

**DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION LOAN**

APPLICANT'S REQUEST:

Ephraim City is requesting \$1,272,150 in financial assistance to drill and equip a new well, install a chlorinator, rehabilitate their existing well and install transmission lines. The cost of the project is estimated at \$1,422,905 and the City is contributing \$150,755 toward the project. This project is considered to be an emergency project, which scores 100 points on the project priority list.

STAFF COMMENTS:

Ephraim City's is currently supplied by spring water from the mountains east of the City. The existing springs are highly susceptible to drought conditions with flows dropping off dramatically during extended periods of drought. The water line that delivers water from the springs to the City is located on steep mountain terrain prone to landslides. The City has a single backup well to use in emergencies, however it has been experiencing fluctuating levels of arsenic that occasionally exceed the MCL for arsenic in drinking water. In addition, the well can only serve the lower pressure zone, with the springs supplying the upper zone.

The system has identified the need for a redundant well to resolve the current issues with capacity and high arsenic levels in the existing well. A booster pump is needed to pump water from the lower tank to the upper tank, in the event that the springs cannot deliver enough capacity. Utah Geological Survey has completed an aquifer feasibility study that has identified possible locations for a new well that would not have the same arsenic issues as the existing well.

The local MAGI for Ephraim City is approximately \$37,817, which is 85% of the state MAGI. The current average water bill is approximately \$51 per month, which is 1.61% of local MAGI. With a full loan of \$1,272,150 at 2.02% interest for 20 years, the anticipated water bill would be \$73.59/connection, which is 2.34% of the local MAGI. Based on this evaluation, Ephraim City qualifies for additional subsidization.

The following funding options were evaluated:

	Total Assistance	Grant	Loan	Interest Rate	Term	Avg. Water Bill	% Local MAGI
1	\$1,272,150	0	\$1,272,150	2.02%	20	\$73.59	2.34%
2	\$1,272,150	\$254,150	\$1,018,000	2.02%	20	\$72.62	2.30%
3	\$1,272,150	\$127,150	\$1,145,000	2.02%	20	\$73.11	2.32%
4	\$1,272,150	\$127,150	\$1,145,000	1.00%	20	\$72.69	2.31%

Based on the current availability of hardship grant funds, staff recommends option #4.

STAFF RECOMMENDATION:

Due to the emergency nature of the project, the Financial Assistance Committee did not review this project.

Staff recommends that the Drinking Water Board authorize a loan of \$1,272,150 at 1.0% interest/fee for 20 years with \$127,150 in principal forgiveness to Ephraim City. The repayable amount is \$1,145,000.

APPLICANT'S LOCATION:

Ephraim City is located in Sanpete County.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

New Well and Chlorinator: The existing springs are experiencing low flow from drought conditions. The only other source for the City is a well, which has high arsenic and only serves the lower pressure zone. A new well is needed to provide capacity as well as blending options with the existing well to ensure that the arsenic standards can always be met.

Existing Well Rehabilitation: The existing well has been experiencing a decrease in production, likely from biofouling.

Transmission Line: A transmission line will be installed connecting the new well to the lower tank.

Emergency Supply Water Line: A water line will be installed to connect the lower tank to the upper tank, along with a diesel powered pump to fill the upper tank in the case of an emergency. The upper tank is currently only supplied by the springs.

POPULATION GROWTH:

According to their application, the Ephraim City is expected to grow at an average annual rate of 3% over the next 20 years. Projected populations and number of connections are shown in the table below:

Year	Population	Connections
2020	7,948	1,987
2025	9,214	2,304
2030	10,682	2,670
2035	12,383	3,096
2040	14,356	3,589

IMPLEMENTATION SCHEDULE:

DWB Funding Authorization:	March 2018
Complete Design:	May 2018
Plan Approval:	April 2018
Advertise for Bids:	April 2018
Begin Construction:	May 2018
Complete Construction:	August 2018

COST ESTIMATE:

Legal – Bonding, Admin	\$25,000
Engineering- Plan, Design, CMS	\$170,000
Construction – new well, rehab existing	\$664,605
Construction – water line	\$425,700
Construction – treatment	\$15,000
Water Rights	\$10,000
Contingency	<u>\$112,600</u>
Total Project Cost	\$1,422,905

COST ALLOCATION:

The cost allocation proposed for the project is shown below:

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB Loan	\$1,145,000	81%
DWB Principal Forgiveness	\$127,150	9%
Self-Contribution	<u>\$150,755</u>	<u>10%</u>
Project Total:	\$1,422,905	100%

ESTIMATED ANNUAL COST OF WATER SERVICE:

Operation and Maintenance:	\$971,945.00
Existing DW Debt Service:	\$237,691.25
DDW Debt Service:	\$63,450.54
DDW Debt Reserve (10%):	\$6,345.05
Replacement Reserve Account (5%):	\$61,277.43
Annual Cost/ERC:	\$872.29
Monthly Cost/ERC:	\$72.69
Cost as % MAGI:	2.31%

CONTACT INFORMATION:

APPLICANT:

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DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Ephraim City
 COUNTY: Sanpete
 PROJECT DESCRIPTION: New well, chlorinator, transmission line

FUNDING SOURCE: Federal SRF

90 % Loan & 10 % P.F.

ESTIMATED POPULATION:	7,072	NO. OF CONNECTIONS:	1537 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$50.79 *			PROJECT TOTAL:	\$1,422,905
CURRENT % OF AGI:	1.61%	FINANCIAL PTS:	56	LOAN AMOUNT:	\$1,145,000
ESTIMATED MEDIAN AGI:	\$37,817			PRINC. FORGIVE.:	\$127,150
STATE AGI:	\$44,268			TOTAL REQUEST:	\$1,272,150
SYSTEM % OF STATE AGI:	85%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 3.92%		AFTER REPAYMENT PENALTY & POINTS 1.00%
SYSTEM				
ASSUMED LENGTH OF DEBT, YRS:	20	20		20
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	3.92%		1.00%
REQUIRED DEBT SERVICE:	\$57,250.00	\$83,655.36		\$63,450.54
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$5,725.00	\$8,365.54		\$6,345.05
ANNUAL NEW DEBT PER CONNECTION:	\$40.97	\$59.87		\$45.41
O & M + FUNDED DEPRECIATION:	\$971,945.00	\$971,945.00		\$971,945.00
OTHER DEBT + COVERAGE:	\$237,691.25	\$237,691.25		\$237,691.25
REPLACEMENT RESERVE ACCOUNT:	\$60,967.40	\$62,287.67		\$61,277.43
ANNUAL EXPENSES PER CONNECTION:	\$826.68	\$827.54		\$826.88
TOTAL SYSTEM EXPENSES	\$1,333,578.65	\$1,363,944.81		\$1,340,709.27
TAX REVENUE:	\$0.00	\$0.00		\$0.00
RESIDENCE				
MONTHLY NEEDED WATER BILL:	\$72.30	\$73.95		\$72.69
% OF ADJUSTED GROSS INCOME:	2.29%	2.35%		2.31%

* Equivalent Residential Connections

Ephraim City

PROPOSED BOND REPAYMENT SCHEDULE

90 % Loan & 10 % P.F.

PRINCIPAL	\$1,145,000.00	ANTICIPATED CLOSING DATE	01-Jun-18
INTEREST	1.00%	FIRST P&I PAYMENT DUE	01-Jan-19
TERM	20	REVENUE BOND	
NOMIN. PAYMENT	\$63,450.54	PRINC. FORGIVE.:	\$127,150.00

YEAR	BEGINNING BALANCE	DATE OF PAYMENT	PAYMENT	PRINCIPAL	INTEREST	ENDING BALANCE	PAYM NO.
2018	\$1,145,000.00		(\$4,770.83) *	\$0.00	(\$4,770.83)	\$1,145,000.00	0
2019	\$1,145,000.00		\$63,450.00	\$52,000.00	\$11,450.00	\$1,093,000.00	1
2020	\$1,093,000.00		\$63,930.00	\$53,000.00	\$10,930.00	\$1,040,000.00	2
2021	\$1,040,000.00		\$63,400.00	\$53,000.00	\$10,400.00	\$987,000.00	3
2022	\$987,000.00		\$63,870.00	\$54,000.00	\$9,870.00	\$933,000.00	4
2023	\$933,000.00		\$63,330.00	\$54,000.00	\$9,330.00	\$879,000.00	5
2024	\$879,000.00		\$63,790.00	\$55,000.00	\$8,790.00	\$824,000.00	6
2025	\$824,000.00		\$63,240.00	\$55,000.00	\$8,240.00	\$769,000.00	7
2026	\$769,000.00		\$63,690.00	\$56,000.00	\$7,690.00	\$713,000.00	8
2027	\$713,000.00		\$63,130.00	\$56,000.00	\$7,130.00	\$657,000.00	9
2028	\$657,000.00		\$63,570.00	\$57,000.00	\$6,570.00	\$600,000.00	10
2029	\$600,000.00		\$63,000.00	\$57,000.00	\$6,000.00	\$543,000.00	11
2030	\$543,000.00		\$63,430.00	\$58,000.00	\$5,430.00	\$485,000.00	12
2031	\$485,000.00		\$63,850.00	\$59,000.00	\$4,850.00	\$426,000.00	13
2032	\$426,000.00		\$63,260.00	\$59,000.00	\$4,260.00	\$367,000.00	14
2033	\$367,000.00		\$63,670.00	\$60,000.00	\$3,670.00	\$307,000.00	15
2034	\$307,000.00		\$63,070.00	\$60,000.00	\$3,070.00	\$247,000.00	16
2035	\$247,000.00		\$63,470.00	\$61,000.00	\$2,470.00	\$186,000.00	17
2036	\$186,000.00		\$62,860.00	\$61,000.00	\$1,860.00	\$125,000.00	18
2037	\$125,000.00		\$63,250.00	\$62,000.00	\$1,250.00	\$63,000.00	19
2038	\$63,000.00		\$63,630.00	\$63,000.00	\$630.00	\$0.00	20
			\$1,264,119.17	\$1,145,000.00	\$119,119.17		

*Interest Only Payment