

A G E N D A

UTAH BOARD OF WATER RESOURCES

Department of Natural Resources
Auditorium
1594 W. North Temple
Salt Lake City, Utah

February 11, 2016

1:00 p.m.

1. CALL TO ORDER
2. APPROVAL OF MINUTES - December 3, 2015
3. CHAIR'S REPORT
4. WATER SUPPLY REPORT NRCS
5. COMMITMENT OF FUNDS REPORT County

E352 Ephraim Irr. Co. Sanpete
6. SPECIAL ITEM REPORTS Box Elder
E377 Bear River Canal Co. Morgan
 (Authorization & Comm. of Funds)
E284 Mountain Green Secondary Water Co. Duchesne
 (Delay of Payment) Duchesne
E358 Duchesne County WCD (Withdrawal) Duchesne
E359 Uinta and Whiterocks River Comm. Duchesne
 (Withdrawal)
7. DAM SAFETY REPORTS Garfield
C035 New Escalante Irr. Co. (Wide Hollow Dam) Utah
C052 North Utah County WCD (Tibble Fork Res.)
8. LAKE POWELL PIPELINE PROJECT REPORT
9. DIRECTOR'S REPORT
10. ADJOURNMENT

BRIEFING MEETING AGENDA

UTAH BOARD OF WATER RESOURCES

Division of Water Resources
Room 314
1594 W. North Temple
Salt Lake City, Utah

February 11, 2016

10:00 a.m.

- | | | |
|------|-------------------------------|---------------|
| I. | WELCOME/CHAIR'S REPORT | Chairman Snow |
| II. | DISCUSSION OF PROJECTS | |
| III. | HYDROPOWER COSTS AND BENEFITS | Lyle Summers |
| IV. | LEGISLATIVE UPDATE | Todd Adams |
| V. | OTHER ITEMS | |

BOARD OF WATER RESOURCES

REVOLVING CONSTRUCTION FUND

**Funding Status
February 11, 2016**

Funds Available for Projects This FY \$ 12,159,000

Projects Contracted This FY

1 Kaysville Irrigation Co (additional funds)	C044	**Grant	\$ 301,500	
2 North Utah County WCD (Silver Lake Flat)	C048	**Grant	1,481,000	
3 Red Creek Irrigation Co (additional funds)	C045	**	170,000	
4 Red Creek Irrigation Co (additional funds)	C045	**Grant	1,530,000	
5 Red Creek Irrigation Co	E356		<u>493,000</u>	
Total Funds Contracted				\$ <u>3,976,000</u>
Funds Balance				\$ 8,183,000

Projects with Funds Committed

1 Daniel Irrigation Co	E370		\$ 240,000	
2 Marion Waterworks Co	E322		247,000	
* 3 New Escalante Irrigation Co (additional funds)	C035	**Grant	88,000	
* 4 North Utah County WCD (Tibble Fork)	C052	**Grant	1,512,000	
5 Rockville Town Ditch Co	E313		<u>145,000</u>	
Total Funds Committed				\$ <u>2,232,000</u>
Funds Balance				\$ 5,951,000

Projects Authorized

1 Ephraim Irrigation Co	E361		\$ 497,000	
2 Salem Pond Co	E329		93,000	
* 3 Bear River Canal Co	E377		<u>659,000</u>	
Total Funds Authorized				\$ <u>1,249,000</u>
Remaining Funds Available				# \$ 4,702,000

* To be presented at Board Meeting
** Dam Safety Projects

End of year balance if all listed projects were fully paid

BOARD OF WATER RESOURCES

CITIES WATER LOAN FUND

Funding Status
February 11, 2016

Funds Available for Projects This FY \$ 10,203,000

Bonds Closed This FY

1 Weber-Box Elder WCD	E326	\$ 1,700,000	
Total Bonds Closed			\$ 1,700,000
Funds Balance			\$ 8,503,000

Projects with Funds Committed

1 NONE			
Total Funds Committed			\$ -
Funds Balance			\$ 8,503,000

Projects Authorized

1 Duchesne County WCD	E334	\$ 3,000,000	
2 Herriman City	E344	4,930,000	
Total Funds Authorized			\$ 7,930,000
Remaining Funds Available		#	\$ 573,000

* To be presented at Board Meeting

End of year balance if all listed projects were fully paid

BOARD OF WATER RESOURCES

CONSERVATION & DEVELOPMENT FUND

**Funding Status
February 11, 2016**

Funds Available for Projects This FY \$ 37,674,000

Projects Contracted/Bonds Closed This FY

1 Cache Highline Water Association	E351	\$ 2,150,000	
2 Levan Irrigation Co (additional funds)	E314	128,000	
3 Newton Water Users Assoc (Reduction)	E280	(255,000)	
4 Richmond Irrigation Co	E347	<u>4,350,000</u>	
Total Funds Contracted/Closed			\$ 6,373,000
Funds Balance			\$ 31,301,000

Projects with Funds Committed

1 Green River Canal Co	E353	\$ 1,200,000	
* 2 Ephraim Irrigation Co	E352	2,155,000	
3 Lake Creek Irrigation Co	E333	<u>3,275,000</u>	
Total Funds Committed			\$ 6,630,000
Funds Balance			\$ 24,671,000

Projects Authorized

1 Box Elder Cnty & Perry City Flood Control Dist	E223	\$ 660,000	
2 Brooklyn Canal Co	E223	1,000,000	
3 Fremont Irrigation Co	E279	8,177,000	
4 Holmes Creek Irr Co	E327	731,000	
5 Manti City Creek Water Users Mutal Assoc.	E342	1,606,000	
6 Marion Upper Ditch Company	E367	1,462,000	
7 Rock Point Canal Co	E368	615,000	
8 Settlement Canyon Irr Co (Phase 2)	E240R2	552,500	
9 Summit Creek Irrigation and Canal Co (Phase 3)	E308	1,700,000	
10 Uintah WCD	E316	36,550,000	
11 Weber Basin WCD (Phase 5+)	E225	7,000,000	
12 Wellsville-Mendon Conservation District	E376	680,000	
13 Woodruff Irrigating Co	E365	<u>3,200,000</u>	
Total Funds Authorized			\$ 63,934,000
Remaining Funds Available			# \$ (39,263,000)

* To be presented at Board Meeting
** Dam Safety Projects

End of year balance if all listed projects were fully paid

BOARD OF WATER RESOURCES

February 11, 2016

ADDITIONAL ACTIVE PROJECTS

Sponsor	No.	Fund	Est. Board Cost	Total Cost
1 Sanpete WCD (Narrows Dam)	D377	C&D	\$29,325,000	\$ 34,500,000
2 Kane County WCD	D828	C&D	1,500,000	2,000,000
3 Weber Basin WCD (Secondary, Ph 3-5)	E029R3+	C&D	21,639,000	25,816,000
4 Hooper Irr Co (Press Irr, Ph 3+)	E060R3+	C&D	11,033,000	12,980,000
5 East Juab County WCD	E071	C&D	425,000	500,000
6 Parowan City (Bond Ins Grant)	E121	C&D	34,000	2,034,000
7 Fremont Irr Co	E131	C&D	1,500,000	2,000,000
8 Fountain Green Irr Co (Flow Augment)	E186	RCF	75,000	100,000
9 Corinne City	E216	C&D	80,000	100,000
10 Weber Basin WCD	E312	C&D	85,000,000	100,000,000
11 South Willard Water Co	E317	C&D	1,700,000	2,000,000
12 Ferron Canal & Res Co	E320	C&D	2,720,000	3,200,000
13 Fountain Green Co-op Well	E328	RCF	255,000	300,000
14 Co-op Farm Irrigation Co	E340	RCF	159,000	187,000
15 La Sal Irrigation Co	E354	C&D	1,530,000	1,800,000
16 New Fayette Irrigation Co	E360	C&D	850,000	1,000,000
17 Moon Lake Water Users Association	E362	C&D	1,382,000	3,250,000
18 Wellsville-Mendon Conservation District	E364	C&D	680,000	800,000
19 Washington County Flood Control Authority	C049	RCF	970,000	3,077,000
20 Washington County Flood Control Authority	C050	RCF	582,000	1,847,000
21 Washington County Flood Control Authority	C051	RCF	473,000	1,500,000
22 Highline Canal Co	E372	C&D	3,087,000	13,942,000
23 Ashley Upper Irr Co	E373	C&D	5,255,000	13,942,000
24 Mosby Irr Co	E374	RCF	331,000	4,379,000
25 Whiterocks Irr Co	E375	C&D	1,245,000	4,379,000
* 26 Benson Irr Co	E378	C&D	1,250,000	2,446,000
* 27 East Wanship Irr Co	E379	RCF	645,000	950,000
* 28 Blanding Irr Co	E380	RCF	374,000	440,000
Subtotal			\$174,099,000	\$ 239,469,000
* New Application				

INACTIVE PROJECTS

Long Term Large Water Conservation Projects

1 Wayne County WCD	D494	
2 Cedar City Valley Water Users	D584	
3 Bear River WCD	D738	
4 Central Utah WCD (Prepay FY98,99,00)	D960	
5 Woodruff Irr Co (Woodruff Cr Dam Enlargement)	E059	Rich

BOARD OF WATER RESOURCES

Committal of Funds

Conservation and Development Fund

Appl. No.: **E-352**
Received: 4/11/14
Approved: 5/8/14
Authorized: 3/18/15

To be Presented at the February 11, 2016 Board Meeting

SPONSOR: **EPHRAIM IRRIGATION COMPANY**

President: Michael Larson
358 East 300 South
Ephraim, UT 84627
Phone: 435-340-0245

LOCATION: The proposed project is located in and around Ephraim in Sanpete County.

PROPOSED PROJECT: In March 2015 the board authorized \$1,870,000 for the sponsor to do extensive rehabilitation on the Ephraim Tunnel, including removing rubble and debris and installing 54-inch steel-reinforced HDPE pipe. The outlet and inlet structures will also be replaced. Additionally, Ephraim City's culinary line will be re-secured within the tunnel with additional straps bolted to the tunnel walls.

COST ESTIMATE: Bids for the project have been received and the cost
& SHARING: estimate has increased by \$330,000. The authorized and proposed cost sharing are:

<u>Agency</u>	<u>Authorized Cost Sharing</u>	<u>% of Total</u>	<u>Proposed Cost Sharing</u>	<u>% of Total</u>
BWRe	\$1,870,000	69.3%	\$2,155,000	71.1%
WaterSMART	500,000	18.5	500,000	16.5
Sponsor	330,000	12.2	375,000	12.4
TOTAL	\$2,700,000	100%	\$3,030,000	100%

The authorized repayment is \$96,000 annually. If the board commits an additional \$285,000 to the project, it is suggested the total of \$2,155,000 be repaid at 2% interest over approximately 25 years with annual payments of \$111,000.

BOARD OF WATER RESOURCES

Committal of Funds

Conservation and Development Fund

Appl. No.: **E-376**
Received: 11/6/15
Approved: 12/3/15
Authorized: 12/3/15

To be Presented at the February 11, 2016 Board Meeting

SPONSOR: **WELLSVILLE-MENDON CONSERVATION DISTRICT**

President: Quinn Murray
691 South 200 West
Wellsville, UT 84339
Phone: 435-245-3420

LOCATION: The proposed project is located immediately downstream of Hyrum Reservoir, which is about eight miles southwest of Logan in Cache County.

PROJECT SUMMARY: The sponsor is requesting financial assistance from the board to pipe about 2,100 feet of canal.

COST SHARING & REPAYMENT: The recommended cost estimate and sharing remain as authorized:

<u>Agency</u>	<u>Cost Sharing</u>	<u>% of Total</u>
Board of Water Resources	\$ 680,000	85%
Sponsor	<u>120,000</u>	<u>15</u>
TOTAL	\$ 800,000	100%

If the board commits funds to the project, it is suggested the bonded indebtedness of \$680,000 be repaid in 20 years at 1.2% interest with annual payments of about \$41,000 (includes reserves).

BOARD OF WATER RESOURCES

Special Item

Feasibility Report and Committal of Funds

Revolving Construction Fund

Appl. No.: **E-377**
Received: 12/23/15

To be Presented at the February 11, 2016 Board Meeting

SPONSOR: **BEAR RIVER CANAL COMPANY**

President: Charles Holmgren

LOCATION: The proposed project is located near the communities of Honeyville and Deweyville in Box Elder County.

EXISTING CONDITIONS & PROBLEMS: The Bear River Canal Company diverts water from Cutler Dam to serve approximately 65,000 acres through 130 miles of transmission canals from Fielding in the north to Brigham City in the south. In addition to the agricultural land, the system provides water for lawns and gardens to most homes in the area and to recreational facilities, schools, and two golf courses.

Hammond Canal is operated by the sponsor and delivers water from its diversion works at Cutler Dam to agricultural lands east of the Bear River. The Hammond Canal provides about 160 cfs to 11,500 acres.

Hammond Canal consists mostly of unlined, earthen canal with the exception of a few sections near road crossings that are lined with concrete. Water losses in the unlined sections of the canal are significant. It is reported that seepage is so great in some locations that vortices develop.

The sponsor wishes to improve the Hammond Canal in three separate locations: the Costagno Repair Location is approximately five miles north of Deweyville; the Fryer Repair Location is near Deweyville; and the Calls Fort Repair Location is approximately two miles south of Honeyville.

The sponsor is under threat of lawsuit for damages attributed to canal seepage near the Costagno Repair Location. A field to the southwest of the canal experiences continuous runoff when the canal is in operation, which precludes any possibility of farming due to saturated ground.

Residential development below Hammond Canal in the Fryer and Calls Fort Repair Locations has increased the sponsor's liability. Suspected seepage coupled with homes in these areas raises concern for the stability of the canal and the safety of those who may be harmed in the event of failure.

In addition to the Hammond Canal, the sponsor also operates the East and West canals, which share a diversion works at Cutler Dam controlled by PacifiCorp. East Canal is currently outfitted with telemetric flow measurement capabilities. West Canal flows have historically been measured by taking the difference between PacifiCorp's measured output and the measured flow in the East Canal. As with any measurement system, PacifiCorp's flow measurement system at Cutler Reservoir occasionally drifts out of calibration. When this occurs, PacifiCorp's maintenance response timing is not ideal, and during periods when the sponsor is waiting for calibration of PacifiCorp's equipment flows in the West Canal are essentially unmeasured. This situation has given rise to internal conflict between stakeholders on the East Canal and those on the West with regard to divided flows between the two canals.

PROPOSED
PROJECT:

The sponsor is requesting financial assistance from the board to install approximately 1,200 feet of concrete canal liner and approximately 1,000 feet of concrete pipe. The proposed project also includes a flow measurement telemetry system installed on the West Canal. The sponsor hopes to complete the project before the next irrigation season to minimize both legal liability and risk to life and property. Jones & Associates will provide design and construction engineering services.

In an effort to complete construction before the beginning of the irrigation season, the sponsor would like to begin construction on the project before the Board reconvenes in March; it is therefore requesting authorization and committal of funds at this time.

The project fits in Prioritization Category 1 (project which involves public health problems, safety problems, or emergencies).

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

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u> <u>Price</u>	<u>Amount</u>
1.	Telemetry System	LS	\$40,000	\$ 40,000
2.	Remove Existing Liner	205 CY	20	4,100
3.	Excavation	1,030 CY	20	20,600
4.	Base Material	405 TN	25	10,125
5.	16' Concrete Liner	600 LF	290	174,000
6.	6' Concrete Liner	600 LF	170	102,000
7.	Backfill	1,200 LF	30	36,000
8.	54" Concrete Pipe	930 LF	180	167,400
9.	Manholes	4 EA	5,000	20,000
10.	Backfill	2,700 CY	12	32,400
11.	Pipe Transition	4 EA	5,000	<u>20,000</u>
Construction Cost				\$627,000
Contingencies				63,000
Legal and Administrative				20,000
Design and Construction Engineering				<u>65,000</u>
TOTAL				\$775,000

COST SHARING & REPAYMENT: The recommended cost sharing and repayment are:

<u>Agency</u>	<u>Cost Sharing</u>	<u>% of Total</u>
Board of Water Resources	\$659,000	85%
Sponsor	<u>116,000</u>	<u>15</u>
TOTAL	\$775,000	100%

If the board authorizes the project and commits funds for 85% of the project cost up to \$659,000, it is suggested it be purchased at 0% interest over 10 years with annual payments of approximately \$66,000.

FINANCIAL FEASIBILITY: Benefits of the project will include increased crop yields, and reduction in operation and maintenance costs as follows:

	<u>Annual Benefit</u>
Annual Net Increased Crop Income	\$165,000
Reduced Operation & Maintenance	<u>8,000</u>
NET ANNUAL BENEFIT	\$173,000

It is normally suggested that the sponsor's repayment terms be calculated using the board's cost share percentage of the net annual benefit. In this case 85% of the net annual benefit calculated above is \$148,000. An annual payment of this amount would result in a purchase period of approximately five years; however, the board typically authorizes a minimum repayment period of 10 years. It is therefore recommended that the annual payment be about \$66,000 over a period of 10 years.

An annual payment of \$66,000 amounts to an increase of \$1.01 per share based on 65,834 shares in the company. The sponsor's current assessment is \$19/share.

BENEFITS:

Water loss through seepage will be reduced as the canal is piped and lined. The proposed project will conserve an estimated 3,332 acre-feet annually. Water that is conserved will be used to grow additional crops, thus providing economic benefit to the water users. It is also estimated that operation and maintenance costs for Hammond Canal will be reduced from approximately \$10,000 annually to \$2,000 annually.

**PROJECT
SPONSOR:**

The Bear River Canal Company was incorporated November 28, 1979, and is currently in good standing with the state Department of Commerce. The sponsor delivers water to irrigation companies from Fielding in the north to Brigham City in the south, serving approximately 65,000 acres of land on both sides of the Bear River and delivering up to 900 cfs through more than 128 miles of transmission canals. The sponsor has received financial assistance from the board five times previously. Four of these projects have been paid in full. The fifth project's final payment is due December 2016.

**WATER RIGHTS
& SUPPLY:**

The canal company has the right to deliver 263,336 acre feet annually, each share providing four acre-feet. The board currently holds title to water rights 29-2633 and 29-2856 from previous projects.

- EASEMENTS: The project will be installed in existing canal rights-of-way.
- ENVIRONMENTAL: The proposed project is not expected to have any detrimental effects on the environment beyond the usual dust and noise of the construction phase.
- WATER CONSERVATION: An estimated 3,332 acre-feet will be conserved by the project. The sponsor will need to update its Water Management & Conservation Plan.
- SPONSOR'S RESPONSIBILITIES: If the board authorizes the proposed project, the sponsor must do the following before construction can begin:
1. Obtain all easements, rights-of-way, and permits required to construct, operate, and maintain the project.
 2. Pass a resolution by the appropriate (as defined in the company's Articles of Incorporation and Bylaws) majority of company stock authorizing its officers to do the following:
 - a. Assign properties, easements, and water rights required for the project to the Board of Water Resources.
 - b. Enter into a contract with the Board of Water Resources for construction of the project and subsequent purchase from the board.
 3. Have an attorney give the Board of Water Resources a written legal opinion that:
 - a. The company is legally incorporated for at least the term of the purchase contract and is in good standing with the state Department of Commerce.
 - b. The company has legally passed the above resolution in accordance with the requirements of state law and the company's Articles of Incorporation and Bylaws.
 - c. The company has obtained all permits required for the project.

d. The company owns all easements and rights-of-way for the project, as well as the land on which the project is located, and that title to these easements, rights-of-way, and the project itself can be legally transferred to the board.

e. The company's water rights applicable to the project are unencumbered and legally transferable to the Board of Water Resources, and that they cover the land to be irrigated by the project.

f. The company is in compliance with Section 73-10-33, Section 10-9a-211, and Section 17-27a-211 of the Utah Code.

4. Obtain approval of final plans and specifications from the Division of Water Resources.

5. Update its water management and conservation plan for its service area, and obtain approval of it from the Division of Water Resources.

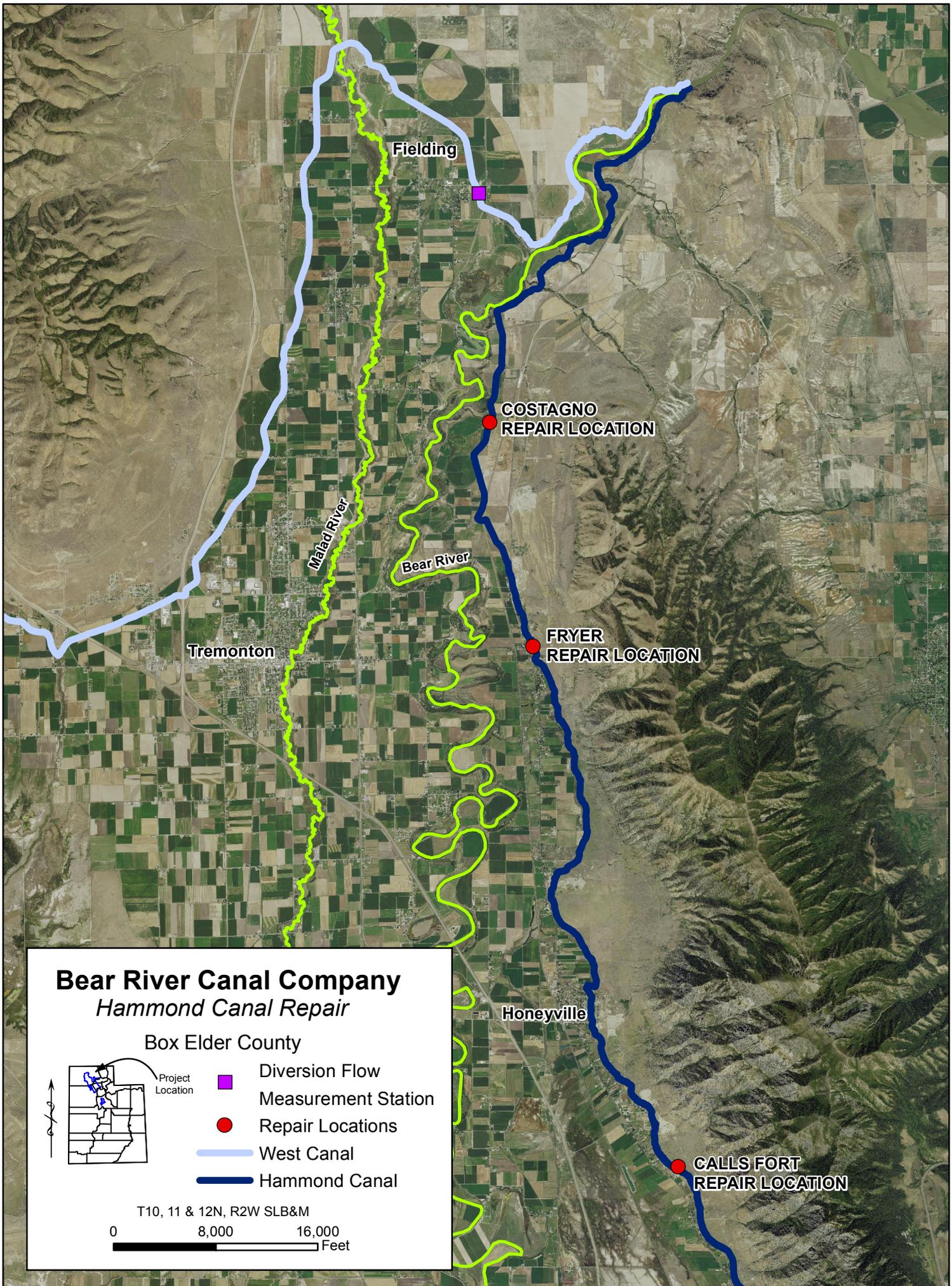
6. Be in compliance with Section 73-10-33, Section 10-9a-211, and Section 17-27a-211 of the Utah Code governing canal safety.

PROJECT
CONTACT
PEOPLE:

President: Charles Holmgren
275 North 1600 East
Tremonton, UT 84337
Phone: 435-279-3303

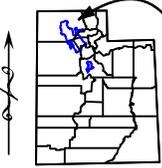
Secretary: Bob Roche
275 North 1600 East
Tremonton, UT 84337
Phone: 435-452-1446

Engineer: Chris Breinholdt
Jones & Associates
1716 East 5600 South
South Ogden, UT 84403
Phone: 801-476-9767



Bear River Canal Company
Hammond Canal Repair

Box Elder County



- Diversion Flow Measurement Station
- Repair Locations
- West Canal
- Hammond Canal

T10, 11 & 12N, R2W SLB&M

0 8,000 16,000 Feet

BOARD OF WATER RESOURCES

Special Item

Contract Amendment - Delay of Payment

Conservation and Development Fund

Appl. No.: **E-284**
Received: 9/30/10
Approved: 10/14/10
Authorized: 12/7/12
Committed: 8/8/13

To be Presented at the February 11, 2016 Board Meeting

SPONSOR: **MOUNTAIN GREEN SECONDARY WATER COMPANY**

President: Rulon Gardner
4000 West Old Highway Road
Mountain Green, UT 84050
Phone: 801-558-1879

LOCATION: The proposed project is located north and east of the unincorporated community of Mountain Green in Morgan County.

SUMMARY: In August 2013 the board committed \$1,785,000 towards a \$2.1 million project to make improvements to the secondary irrigation system that serves a large part of Mountain Green. The project includes facilities to increase water source and storage.

To date, the sponsor has constructed pump stations and pipeline that enables it to utilize water from Wilkinson Reservoir throughout its system. It has also drilled a well, which did not produce a significant amount of water.

Most recently construction has been ongoing to complete Cobble Creek Dam, which will impound just under 20 acre-feet. Complications in design and dewatering have delayed completion of the project.

The sponsor has made a request to the State Engineer's Office to enlarge the Cobble Creek reservoir basin to

approximately 40 acre-feet. This would remove the dam from Small Dam status to probably a Moderate Hazard Dam, which is more highly regulated by the state. Construction has been put on hold awaiting a determination from the state and winter weather.

Because the project is still not complete, the sponsor requests the start of principal payments be delayed one year to December 1, 2016. The sponsor has made interest-only payments in 2014 and 2015.

BOARD OF WATER RESOURCES

Special Item

Withdrawal

Appl. No.: **E-358**
Received: 6/23/14
Approved: 8/14/14

To be Presented at the February 11, 2016 Board Meeting

SPONSOR: ***DUCHESNE COUNTY WATER CONSERVANCY DISTRICT***

General Manager: Clyde Watkins
275 West 800 South
Roosevelt, UT 84066
Phone: 435-722-4977

LOCATION: The project is located near Roosevelt in Duchesne County.

SUMMARY: The sponsor applied to the board for funding to install a new flow control structure and telemetry on Cottonwood Creek to improve efficiency. The sponsor has determined the estimated cost of the proposed project exceeded the estimated benefit. Staff therefore recommends the application be withdrawn from further consideration by the board.

BOARD OF WATER RESOURCES

Special Item

Withdrawal

Appl. No.: **E-359**
Received: 6/23/14
Approved: 8/14/14

To be Presented at the February 11, 2016 Board Meeting

SPONSOR: **UINTA AND WHITEROCKS RIVER COMMISSION**

President: Shane Hamblin
4298 North 4000 West
Roosevelt, UT 84066
Phone: 435-671-9388

LOCATION: The project is located about 11 miles north of Roosevelt and one mile southwest of the Town of Whiterocks in Duchesne County.

SUMMARY: The sponsor applied to the board for funding to install an automated control gate on the existing bifurcation structure on the Uinta River and to install additional telemetry. The sponsor has determined the estimated cost of the proposed project exceeded the estimated benefit. Staff therefore recommends the application be withdrawn from further consideration by the board.

BOARD OF WATER RESOURCES

Dam Safety Report

Additional Funds

Appl. No.: **C-035**
Received: 4/18/02
Approved: 6/14/02
Authorized: 1/30/04
Re-Authorized: 3/12/08
Committed: 3/12/08, 8/19/10, 12/7/12

To be Presented at the February 11, 2016 Board Meeting

SPONSOR: ***NEW ESCALANTE IRRIGATION COMPANY***

President: Gary Harding
P.O. Box 535
Escalante, UT 84726
Phone: 435-826-4202

LOCATION: The proposed project is located about one mile northwest of Escalante in Garfield County.

PROJECT SUMMARY: In 2008, 2010, and 2012 the board committed a total of \$8.14 million as a dam safety upgrade grant and \$680,000 in loan funds to the sponsor to remove, replace, and raise Wide Hollow dam. Construction was completed in spring 2011 and the dam has performed well with the exception of the riprap on the upstream face. The riprap is rounded so in order to prevent migration it was placed in a HDPE cellular confinement system. Despite this, wave action moves the riprap and exposes the cellular grid material, allowing it to be lifted out of place by ice during winter.

The sponsor is requesting the board provide additional dam safety grant funds to remove a 15-foot width of riprap along the upstream face at the high water mark and replace it with quality angular riprap. The repair is estimated to cost \$110,000.

Staff recommends the board grant 80% of the project cost up to \$88,000 in additional dam safety funds (for a total of \$8,228,000).

COST ESTIMATE
& SHARING:

The committed and proposed cost estimate and sharing are as follows:

<u>Agency</u>	<u>Committed Cost Sharing</u>	<u>% of Total</u>	<u>Proposed Cost Sharing</u>	<u>% of Total</u>
BWRe Loan	680,000	4.8%	680,000	4.7%
BWRe Grant	8,140,000	57.2	8,228,000	57.4
Fed. Grant	5,200,000	36.6	5,200,000	36.3
Sponsor	200,000	1.4	222,000	1.6
TOTAL	\$14,220,000	100%	\$14,330,000	100%

CONTRACT
AMENDMENTS:

If the board commits additional funds, it is suggested the grant contract be amended to provide an additional \$88,000 grant.

BOARD OF WATER RESOURCES

Dam Safety Report

Dam Safety Construction Funding

Appl. No.: **C-052**

Received: 1/4/16

To be Presented at the February 11, 2016 Board Meeting

SPONSOR: ***NORTH UTAH COUNTY WATER CONSERVANCY DISTRICT***

Chairman: Hunt Willoughby

LOCATION: The proposed project is located about 7.5 miles northeast of American Fork in Utah County.

SUMMARY: The North Utah County Water Conservancy District was organized in 1959 and operates and maintains five dams in northern Utah County: Silver Lake Flat, Tibble Fork, Dry Creek, Battle Creek, and Grove Creek. The primary purpose of these dams is flood control, with water storage as a secondary purpose. Silver Lake Flat and Tibble Fork also serve various recreational interests. The Utah Division of Wildlife Resources maintains a fishery in Tibble Fork.

Last year the board committed \$1,480,500 in a dam safety grant (31.5% of the project cost) to the rehabilitation of Silver Lake Flat Dam, with the Natural Resources Conservation Service (NRCS) contributing 65% and the sponsor providing the balance with its own funds. The project is substantially complete.

Plans are currently underway to rehabilitate the sponsor's remaining four dams, also with help from the NRCS, to bring them up to dam safety standards. The NRCS has committed to funding 65% of the costs to repair these dams and for this reason the dams have been moved up on the priority list.

Tibble Fork is next in line to be rehabilitated and is scheduled for construction beginning May 2016. The dam was built in 1966 on the North Fork of the American Fork River and is classified as a high-

hazard dam by state dam safety officials. The zoned earthfill dam sits at an elevation of approximately 6389 feet, is 455 feet long, 52 feet tall, and originally impounded approximately 166 acre-feet, although over half of its capacity has been lost to sedimentation. Water is released using two gated inlet structures that feed into a 30-inch reinforced concrete outlet pipe. Current problems with the dam include liquefiable foundation materials, an insufficient seepage collection system, inadequate intake and spillway structures, an outlet conduit that doesn't meet NRCS standards, and no seepage cutoff beneath the embankment.

The proposed project will include raising the dam crest 15 feet, excavating liquefiable foundation material from beneath the extended embankment footprint, installing a bentonite/cement cutoff wall and grout curtain, replacing the intake, outlet, and spillway structures, installing a stability berm, new chimney and toe drains, and new monitoring instrumentation.

Some of the project features are not included under the State Engineer's Dam Safety Minimum Standards requirements; therefore, they are not eligible for the board's dam safety grant. It has been estimated the cost to complete only the features to bring Tibble Fork up to Minimum Standards is \$4.8 million. Similar to Silver Lake Flat Dam, it is recommended the board's contribution be 31.5% of that amount. The NRCS will pay 65% of the entire project costs.

Engineering services are being provided by RB&G Engineering in Provo.

COST SHARING
& REPAYMENT:

The recommended cost sharing and repayment are:

<u>Agency</u>	<u>Minimum Standards</u>	<u>% of Total</u>	<u>Total Project</u>	<u>% of Total</u>
NRCS - Grant	\$3,120,000	65.0	\$4,225,000	65.0%
BWRe - Grant	1,512,000	31.5	1,512,000	23.3
Sponsor	<u>168,000</u>	<u>3.5</u>	<u>763,000</u>	<u>11.7</u>
TOTAL	\$4,800,000	100%	\$6,500,000	100%

If the board commits dam safety funds to the project, it is proposed it extend a grant of \$1,512,000 to the sponsor.

Over \$500,000 in additional work to mitigate impacts and replace and improve recreational facilities around the reservoir is not included in the cost estimate. The sponsor will be required to pay the 35% local cost share not covered by the NRCS. It is anticipated that the sponsor's other dams will undergo rehabilitation in the coming year or two.

PROJECT	Chairman:	Hunt Willoughby
CONTACT		75 North Center Street
PEOPLE:		American Fork, UT 84003
		Phone: 801-420-2797
	Secretary:	Ron Stewart
		190 West 800 North
		Provo, UT 84601
		Phone: 801-377-5300
	Engineer:	RB&G Engineering
		1435 West 820 North
		Provo, UT 84601
		Phone: 801-374-5771

BOARD OF WATER RESOURCES

Application Summary

Appl. No. **E-378**

Received: 1/6/16

SPONSOR: **BENSON IRRIGATION COMPANY**

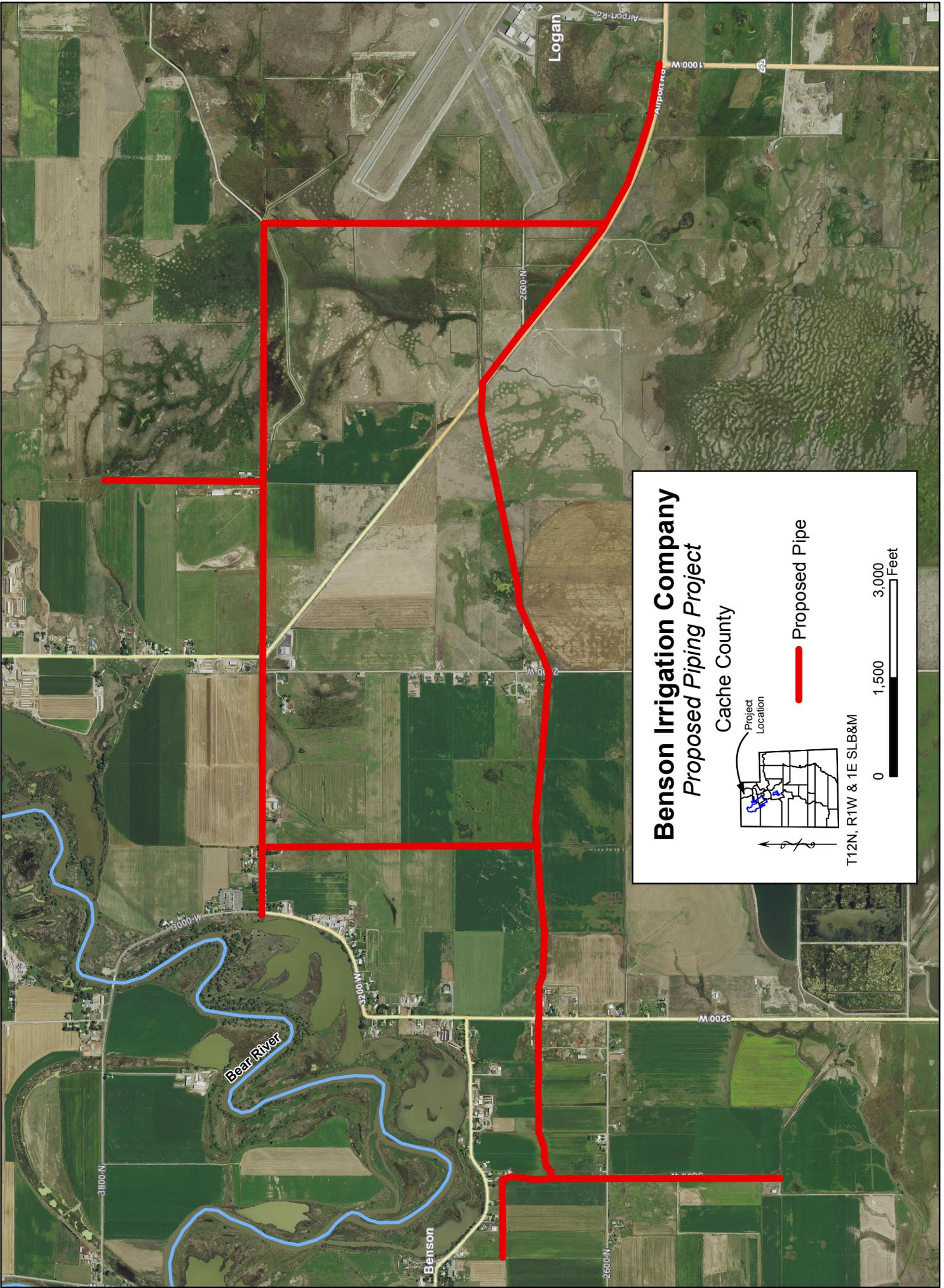
President: Rick Reese
4043 North 2400 West
Benson, UT 84335
Phone: 435-757-8745

LOCATION: The proposed project is located approximately four miles northwest of Logan City in Cache County.

PROPOSED PROJECT: The sponsor is requesting financial assistance from the board to replace nine miles of open canal with pressurized pipe and construct a centralized pumping station.

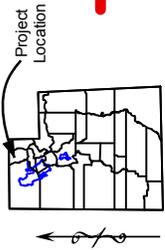
WATER RIGHTS: 25-2698, 2704, 2705, 2706, 2707, 2708, 2709, 5938, and 11110.

COST ESTIMATE: \$2,446,000



Benson Irrigation Company Proposed Piping Project

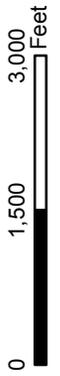
Cache County



Project Location

Proposed Pipe

T12N, R1W & 1E SLB&M



BOARD OF WATER RESOURCES

Application Summary

Appl. No. **E-379**
Received: 1/15/16

SPONSOR: **EAST WANSHIP IRRIGATION COMPANY**

President: D.A. Pace
2034 South Wanship Road
Coalville, UT 84107
Phone: 435-729-0591

LOCATION: The proposed project is located three miles south of Coalville in Summit County.

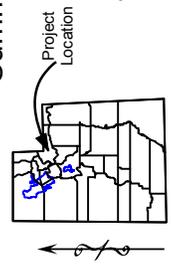
PROPOSED PROJECT: The sponsor is requesting financial assistance from the board to replace 17,000 feet of open ditch with pressurized pipe.

WATER RIGHTS: 35-8533

COST ESTIMATE: \$945,000

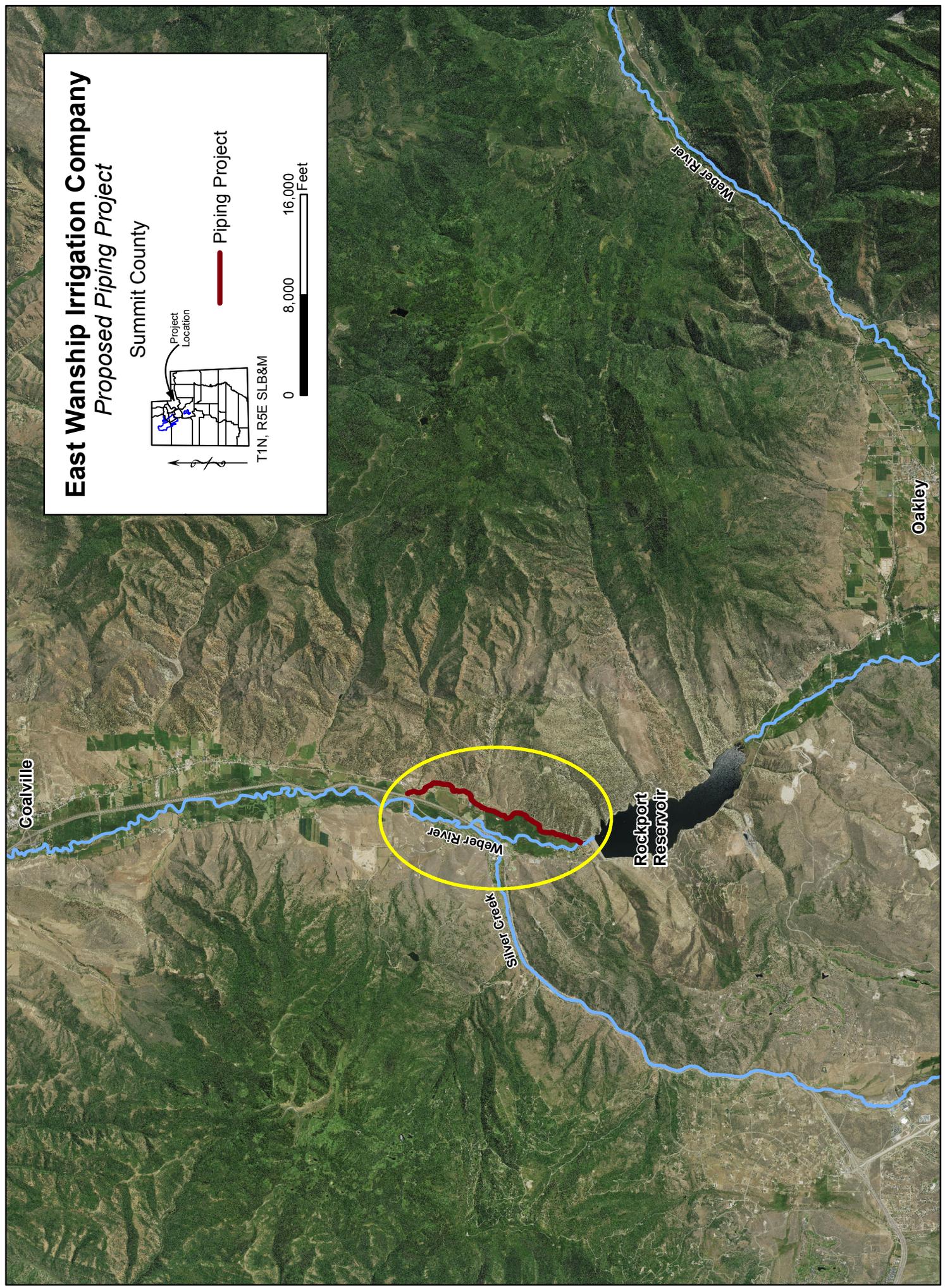
East Wanship Irrigation Company Proposed Piping Project

Summit County



Piping Project

T1N, R5E SLB&M



BOARD OF WATER RESOURCES

Application Summary

Appl. No. **E-380**
Received: 1/20/16

SPONSOR: **BLANDING IRRIGATION COMPANY**

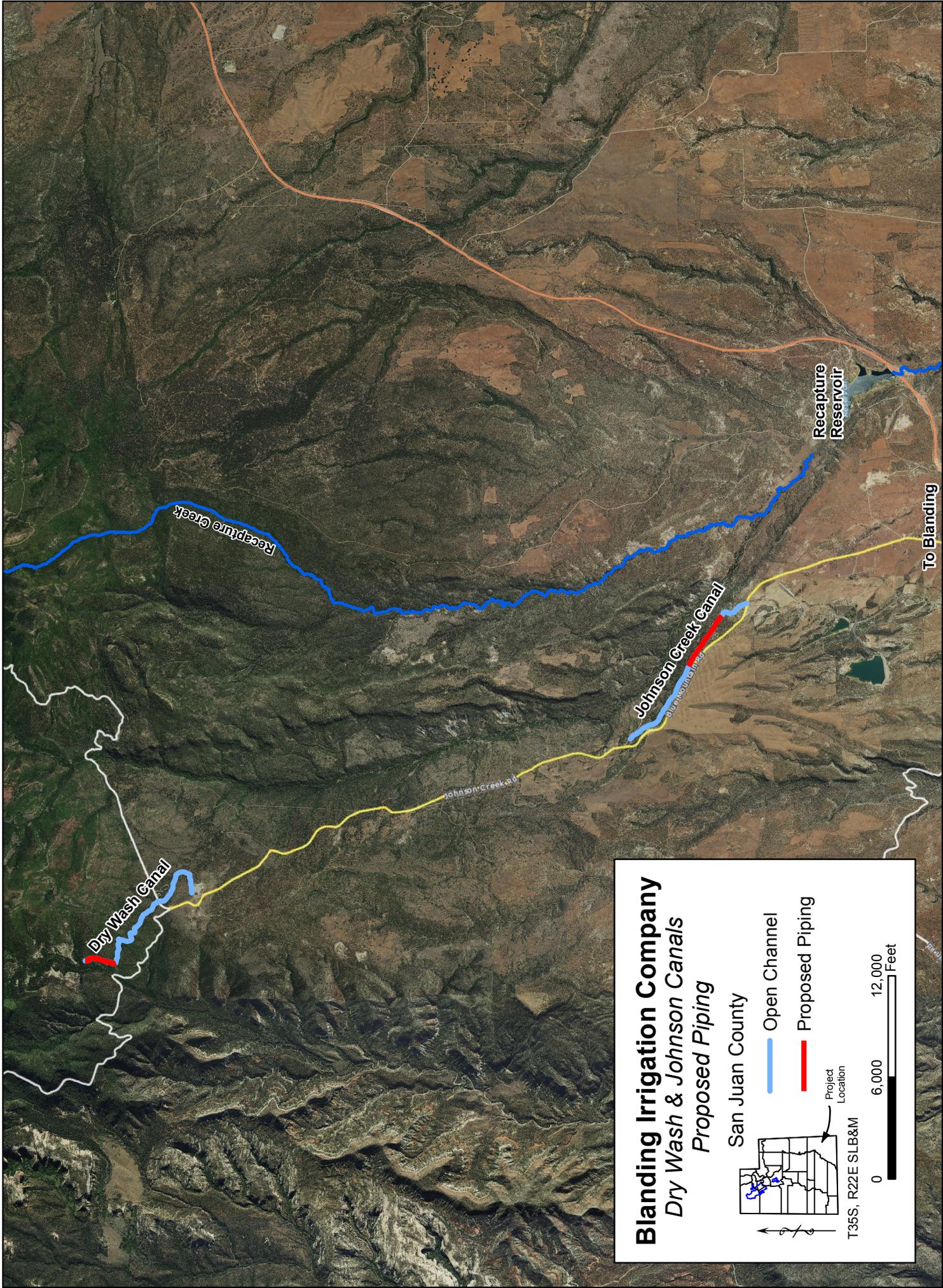
President: Shane Shumway
2949 N. Blue Mountain Road
Blanding, UT 84511
Phone: 435-459-1738

LOCATION: The proposed project is located five to 12 miles north of Blanding in San Juan County.

PROPOSED PROJECT: The sponsor is requesting financial assistance from the board to replace two sections of open ditch with pipe, totaling over 5,000 feet in length.

WATER RIGHTS: a27546, a11803, a13344

COST ESTIMATE: \$440,000



Blanding Irrigation Company
Dry Wash & Johnson Canals
Proposed Piping

San Juan County

- Open Channel
- Proposed Piping

Project Location

T35S, R22E SLB&M

0 6,000 12,000 Feet