 84062 801-785-2941	Consulting Engineer: John Schiess, P.E. Horrocks Engineers 2162 West Grove Parkway Suite 400 Pleasant Grove, UT 84062 801-763-5100
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Location

The proposed project is located in Pleasant Grove in Utah County.

Project Summary

The purpose of the project is to upgrade source screening and install new filters for the existing secondary irrigation system. This will include three filtering stations within existing CUWCD turnout vaults and screen structure modifications in Battle Creek and Grove Creek canyons.

Cost Estimate & Sharing

The cost estimate and sharing remain as authorized as follows:

Agency	Authorized Cost Sharing	% of Total
Board of Water Resources	\$1,800,000	72%
Applicant	700,000	28
TOTAL	\$2,500,000	100%

Repayment

Due to an error in the feasibility report, the authorized repayment was approximately \$95,000. The repayment will be approximately \$85,000.

Staff recommends the board commit 72% of the project cost, up to \$1,800,000, and that the bonded indebtedness be returned at 1% interest over 25 years with annual payments of approximately \$85,000 (including reserves).

Applicant: **Bear River Canal Company**

Project Number: RE420
Fund: Revolving Construction Fund
Total Cost: \$1,339,000

Application Received: 11/20/2018
Authorized: 1/31/2019
Committed: 1/31/2019
Board Meeting Date: 1/23/2020

Board Member: Charles Holmgren
Project Manager: Ben Marett

Project Summary: The purpose of the proposed project includes installing approximately 5,200 feet of EPDM liner and 400 feet of ADS pipe to conserve water and to decrease the risk of slope failure.

Recommendation: Staff recommends the board commit an additional \$292,000, and amend the purchase agreement to state the board will provide 50.1% of the project cost, up to \$671,000, and that the project be purchased at 0% interest over 15 years with annual payments of approximately \$44,700.

Project Contacts:

President:
Curtis Marble
275 N. 1600 E.
Tremonton, UT 84337
435-730-2135

Secretary:
Bob Roche
275 N. 1600 E.
Tremonton, UT 84337
435-452-1446

Engineer:
Chris Slater - J-U-B Engineers
1047 S 100 W Ste. 180
Logan, UT 84321
435-713-9514



Location

The proposed project is located near Honeyville in Box Elder County.

Project Summary

Bear River Canal Company (applicant) previously received funds from the Board of Water Resources in conjunction with a WaterSMART Grant. These funds were used to install approximately 7,900 feet of EPDM liner and to install automation equipment. This project was successfully implemented with repayments to the Board commencing in December 2020.

Since the completion of the project, the applicant has been awarded a Water Efficiency Grant from the Utah Department of Agriculture totaling \$250,000. Funds from the Board would be used to assist the applicant in meeting its portion of the cost share for the grant.

The proposed project involves lining a 5,200 foot section of the main canal with EPDM liner and installing approximately 400 feet of ADS pipe on a section of Hammond East Canal. A portion of the earthwork will be performed in-kind by employees of the Bear River Canal Company to cover a portion of the applicant’s cost share.

The EPDM liner will be located on a section of the Hammond Main Canal that has been identified as a potential slope stability hazard. A water loss study performed by JUB Engineers estimated that 4,900 acre-feet of water are lost annually in this section of the canal. Installing the EPDM liner will not only conserve water but increase the slope stability by reducing or eliminating the percolation of water from the canal.

A section of the Hammond East Canal encompassing an area located above Crystal Hot Springs and Highway 38 was identified as an area of concern due to substantial water loss. The ADS pipe that will be installed as part of the proposed project will be located in this area. The pipe will be installed primarily as a safety precaution due to the substantial risk associated with slope failure above the highway and resort.

Cost Estimate & Sharing

The project cost estimate has increased by \$594,000, from \$745,000 to \$1,339,000. The committed and proposed cost sharing are:

Agency	Committed Cost Sharing	% of Total	Proposed Cost Sharing	% of Total
Board of Water Resources	\$379,000	50.9%	\$671,000	50.1%
WaterSMART	300,000	40.3	300,000	22.4
Utah Dept. Ag. Water Efficiency Grant	0	0.0	250,000	18.7
Applicant	66,000	8.9	118,000	8.8
TOTAL	\$745,000	100%	\$1,339,000	100%

Purchase Agreement

The Board originally committed 50.9% of the project costs up to \$379,000 at 0% interest with a repayment term of 10 years. Annual payments were set at approximately \$37,900. The applicant



used a \$300,000 WaterSMART grant to cover the remaining project costs. The applicant is requesting an additional \$292,000.

Staff recommends the board commit an additional \$292,000, and amend the purchase agreement to state the board will provide 50.1% of the project cost, up to \$671,000, and that the project be purchased at 0% interest over 15 years with annual payments of approximately \$44,700.

BOARD OF WATER RESOURCES

Application Summary



Applicant: **Davis & Weber Counties Canal Company**

Project Number: RE432
Fund: Revolving Construction Fund
Cost Estimate: \$2,160,000

Application Received: 1/3/2020
Board Meeting Date: 1/23/2020

Board Member: Kyle Stephens
Project Manager: Tom Cox

Project Contacts:

President: Scott Paxman 138 W. 1300 N. Sunset, UT 84015 801-771-1677	Secondary Contact: Rick Smith 138 W. 1300 N. Sunset, UT 84015 801-774-6373	Engineer: Bryce Wilcox, J-U-B 466 Kays Drive Kaysville, UT 84037 801-547-0393
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Location

The proposed project is located in Clearfield in Davis County.

Proposed Project

The applicant is requesting financial assistance from the board to enclose additional sections of concrete-lined canal and piped canal with box culvert.

Water Rights

- 35-5468
- Weber River Decree Rights 25, 37, 44, 48, 58, 68, 90, 389, 400, 406

BOARD OF WATER RESOURCES

Application Summary



Applicant: **West Cache Irrigation Company**

Project Number: RE433
Fund: Revolving Construction Fund
Cost Estimate: \$826,500

Application Received: 1/13/2020
Board Meeting Date: 1/23/2020

Board Member: Charles Holmgren
Project Manager: Russell Hadley

Project Contacts:

President:
Sid Munk
2598 W. 5900 N.
Amalga, UT 84335
435-881-1348

Secretary:
Ed Cottle
1207 S. 400 E.
Trenton, UT 84338
435-764-9910

Engineer:
Scott Archibald
Sunrise Engineering
26 S. Main St.
Smithfield, UT 84335
435-563-3734

Location

The proposed project is located one mile south of Trenton in Cache County.

Proposed Project

The applicant is requesting financial assistance from the board to replace two laterals with pressurized pipes operated from a centralized pump station.

Water Rights

- Idaho WR 13-974