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A G E N D A

UTAH BOARD OF WATER RESOURCES

Department of Natural Resources
1594 W. North Temple
Salt Lake City, Utah
December 6, 2018

10:00 a.m.

1. CALL TO ORDER
2. APPROVAL OF MINUTES – October 11, 2018
3. WATER SUPPLY REPORT Troy Brosten
4. FEASIBILITY REPORTS County
 - RE416 Davis & Weber Cos. Canal Co. Davis
 - RE415 Blanding City San Juan
 - RL582 Payson City Utah
5. COMMITMENT OF FUNDS REPORTS Utah
 - RE414 Spanish Fork South Irr. Co. Emery
 - RE405 Muddy Creek Irr. Co.
6. SPECIAL ITEM REPORTS Cache
 - RE191 Providence-Logan Irr. Co (Delayed Payment) Utah
 - RC054 North Utah County WCD (Grove Creek Dam) Washington
 - RE313 Rockville Town Ditch Co. (Withdrawal)
7. LAKE POWELL PIPELINE REPORT
7. BEAR RIVER DEVELOPMENT Utah
 - Utility Corridor Preservation – Committal of Funds
9. PLANNING REPORT
10. APPROVAL OF 2019 MEETING SCHEDULE
11. ELECTION OF OFFICERS
12. DIRECTOR’S REPORT
13. ADJOURNMENT

BRIEFING MEETING AGENDA

UTAH BOARD OF WATER RESOURCES

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

December 6, 2018

8:30 a.m.

- I. WELCOME/CHAIR'S REPORT Chairman Holmgren

- II. DISCUSSION OF PROJECTS

- III. INFORMATION TO THE BOARD

- IV. CLOSED SESSION
Bear River Development – Utility Corridor Preservation
Discussion of the purchase, exchange, lease, or sale of real property

- V. OTHER ITEMS

BOARD OF WATER RESOURCES

REVOLVING CONSTRUCTION FUND

**Funding Status
December 6, 2018**

Funds Available for Projects This FY \$ 16,485,000

Projects Contracted This FY

1 Center Creek Irrigation Co	C055	**Grant	\$ 246,000	(Additional amt.)
2 Center Creek Irrigation Co	C055	**Loan	27,000	(Additional amt.)
3 Deseret Irrigation Co	E406		999,000	
4 Fremont Irrigation Co (Mill Meadow)	C019	**Grant	1,505,000	(Additional amt.)
5 Fremont Irrigation Co (Mill Meadow)	C019	**Loan	195,000	(Additional amt.)
6 Moon Lake WUA (Twin Pots)	C059	**Grant	207,000	
7 Uintah Basin Irrigation Co	E402		271,000	
8 Washington County WCD (Ivins Bench)	C062	**Grant	321,000	
9 Woodruff Irrigating Co	E392		<u>319,000</u>	(Additional amt.)

Total Funds Contracted \$ 4,090,000

Funds Balance \$ 12,395,000

Projects with Funds Committed

1 Davis & Weber Counties Canal Co	E404		\$ 975,000	
2 Davis & Weber Counties Canal Co. (Canal)	E410		995,000	
3 Echo Ditch Co	E390		51,000	(Additional amt.)
4 Ivins City (Debris Basins 1-6)	C061		661,000	
5 Koosharem Irrig Co (Dam Safety Grant/Loan)	C058	**Grant	2,430,000	
6 Koosharem Irrig Co (Dam Safety Grant/Loan)	C058	**Loan	270,000	
7 Little Cottonwood Brown Ditch Company	E413		374,000	
8 Marion Waterworks Co	E322		395,000	
9 Muddy Creek Irrigation Co (Moore)	E407		1,000,000	
10 North Utah County WCD (Dry Creek)	C060	**Grant	1,600,000	
* 11 North Utah County WCD (Grove Creek)	C054	**Grant	47,000	(Additional amt.)
12 Pioneer Canal Co	E403		240,000	
13 Rockville Town Ditch Co	E313		145,000	
* 14 Spanish Fork South Irrigation Co	E414		472,600	
15 Washington County Flood Contr. Auth. (Gypsum)	C051	**Grant	244,125	
16 Washington County Flood Contr. Auth. (Warner)	C049	**Grant	212,000	
17 Washington County Flood Contr. Auth. (Stucki)	C050	**Grant	88,400	
18 West Porterville Irrigation Co	E401		<u>996,000</u>	

Total Funds Committed \$ 11,196,000

Funds Balance \$ 1,199,000

Projects Authorized

1 Burns Bench Irrigation Co	E395		\$ 504,900
2 Silver Creek Reservoir Co	E381		<u>500,000</u>

Total Funds Authorized \$ 1,005,000

Remaining Funds Available # \$ 194,000

* 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
December 6, 2018

Funds Available for Projects This FY \$ 9,474,000

Bonds Closed This FY

1 West Warren and Warren Water ID E387 \$ 1,800,000

Total Bonds Closed \$ 1,800,000
Funds Balance \$ 7,674,000

Projects with Funds Committed

1

Total Funds Committed \$ -
Funds Balance \$ 7,674,000

Projects Authorized

1 None

Total Funds Authorized \$ -
Remaining Funds Available # \$ 7,674,000

* 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
December 6, 2018**

Funds Available for Projects This FY \$ 70,247,000

Projects Contracted/Bonds Closed This FY

1 Davis & Weber Counties Canal Co. (Secondary)	E409	\$ 2,500,000	
2 Fremont Irrigation Co	E279	8,415,000	
3 Summit Creek Irrigation and Canal Co	E308	<u>84,500</u>	(Additional amt.)

Total Funds Contracted/Closed		\$ 11,000,000
Funds Balance		\$ 59,247,000

Projects with Funds Committed

1 Benson Irrigation Co	E378	\$ 1,845,000
2 Murray City	L581	<u>8,054,000</u>

Total Funds Committed		\$ 9,899,000
Funds Balance		\$ 49,348,000

Projects Authorized

1 Ashley Upper Irrigation Co	E373	\$ 5,045,000
* 2 Blanding City	E415	1,359,000
3 Box Elder Cnty & Perry City Flood Control Dist	E369	660,000
4 Brooklyn Canal Co	E223	1,000,000
* 5 Davis & Weber Counties Canal Co	E416	3,400,000
* 6 Muddy Creek Irrigation Co (Emery)	E405	1,671,000
* 7 Payson City	L582	8,985,000
8 Settlement Canyon Irrigation Co (Phase 2)	E240R2	552,500
9 Summit Creek Irrigation and Canal Co (Phase 4)	E308	1,198,000
10 Uintah WCD	E316	36,550,000
11 Weber Basin WCD (Phase 5+)	E225R5	7,000,000
12 Weber-Box Elder Cons Dist	E400	1,687,000
13 Woodruff Irrigating Co	E365	<u>3,200,000</u>

Total Funds Authorized		\$ 72,308,000
Remaining Funds Available		# \$ (22,960,000)

* To be presented at Board Meeting

End of year balance if all listed projects were fully paid

BOARD OF WATER RESOURCES

December 6, 2018

ADDITIONAL FUTURE FUNDING NEEDS

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 Hooper Irrigation Co (Press Irr, Ph 3+)	E060R3+	C&D	11,033,000	12,980,000
4 Weber Basin WCD	E312	C&D	85,000,000	100,000,000
5 Ferron Canal & Reservoir Co	E320	C&D	2,720,000	3,200,000
6 Wellsville-Mendon Conservation District	E364	C&D	680,000	800,000
7 Highline Canal Co	E372	C&D	3,087,000	13,942,000
8 Mosby Irrigation Co	E374	RCF	331,000	4,379,000
9 O.T. Hicken Ditch Co	E383	RCF	430,000	990,000
10 Woodruff Irrigating Co	E385	C&D	5,000,000	6,885,000
11 Glendale Irrigation Co	E408	C&D	1,109,000	196,000
12 Glenwood Town (NRCS Dam Safety Grant)	C056	RCF	969,000	3,568,000
13 Daniel Town	L580	CWL	1,505,000	2,021,000
14 Coyote & East Fork Irrigation Company	E411	RCF	722,500	1,700,000
15 Rockville Pipeline Company	E412	RCF	60,000	80,000
* 16 Peoa South Bench Canal & Irrigation Co	E417	RCF	974,000	2,146,000
* 17 Mapleton Irrigation District & Canal Co	E418	RCF	883,000	1,339,000
* 18 Draper Irrigation Co	E419	C&D	2,665,000	4,135,000
* 19 Bear River Canal Co	E420	RCF	382,500	4,135,000
Subtotal			\$148,376,000	\$198,996,000

* 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

BOARD OF WATER RESOURCES
Feasibility Report



Applicant: **Davis & Weber Counties Canal Co.**

Project Number: RE416
Fund: Conservation and Development Fund
Cost Estimate: \$4,000,000

Application Received: 9/28/2018

Board Meeting Date: 12/6/2018

Board Member: Kyle Stephens
Project Manager: Tom Cox

Project Summary: The purpose of the project is to install a pressure boosting pump station near Kaysville Reservoir to eliminate low pressure issues in west Kaysville.

Recommendation: Staff recommends the board authorize 85% of the project cost up to \$3,400,000, and that the project be purchased at 3% interest over 10 years with annual payments of approximately \$398,600.

Project Contacts:

President:
Scott Paxman
138 W. 1300 N.
Sunset, UT 84015
801-771-1677

Manager:
Rick Smith
138 W. 1300 N.
Sunset, UT 84015
801-774-6373

Engineer:
Nate Smith - J-U-B Engineering
466 North 900 West
Kaysville, UT 84037
801-547-0393



Location

The proposed project is located just north of the Kaysville City boundary in Davis County.

Introduction & Background

Davis & Weber Counties Canal Company was organized in 1884 and is registered in good standing with the state Department of Commerce. It delivers approximately 60,000 acre-feet of irrigation water annually to its 40,000-acre service area, which includes wholesale water to Weber Basin Water Conservancy District, Roy Water Conservancy Sub-district, Syracuse City, over 14,000 secondary irrigation connections, and approximately 10,000 acres of farm ground. More than 1,600 secondary connections are metered and all new residential development is required to have meters installed. The applicant has recently received a WaterSMART grant to install an additional 650 meters.

Water is diverted from the Weber River and delivered primarily through the 17.2 mile-long Davis & Weber Canal. From 1980 through 2011, the board has committed over \$25 million to the applicant for canal improvements, and more than \$27 million for residential secondary irrigation systems in Clinton, Kaysville, Layton, and West Point. The applicant also owns shares in several irrigation companies, which it uses to supplement its own water diversions.

Existing Conditions & Problems

Construction of the applicant's secondary irrigation system began in 1988. Since that time the area has developed rapidly with Kaysville, for example, growing from a population of just under 14,000 in 1990 to over 33,000 currently. No major secondary irrigation system upgrades have been completed in this area during that time.

The applicant supplies the east Kaysville area with water from its Kaysville East Reservoir. Water for the west Kaysville area is delivered from the Church Street Reservoir through a three mile long, 24-inch pipeline. Due to growth, the pipeline is now undersized, restricting flow to the west Kaysville area which experiences low water pressure during peak use times, particularly between Fairfield Road and Interstate 15. This results in overuse of water by residents trying to compensate for the low pressures, and service calls to the applicant from unsatisfied residents complaining about the low pressure.

Proposed Project

The applicant is requesting financial assistance from the board to construct a pressure boosting pump station and associated pipelines to connect it to the delivery system. The station will be constructed near Kaysville Reservoir, which is owned and operated by Kaysville Irrigation Company (the applicant is a major stock holder). Water will be pumped from the reservoir during peak usage times to eliminate low pressure in the system. Water will also continue to be delivered from the Church Street Reservoir.

The pump station will be constructed with a capacity of 10 cfs, expandable to 30 cfs, to accommodate growth. It is hoped the tie-ins to the existing system can be accomplished this irrigation off-season, with the pump station to be constructed during the coming summer.



Benefits

Constructing the proposed project will eliminate existing low pressures in the west Kaysville area, allow the applicant to use more of its Kaysville Irrigation Company water, and conserve an estimated 370 acre-feet annually. The pump station will be expandable as growth continues.

Cost Estimate

The following cost estimate is based on the engineer's preliminary design:

Item	Description	Quantity	Unit	Unit Price	Total
1	Mobilization	1	LS	\$125,000	\$125,000
2	30" Pipe	1,100	LF	450	495,000
3	8" Pipe	400	LF	150	60,000
4	Inlet Structure	1	LS	140,000	140,000
5	Connections	1	LS	35,000	35,000
6	Flow Meter/Valves	1	LS	130,000	130,000
7	Pump Station	1	LS	1,900,000	1,900,000
8	Property Purchase	1	LS	80,000	80,000
9	Power Supply	1	LS	130,000	130,000
10	Restoration	1	LS	55,000	55,000
Construction Cost					\$3,150,000
Contingency					315,000
Design & Construction Engineering					492,000
Legal and Administrative					43,000
TOTAL					\$4,000,000

Cost Sharing & Repayment

The recommended cost sharing and repayment are:

Agency	Cost Sharing	% of Total
Board of Water Resources	\$3,400,000	85%
Applicant	600,000	15
TOTAL	\$4,000,000	100%

Staff recommends the board authorize 85% of the project cost up to \$3,400,000, and that the project be purchased at 3% interest over 10 years with annual payments of approximately \$398,600.

Economic Feasibility

For municipal projects such as the proposed secondary irrigation system improvements, the benefit/cost analysis is calculated by dividing the cost of the next best alternative by the cost of the proposed project. The alternative to the proposed project is to replace the 24-inch, three-mile long existing pipe from the Church Street Reservoir to west Kaysville with a 42-inch



diameter pipeline, which is estimated to cost nearly \$8.7 million. When all project costs are compared to the benefits, the b/c ratio is 2.0.

Financial Feasibility

Based on the board’s water service affordability guidelines, residents in the combined Clinton, Kaysville, Layton, and West Point areas could pay up to \$73.66 monthly for water. The cost of all water, based on 14,338 secondary connections, is as follows:

Water Cost	Annual Cost	Cost/Conn/Mo
Average Culinary Water Bill	\$4,129,350	\$24.00
Average Secondary Water Bill	3,785,225	22.00
Property Tax for Water	344,100	2.00
New Pump Operation Costs	20,000	0.12
Operation & Maintenance Reduction	-10,000	-0.06
Proposed Board of Water Resources Loan	398,600	2.32
TOTAL	\$8,667,275	\$50.38

The applicant is trying to keep rates reasonable while maintaining the aging system and expanding as needed for growth. It has made many positive changes recommended in a 2004 Utah Legislative Audit and has created a Master Plan and a reserve fund. The applicant has no control over culinary water rates and it is a negative situation when secondary water bills exceed culinary.

Water Rights & Supply

The applicant holds dozens of water rights for Weber River diversions and wells to be used on over 40,000 acres and owns shares in several irrigation companies. It also has storage rights of 28,000 acre-feet in East Canyon Reservoir and 29,000 acre-feet in Echo Reservoir. The board holds title to 21 of the applicant’s major water rights from previous projects.

Easements

The applicant will purchase the pump station site as well as obtain easements for the Kaysville Reservoir pipe inlet structure and related piping.

Environmental

No long-term environmental impacts are foreseen due to the proposed project.

Water Conservation

The applicant estimates approximately 370 acre-feet will be conserved as residents have consistent water pressure.

Applicant’s Responsibilities

If the board authorizes the proposed project, the applicant must do the following before a purchase agreement can be executed:



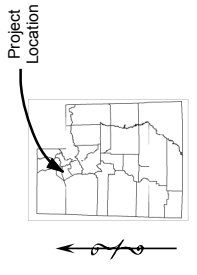
1. Obtain all easements, rights-of-way, and permits required to construct, operate, and maintain the project.
2. Pass a resolution by the appropriate majority (as defined in the company's Articles of Incorporation and Bylaws) authorizing its officers to do the following:
 - a. Assign properties, easements, 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 is in compliance with sections 73-10-33, 10-9a-211, and 17-27a-211 of the Utah Code governing management plans for water conveyance facilities.
4. Obtain approval of final plans and specifications from the Division of Water Resources.
5. Execute a service agreement with Kaysville Irrigation regarding use, operation and maintenance of Kaysville Reservoir.

Davis & Weber Counties Canal Company

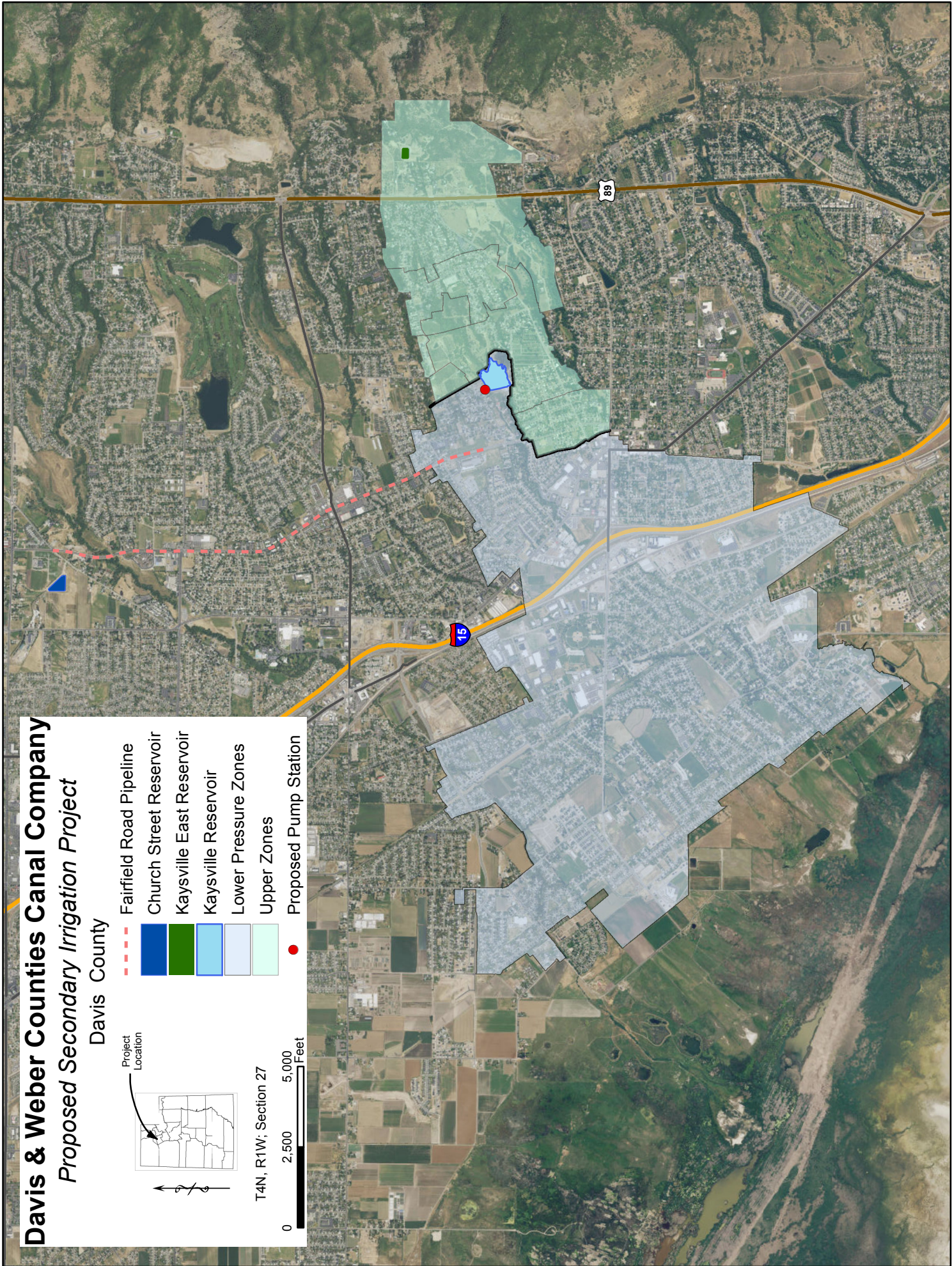
Proposed Secondary Irrigation Project

Davis County

- - - Fairfield Road Pipeline
- Church Street Reservoir
- Kaysville East Reservoir
- Kaysville Reservoir
- Lower Pressure Zones
- Upper Zones
- Proposed Pump Station



T4N, R1W, Section 27



Applicant: **Blanding City**

Project Number: RE415

Fund: Conservation and Development Fund

Cost Estimate: \$1,598,000

Application Received: 9/4/2018

Board Meeting Date: 12/6/2018

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 authorize 85.0% of the project cos. up to \$1,359,000, and that the bonded indebtedness be returned at 1.0% interest over 20 years with annual payments of approximately \$93,500 (includes 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.

Introduction & Background

The City of Blanding, founded in 1905, is home to approximately 3,500 residents. Blanding is situated directly south of the Abajo Mountains and the newly designated Bears Ears National Monument. The applicant has not worked with the Board of Water Resources on any previous projects.

Existing Conditions & Problems

Climate change models consistently project less frequent but more-extreme precipitation events. The applicant has begun to notice the culmination of these projections. In recent years, more intense precipitation events occurring in early to mid-summer have begun to exceed the capacity of the applicant's existing storm sewer system. As water flows overwhelm the storm drains, water builds up and flows across streets, through open lots, into buildings, and near homes. These flows cause property damage and pose a threat to the public.

Proposed Project

The proposed project 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 likely enter the construction phase in the fall of 2019. Hansen, Allen, & Luce Engineers will design the project. Jones & Demille Engineering will monitor construction.

Benefits

The proposed project will increase the capacity of the applicant's storm sewer system, which will eliminate above-ground flows that threaten multiple structures and pose a threat to the public.

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	18" RCP Storm Drain (In Asphalt)	755	LF	\$160	\$120,800
2	18" RCP Storm Drain (Out of Asphalt)	635	LF	\$120	\$76,200
3	24" RCP Storm Drain (In Asphalt)	460	LF	\$175	\$80,500
4	24" RCP Storm Drain (Out of Asphalt)	1,090	LF	\$150	\$163,500
5	36" RCP Storm Drain	1,556	LF	\$250	\$389,000
6	30" RCP Storm Drain	1,126	EA	\$200	\$225,200
7	Manhole	19	EA	\$5,500	\$104,500



8	Inlet Box	14	EA	\$3,200	\$44,800
9	Combo Box	3	EA	\$6,500	\$19,500
10	Connect to Existing Manhole	6	EA	\$5,500	\$33,000
Construction Cost:					\$1,257,000
Contingency:					\$126,000
Design & Construction					\$189,000
Engineering:					\$26,000
Legal & Administrative:					\$26,000
TOTAL:					\$1,598,000

Cost Sharing & Repayment

The recommended cost sharing and repayment are:

Agency	Cost Sharing	% of Total
Board of Water Resources	\$1,359,000	85.0%
Applicant	\$239,000	15.0%
TOTAL	\$1,598,000	100%

Staff recommends the board authorize 85.0% of the project cost up to \$1,359,000, and that the bonded indebtedness be returned at 1.0% interest over 20 years with annual payments of approximately \$93,500 (includes reserves).

Economic Feasibility

This project will not increase water supplies or provide other identifiable economic benefit beyond some minor prevention of flood damages. Since the project will only replace an inadequate storm drain line, the benefit/cost ratio is considered to be 1.0.

Financial Feasibility

In anticipation of project, the applicant increased its storm sewer charge several years ago, from \$1 per month to \$4 per month. These funds have been accumulating since that time and will be used to pay for the applicant's cost share portion of the proposed project. In future years, these funds are expected to be adequate to make payments on the proposed bond.

While the applicant has separate fees for the culinary water and storm sewer systems, staff included the data from the culinary water system as a baseline to compare the proposed project with other projects that the board has funded in the past. The Mean Adjusted Gross Income (MAGI) for the City of Blanding is approximately \$39,700 per year. Based on the MAGI, the board guidelines for monthly water cost is approximately \$45.00 per month. The average water bill for Blanding residents is approximately \$59.00 per month.



Water Rights & Supply

None of the applicant's water right or water supply are associated with the storm sewer system or the collection and dissemination of storm water.

Easements

No additional easements will be required beyond those which the applicant already holds.

Environmental

No environmental impact is expected to occur as a result of the proposed project.

Water Conservation

The proposed project will not increase water conservation.

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 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.

BOARD OF WATER RESOURCES
Feasibility Report



Applicant: **Payson City**

Project Number: RL582
Fund: Conservation and Development Fund
Cost Estimate: \$10,570,000

Application Received: 9/28/2018

Board Meeting Date: 12/6/2018

Board Member: Steve Farrell
Project Manager: Russell Hadley

Project Summary: The purpose of the project is to redevelop an existing well, upgrade its pump motor and controls, install a secondary transmission pipe for new development, install a secondary pipe to isolate an outdoor recreation complex, and install secondary water meters in order to upgrade and expand the existing secondary irrigation system. These new facilities will provide secondary water to existing city recreational properties, new development, and future growth.

Recommendation: Staff recommends the board authorize 85% of the project cost up to \$8,985,000, and that the bonded indebtedness be returned at 1% interest over 20 years with annual payments of approximately \$526,000 (includes reserves).

Project Contacts:

Primary Contact:
Dave Tucket, City Mngr
439 W. Utah Ave.
Payson City, UT 84651
801-465-5234

Secondary Contact:
Brent Arns, Asst. Engineer
439 W. Utah Ave.
Payson City, UT 84651
801-465-5232

Engineer:
Hansen, Allen and Luce, Inc.
Jason Bradford
859 S Jordan Pkwy #200, South
Jordan, UT 84095
801-566-5599



Location

The proposed project is located in Payson City in Utah County.

Introduction & Background

Payson City serves culinary water to 5,768 connections and secondary water to 4,600 connections. Culinary water is obtained from wells and springs in Payson Canyon, while secondary water is obtained primarily from the Strawberry Highline Canal as well as from wells, Peteetneet Creek, and treated sewage effluent. Culinary storage consists of two 2.5 MG and one 0.6 MG tanks. Secondary storage consists of two concrete ponds with 33 acre-feet total capacity. The applicant has had five previous projects with the board; all have been repaid.

Existing Conditions & Problems

The applicant has a new recreational baseball and soccer complex that requires large amounts of secondary water. This new demand puts a strain on the secondary system pressure during peak watering times.

Additionally, there are currently new residential developments approved with a total of 1,500 new homes (the Arrowhead developments). The applicant's hydraulic models show its secondary transmission lines in those areas are not capable of providing for the expected new demand and future growth.

Proposed Project

The applicant would like to isolate the new recreational complex from the secondary system because of the high volume of water it uses. To accomplish this, it plans to rejuvenate an old, failed "slotted casing" city well. The well was previously abandoned because it drew in large amounts of sand, causing it to constantly go through pumps and bowls. The applicant plans to install a modern well screen and gravel pack to keep sand out, thereby rejuvenating the well back to a 2,000 gpm sustainable yield. A 300 HP pump and motor and new electrical controls will also be added.

The applicant also plans to install larger secondary transmission lines in the area where the large developments and future growth are planned, and install secondary meters on all existing connections.

Hansen, Allen and Luce, Inc. will provide design and construction engineering services.

The project fits in Prioritization Category 2 (municipal project required to meet existing or municipal need).

Benefits

Benefits of the project include expansion of the existing secondary system to provide for new growth, isolating the new recreational complex to eliminate a bottleneck on system pressure, allow some redundancy on the secondary system in case of emergencies, and installation of secondary meters to conserve water.



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	Secondary Meters	4,600	EA	\$1,304	\$5,998,000
	PIPELINES:				
2a.	Rec. Complex, 10,500’ of 16” PVC	LS	LS	1,550,000	1,550,000
2b.	Arrowhead area, 7,700’ of 16” PVC	LS	LS	1,170,000	1,170,000
3	Well refurbishing and appurtenance	LS	LS	500,000	500,000
Construction Cost					\$9,218,000
Contingency					921,800
Design & Construction Engineering					288,000
Legal and Administrative					142,200
TOTAL					\$10,570,000

Cost Sharing & Repayment

The recommended cost sharing and repayment are:

Agency	Cost Sharing	% of Total
Board of Water Resources	\$8,985,000	85%
Applicant	1,585,000	15
TOTAL	\$10,570,000	100%

Staff recommends the board authorize 85% of the project cost up to \$8,985,000, and that the bonded indebtedness be returned at 1% interest over 20 years with annual payments of approximately \$526,000 (includes reserves).

Economic Feasibility

According to the sponsor, the only alternative to the proposed project is to make improvements to an existing well and pipeline with a total cost of \$2,640,000. Since the project will have only minimal operation and maintenance costs and the alternative will have significant pumping costs, only capital costs were considered relevant to the economic analysis. When all project costs are compared to the benefit (capital cost of the best alternative) the benefit/cost ratio is 1.15.

For the metering project, it is in the best interests of the state to require all water to be metered. Therefore, the benefit/cost ratio for the metering project is assumed to be 1.0.



Financial Feasibility

Financial benefits from the project are minimal. Based on the board's water service affordability guideline, residents of Payson City could pay up to \$51.50 monthly for water. As shown below, the cost of water with the proposed project would put them above the guideline:

Water Cost	Annual Cost	Cost/Conn/Mo
Avg. Culinary Water Bill (5,768 connections)	\$1,743,551	\$25.19
Avg. Secondary Water Bill (4,600 connections)	1,159,200	21.00
Property Tax for Water (CUWCD)	270,634	3.91
Proposed Board of Water Resources Loan	526,000	7.60
TOTAL	\$3,699,385	\$57.70

Water Rights & Supply

The applicant owns extensive culinary and secondary water rights, entailing numerous wells, springs, Peteetneet Creek, treated sewage effluent, and exchanges for Utah Lake and the Jordan River. The applicant states that its culinary rights and supplies are sufficient to carry them, and its secondary water can sustain future growth through careful management and conservation.

Easements

No easement or rights-of-way issues are foreseen.

Environmental

No adverse environmental effects are expected from the project.

Water Conservation

By re-furbishing an abandoned well for use on the secondary system, the applicant will be able to stretch the secondary water supply further into the future, thereby conserving high quality culinary supplies for future residential growth. The installation of secondary meters will likely also result in additional water savings.

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.

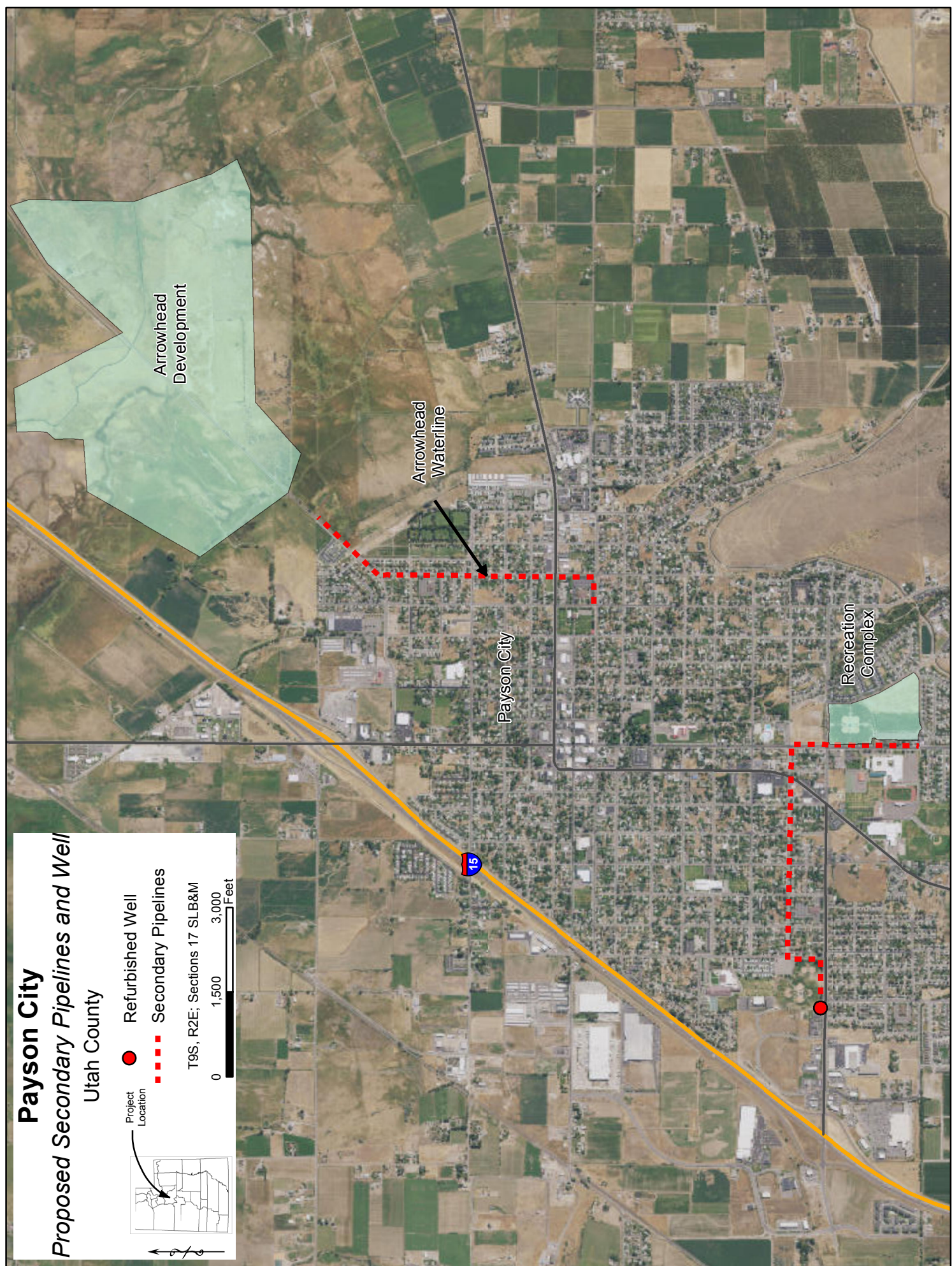
Payson City Proposed Secondary Pipelines and Well Utah County

  Project Location

-  Refurbished Well
-  Secondary Pipelines

T9S, R2E; Sections 17 SLB&M

0 1,500 3,000 Feet



Applicant: Spanish Fork South Irrigation Company

Project Number: RE414
Fund: Revolving Construction Fund
Total Cost: \$556,000

Application Received: 8/28/2018
Authorized: 10/11/2018

Board Meeting Date: 12/6/2018

Board Member: Steve Farrell
Project Manager: Marisa Egbert

Project Summary: The purpose of the project is to enclose 2,100 feet of the South Field Canal with 42-inch HDPE pipe to increase efficiency and safety, and to reduce seepage that is impacting a nearby landowner.

Since the board authorized funds, UDOT has given the applicant additional requirements and the applicant has increased the amount of pipeline to be installed. These two things have increased the cost estimate.

Recommendation: Staff recommends the board commit 85.0% of the project cost up to \$472,600, and that the project be purchased at 0% interest over 20 years with annual payments of approximately \$23,630.

Project Contacts:

President:
Neil Anderson
6278 South 4000 West
Spanish Fork, UT 84660
801-592-4648

Secretary:
Greg Price
7094 South 3600 West
Spanish Fork, UT 84660
801-376-4295

Engineer:
Barry Prettyman
Franson Civil Engineers
1276 South 820 East, #100
American Fork, Utah 84003
801-756-0309



Location

The proposed project is located two miles southeast of Spanish Fork in Utah County.

Project Summary

The purpose of the project is to enclose 2,100 feet of the South Field Canal with 42-inch HDPE pipe to increase efficiency and safety, and to reduce seepage that is impacting a nearby landowner.

Since the board authorized funds, UDOT is requiring the applicant to extend the pipeline inlet to the east side of 1550 West (SR-115). The applicant has also decided to extend the 42-inch pipe an additional 300 feet and to install an additional 650 feet of 30-inch pipeline to enclose a lateral ditch off the South Field Canal. These additions have increased the cost estimate.

Cost Estimate & Sharing

The project cost has increased by \$151,000. The authorized and proposed cost sharing are as follows:

Agency	Authorized Cost Sharing	% of Total	Proposed Cost Sharing	% of Total
Board of Water Resources	\$344,000	84.9%	\$472,600	85.0%
Applicant	61,000	15.1	83,400	15.0
TOTAL	\$405,000	100%	\$556,000	100%

Repayment

Funds were authorized in the amount of \$344,000 to be returned at 0% interest over 20 years with annual payments of approximately \$17,200.

Staff recommends the board commit 85.0% of the project cost up to \$472,600, and that the project be purchased at 0% interest over 20 years with annual payments of approximately \$23,630.

Spanish Fork South Irrigation Company

Canal Piping

Utah County

Project
Location



- 30" Canal Piping
- 42" Canal Piping

T8S, R2E; Sections 23 & 26



Spanish Fork



Applicant: **Muddy Creek Irrigation Company**

Project Number: RE405
Fund: Conservation and Development Fund
Total Cost: \$2,566,000

Application Received: 12/18/2017
Authorized: 3/21/2018

Board Meeting Date: 12/6/2018

Board Member: Norman L. Johnson
Project Manager: Jaqueline Pacheco

Project Summary: The purpose of the project is to replace approximately 1.92 miles of open canal and 2.82 miles of existing non-pressurized and deteriorating pipe with a new pressurized pipeline.

Recommendation: Staff recommends the board commit 65.1% of the project cost up to \$1,671,000, and that the project be purchased at 1% interest over 23 years with annual payments of approximately \$81,700.

Project Contacts:

President:
Morris Sorenson
PO Box 104
Emery, UT 84522
435-749-7028

Secretary:
Abby Christiansen
PO Box 104
Emery, UT 84522
435-609-7181

Engineer:
Merrial Johansen - Johansen &
Tuttle Engineering
90 S 100 E
Castle Dale, UT 84513
435-381-2523



Location

The proposed project is located approximately three miles north of Emery Town in Emery County.

Project Summary

Muddy Creek Irrigation Company has been in operation since 1886, and was incorporated in 1964. The applicant serves approximately 107 shareholders owning 5,640 shares and irrigating 7,800 acres. Each share equals four acre-feet. The shareholders are divided into the Emery Series (west distribution area) and the Moore Group Independent Canal (east distribution area) with 93 and 14 shareholders, respectively. This project will directly benefit the Emery Series.

The purpose of the project is to replace approximately 1.92 miles of open canal and 2.82 miles of existing non-pressurized and deteriorating pipe with a new pressurized pipeline.

Cost Estimate & Sharing

The cost estimate and sharing remain as authorized:

Agency	Cost Sharing	% of Total
Board of Water Resources	\$1,671,000	65.1%
NRCS	500,000	19.5
Utah Conservation Commission	100,000	3.9
Applicant	295,000	11.5
TOTAL	\$2,566,000	100%

Repayment

Staff recommends the board commit 65.1% of the project cost up to \$1,671,000, and that the project be purchased at 1% interest over 23 years with annual payments of approximately \$81,700.

Applicant: Providence-Logan Irrigation Company

Project Number: RE191
Fund: Revolving Construction Fund
Total Cost: \$247,110

Application Received: 12/20/2005
Authorized: 4/28/2006
Committed: 1/26/2007

Board Meeting Date: 12/6/2018

Board Member: Charles Holmgren
Project Manager: Todd Stonely

Summary: In 2005 the applicant requested financial assistance from the board to replace box culvert with pipe. Because of a required repair to its distribution system, the applicant's reserves will be significantly depleted. The applicant is therefore requesting that its annual payment to the board be delayed one year.

Recommendation: Staff recommends the board amend the existing agreement to state there will be no payment due in 2018 and that payments will resume in 2019, with the final payment due in 2033.

Project Contacts:

President:
Chris Milbank
1127 Lamplighter Dr.
River Heights, UT 84321
435-890-0996

Treasurer:
Steve Thunell
523 E. 400 S.
Logan, UT 84321
435-764-2751



Location

The proposed project is located in the south side of Logan in Cache County.

Project Summary

In December 2005 the applicant requested financial assistance from the board to replace approximately 900 feet of box culvert with 24- and 30-inch HDPE pipe. Work was completed in 2008 and the project has been providing efficient delivery of project water since then. The applicant is current on all payments to date and has a remaining balance of approximately \$125,300.

The applicant has recently experienced problems with its distribution system that require repairs of approximately \$18,600. This will substantially deplete the reserves that the applicant has accumulated and will make cash flow hard to manage in 2019. To ease this burden, the applicant is requesting that future annual payments on the project be delayed by one year.

Modification of Terms

The repayment terms of the original agreement were 0% interest over 25 years, with annual payments of \$8,300. The final payment would be due in 2032.

Staff recommends the board amend the existing agreement to state there will be no payment due in 2018 and that payments will resume in 2019, with the final payment due in 2033.

BOARD OF WATER RESOURCES
Special Item – Dam Safety - Additional Funds



Applicant: **North Utah County WCD**

Project Number: RC054
Fund: Revolving Construction Fund
Total Cost: \$2,175,000

Application Received: 7/21/2016
Authorized: 8/11/2016
Committed: 8/11/2016

Board Meeting Date: 12/6/2018

Board Member: Steve Farrell
Project Manager: Tom Cox

Project Summary: The purpose of the project is to complete the work necessary to bring Grove Creek Dam up to dam safety minimum standards.

Recommendation: Staff recommends the board commit an additional \$47,000 in dam safety grant funds, and amend the funding contract to state the board will provide 31.5% of the project construction cost up to \$685,000

Project Contacts:

Chairman:
Hunt Willoughby
75 N. Center St.
American Fork, UT 84003
801-420-2797

Secretary:
Ron Stewart
190 W. 800 N.
Provo, UT 84601
801-377-5300

Engineer:
RB&G Engineering
1435 West 820 North
Provo, UT 84601
801-374-5771



Location

The proposed project is located on the eastern boundary of Pleasant Grove City in Utah County.

Project Summary

The board committed dam safety grant funds in August 2016 for the upgrade of Grove Creek Dam. Work is proceeding and is expected to be finished by the end of the year. Necessary changes and the decision by the applicant to include an additional control valve in the project has increased the project cost. The applicant is requesting additional funds to provide a contingency as final work quantities are determined.

Cost Estimate & Sharing

The project cost estimate has increased by \$47,000, from \$638,000 to \$685,000. The committed and proposed cost sharing are:

Agency	Committed Cost Sharing	% of Total	Proposed Cost Sharing	% of Total
BWRe – Grant	\$638,000	31.5%	\$685,000	31.5%
NRCS - Grant	1,316,000	65.0	1,414,000	65.0
Applicant	71,000	3.5	76,000	3.5
TOTAL	\$2,025,000	100%	\$2,175,000	100%

Staff recommends the board commit an additional \$47,000 in dam safety grant funds, and amend the funding contract to state the board will provide 31.5% of the project construction cost up to \$685,000.

Applicant: **Rockville Town Ditch Company**

Project Number: E313

Fund: Revolving Construction Fund

Application Received: 4/30/2012

Authorized: 8/9/2012

Board Meeting Date: 12/6/2018

Project Manager: Tom Cox

Project Contacts:

President:
Bernie Harris
P.O. Box 630216
Rockville, UT 84763
435-668-3907

Location

The proposed project is located three miles east of Rockville in Washington County.

Summary

In April 2012 the applicant requested financial assistance from the board to replace its desilting structure, modify a splitter structure and make some improvements to its transmission pipeline. It has made some pipeline improvements on its own and is not ready to do the desilting and splitter structures work at this time.

Staff therefore recommends the project be withdrawn from further consideration by the board.

Applicant: **Peoa South Bench Canal & Irrigation Company**

Project Number: RE417
Fund: Revolving Construction Fund
Cost Estimate: \$2,146,000

Application Received: 10/9/2018

Board Meeting Date: 12/6/2018

Board Member: Kyle Stephens
Project Manager: Jaqueline Pacheco

Project Contacts:

President:
Dave Lake
PO Box 32
Oakley, UT 84055
435-659-0003

Secretary:
Sam Turpin
1501 Stevens Lane
Peoa, UT 84061
801-913-9914

Engineer:
Brian Deeter - J-U-B Engineers
466 N. 900 W.
Kaysville, UT 84037
801-547-0393

Location

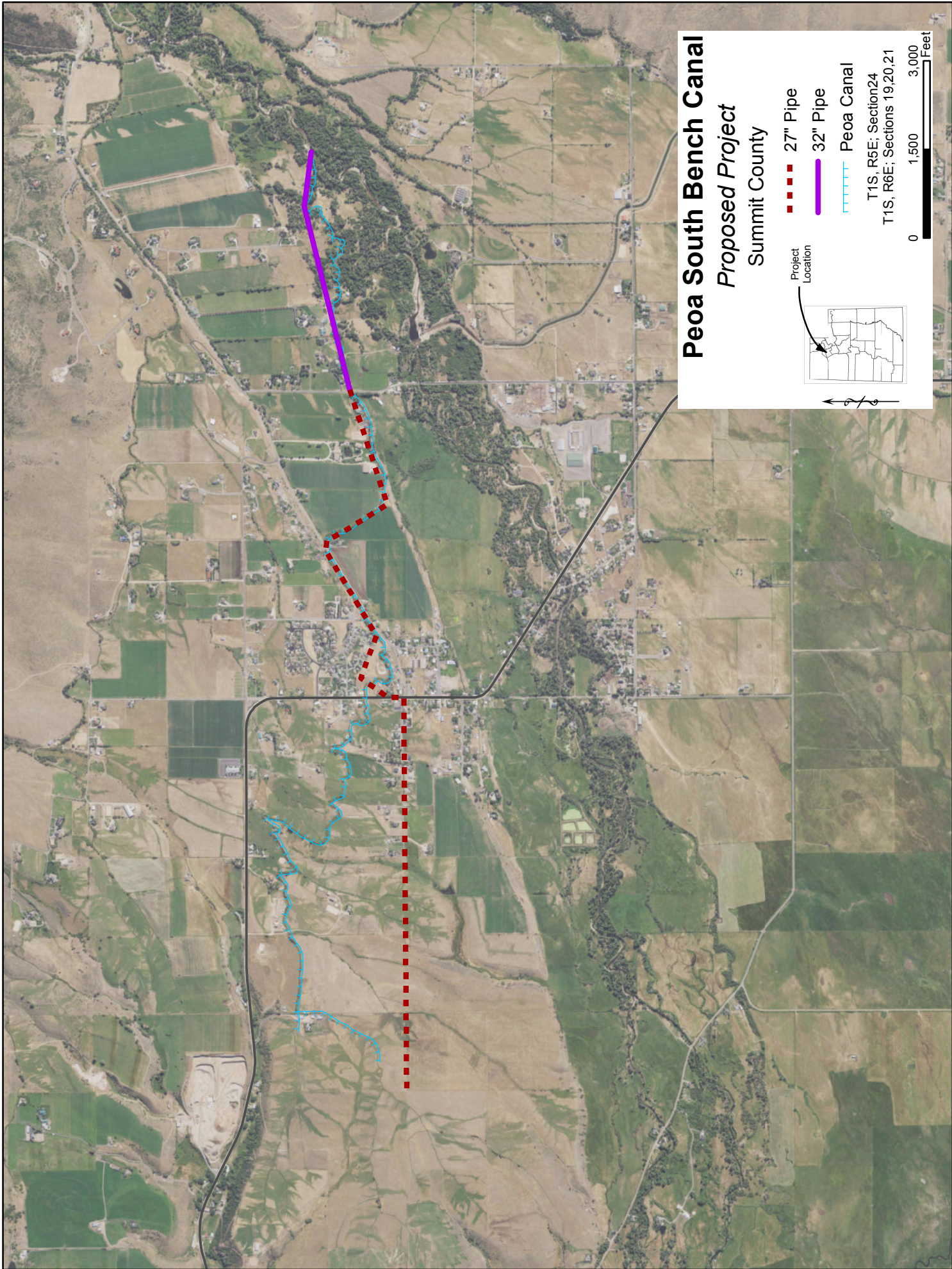
The proposed project is located near Oakley City in Summit County.

Proposed Project

The applicant is requesting financial assistance from the board to replace South Bench Canal with pipe and install other appurtenances.

Water Rights

- 35-8660

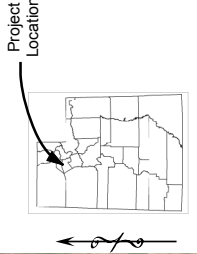


Peoa South Bench Canal

Proposed Project

Summit County

- 27" Pipe
- 32" Pipe
- Peoa Canal



T1S, R5E; Section 24
T1S, R6E; Sections 19, 20, 21

BOARD OF WATER RESOURCES
Application Summary



Applicant: **Mapleton Irrigation District & Company**

Project Number: RE418
Fund: Revolving Construction Fund
Cost Estimate: \$1,339,000

Application Received: 10/24/2018

Board Meeting Date: 12/6/2018

Board Member: Steve Farrell
Project Manager: Marisa Egbert

Project Contacts:

President:
Mike Miner
1290 W. 1600 S.
Mapleton, UT 84664
801-376-1454

Secondary Contact:
Patti Andreasen
PO Box 924
Springville, UT 84663
801-491-6264

Engineer:
Eric Franson - Franson Civil
1276 S. 820 E.
American Fork, UT 84003
801-756-0309

Location

The proposed project is located north and east of Mapleton in Utah County.

Proposed Project

The applicant is requesting financial assistance from the board to replace existing canal and pipe with new non-pressurized pipe and construct other appurtenances.

Water Rights

- 51-1003
- 51-1181
- 51-2046
- 51-5218
- 51-5219
- 51-5601
- 51-5602

BOARD OF WATER RESOURCES
Application Summary



Applicant: **Draper Irrigation Company**

Project Number: RE419
Fund: Conservation and Development Fund
Cost Estimate: \$4,135,000

Application Received: 11/6/2018

Board Meeting Date: 12/6/2018

Board Member: Juliette Tennert
Project Manager: Tom Cox

Project Contacts:

President: Kent S Ware 12421 S. 800 E. Draper, UT 84020 801-571-2232	Secretary: George Greenwood 14241 S. 800 E. Draper, UT 84020 801-571-2232	Engineer: John Oldham Bowen Collins & Associates 154 E. 14075 S. Draper, UT 84020 801-495-2224
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Location

The proposed project is located in Draper and Sandy in Salt Lake County.

Proposed Project

The applicant is requesting financial assistance from the board to install 2,063 secondary system water meters and related appurtenances.

Water Rights

- 57-3410
- 57-10180
- 57-10181
- 57-10269
- 57-443

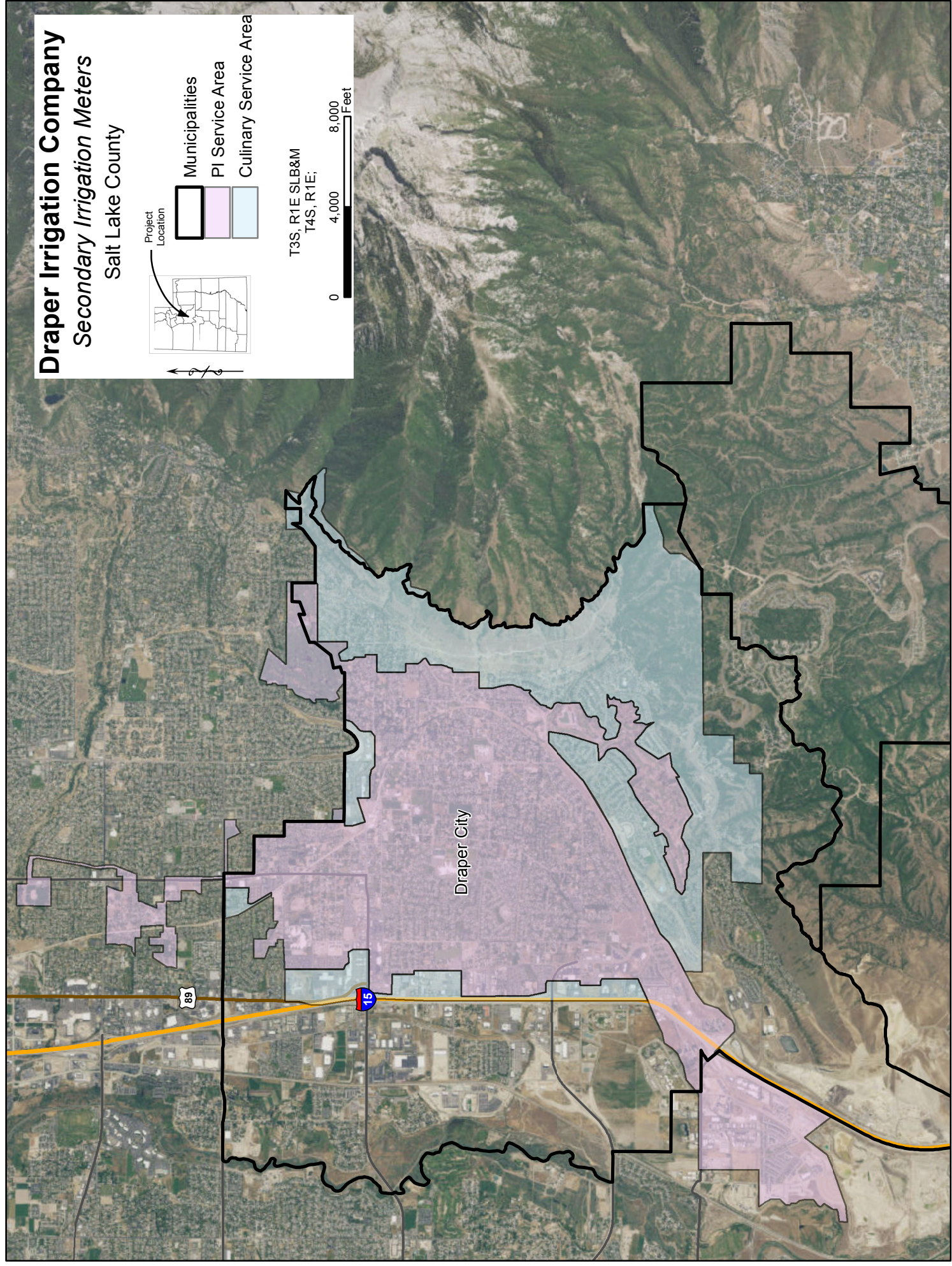
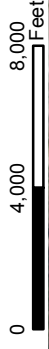
Draper Irrigation Company Secondary Irrigation Meters

Salt Lake County



- Municipalities
- PI Service Area
- Culinary Service Area

T3S, R1E SLB&M
T4S, R1E;



BOARD OF WATER RESOURCES

Application Summary



Applicant: **Bear River Canal Company**

Project Number: RE420
Fund: Revolving Construction Fund
Cost Estimate: \$750,000

Application Received: 11/20/2018

Board Meeting Date: 12/6/2018

Board Member: Charles Holmgren
Project Manager: Ben Marett

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 E., Ste. 180
Logan, UT 84321
435-713-9514

Location

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

Proposed Project

The applicant is requesting financial assistance from the board to install EPDM and cement liner in Hammond East Canal and add automation equipment to Lateral A.




Water Rights

- 29-2549
- 29-2725
- 29-2856
- 29-2857
- 29-2858
- 29-3321
- 29-4410
- Associated Right 23-3929

Bear River Canal Company Hammond East Canal

Liner Projects

Box Elder County

-  Automatic Gate
-  Existing Canal
-  Hammond East Canal



Project Location

T10N, R2W; Sections 4&9



Feet

