

## MEMORANDUM

**To:** Town of Dolores  
Ken Charles, Town Manager

**From:** Catherine Carella, P.E.  
Project Manager

**Date:** May 18, 2023

**Re:** Waterline Upgrades Phase 2 Project Needs Assessment

SGM has been tasked with planning services as required by the Colorado Department of Public Health & Environment (CDPHE) State Revolving Fund (SRF) Loan program process for Phase 2 of the Town of Dolores (Town) water system upgrades as identified in their 2018 Water and Sewer Master Plan.

The goal of this work is to complete a Project Needs Assessment (PNA) per the SRF process to better understand the Town's eligible principal forgiveness, needed loan amount, loan interest rate, and needed water rate increase to meet loan coverage ratio and reserve requirements.

The Town's water system was originally constructed in the 1960's and is predominantly composed of ductile iron pipe. Overall the Town's transmission and distribution pipelines are in serviceable condition but are undersized to meet fire flows and were buried at too shallow of a depth in some locations. Existing available fire flows throughout the Town are poor due to low distribution system pressures, small diameter piping, and a lack of looped piping in some critical areas.

The Waterline Upgrades Phase 2 proposed improvements include:

- Installation of approximately 1,300 LF of new 8-inch C900 PVC pipe to connect dead end lines and eliminate sections of un-looped lines.
- Replacement of approximately 9,800 LF of aging 4-inch, 6-inch, and 8-inch lines with new 8-inch C900 PVC pipe.
- Replacement of all fire hydrants, water service lines to the meter, valves, and reconnections within the project area.

The estimated total project cost is \$4,670,000. An Engineer's Opinion of Probable Cost Breakdown is attached. The Town has been diligently seeking funding options for this important project. A summary of secured and estimated funding for the Waterline Upgrades Phase 2 project is as follows:

1. DOLA Energy/Mineral Impact Assistance Fund (EIAF) Planning Grant (awarded)	\$25,000
2. CDPHE Planning Grant (awarded)	\$10,000
3. CDPHE Design Engineering Grant (approved as eligible)	\$410,000
4. Congressionally Directed Spending (approved)	\$750,000
5. <u>DOLA EIAF Construction Grant (estimated, have not applied)</u>	<u>\$600,000</u>
<i>Subtotal Grants</i>	<i>\$1,795,000</i>
6. CDPHE State Revolving Fund Needed Loan Amount	\$2,875,000
<u>50% Loan Principal Forgiveness through BIL Program (approved)</u>	<u>\$1,437,500</u>
<i>Anticipated Loan Amount</i>	<i>\$1,437,500</i>

SGM has conducted a financial analysis of the proposed project. The Town's water fund is generally healthy. However, based on an example 30-year loan term and 3% interest rate, the proposed loan has a low debt coverage ratio and would create high community debt burden. The estimated yearly loan payment is \$73,334.45 for 30 years. To meet the loan's 110% debt coverage ratio requirement, additional annual revenue of approximately \$82,890 or \$12.35 per tap per month, would be necessary. See attached 20-Year Cash Flow Projection.

### **Conclusion**

If the Town moves forward with a \$1.44 million loan application, then the Town will be required to increase water rates as needed to meet loan coverage ratio and reserve requirements. The Town may change the water rate increases based on the actual loan amount after the project is completed. However, the Town is required to increase the water rates prior to the loan application based on estimated construction costs.

We are presenting the above and attached findings to prepare you for the next steps in this project loan application process. We plan to submit the attached financial analysis to CDPHE and DOLA for review. SGM and DOLA will analyze the Town's billing data and billing structure in more detail to understand the needed water rate increases to generate 20% more revenue.

The Bipartisan Infrastructure Law Program offers the Town an opportunity to receive 50% principal loan forgiveness. This offer is effective for a loan application received within 18 months from the date of the pre-qualification meeting, or by June 20, 2024. Time is of the essence to move forward with engineering design and other loan application requirements to meet the required timeline.

We look forward to presenting these analyses and finalizing the Waterline Upgrades Project Needs Assessment based on your valuable feedback.

### **Attachments:**

- A. Engineer's Opinion of Probable Cost: Waterline Phase 2 Project
- B. 20-Year Cash Flow Projection including Loan Payments for Waterline Phase 2

## Town of Dolores

Engineer's Opinion of Probable Costs

EOPC Level: 30% Design

Prepared by: Catherine Carella, PE

Date: April 20, 2023



### Ph. 2 Waterline Upgrades: 1st Street to 6th Street

Item Description	Unit	Quantity	Unit Cost	Estimated Costs
Mobilization (10%)	1	LS	10%	\$305,000.00
Construction Staking	1	LS	0.5%	\$16,000.00
Erosion Control/Stormwater Management	150	DAY	\$100.00	\$15,000.00
Traffic Control Management & Devices	150	DAY	\$100.00	\$15,000.00
6" Fire Hydrant Assembly incl. GV and feed line	28	EA	\$10,000.00	\$280,000.00
8" PVC C900 Dr14 Water Line, Fittings, and Gate Valves incl. Tracer Wire, Bedding, Cl. 6 Backfill, Min. 5-ft Cover	11,023	LF	\$215.00	\$2,369,945.00
3/4" HDPE Pure Core Water Service Lines. Incl. tracer wire, boring under sidewalks, Min. 3-ft cover, Assumes 30 LF per service connection.	4020	LF	\$60.00	\$241,200.00
Reconnect Existing 3/4" Services to New Main includes 3/4" Saddle Tap	134	EA	\$400.00	\$53,600.00
Connection to Existing Waterline. Includes water shutoff coordination, cut and abandon existing main, fittings to connect to existing system.	6	EA	\$6,000.00	\$36,000.00
Cross Over/Under Existing Sanitary Sewer or Storm Sewer within 18-In., Assume 3 CY Flow fill	14	EA	\$1,500.00	\$21,000.00
Gravel Replace 3" Depth	8,800	SY	\$10.00	\$88,000.00
Asphalt Replace 3" Depth	860	TON	\$300.00	\$258,000.00
Landscape Restoration (Backfill, Seed, Sod)	150	SY	\$48.00	\$7,200.00
<b>Sub Total</b>				<b>\$3,705,945.00</b>

<b>Planning, Subsurface Utility Engineering, Design Engineering</b>			10.0%	\$370,594.50
<b>Survey, Easements, Legal</b>			2.0%	\$74,118.90
<b>Construction Engineering</b>			2.0%	\$74,118.90
<b>Construction Contingency</b>			12.0%	\$444,713.40
<b>Total Cost</b>				<b>\$4,669,490.70</b>

#### NOTES:

- Unit prices used in developing this EOPC were based on recent, local projects by SGM.
- Contingency budget is for unanticipated costs during construction. Contingency is moderate because this is 30% Design level cost estimate.
- Unit prices and total costs were based on Present Value dollars, assuming project will occur in 2024. Adjustments should be made for years beyond this calendar year if actual construction occurs in a later year.
- This EOPC was prepared on the basis of SGM's experience and qualifications and represents SGM's judgment as a professional generally familiar with the industry. However, since SGM has no control over the cost of labor, materials, equipment, or services furnished by others, over contractor's methods of determining prices, or over competitive bidding or market conditions, SGM cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from SGM's EOPC.

**Town of Dolores**

Waterline Upgrades Phase 2 Project Financial Analysis

Prepared by: Scott Forrester, PE

Date: April 20, 2023

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
<b>Revenue</b>	\$353,540	\$364,146	\$436,975	\$450,085	\$508,596	\$523,854	\$539,569	\$555,756	\$572,429	\$572,429	\$589,602	\$589,602	\$607,290	\$607,290	\$625,509	\$625,509	\$644,274	\$644,274	\$663,602	\$663,602	\$683,510	\$683,510
<b>O&amp;M Expenses</b>	\$309,240	\$318,517	\$328,073	\$337,915	\$348,052	\$358,494	\$369,249	\$380,326	\$391,736	\$403,488	\$415,593	\$428,060	\$440,902	\$454,129	\$467,753	\$481,786	\$496,239	\$511,127	\$526,460	\$542,254	\$558,522	\$575,277
<b>Capital Outlay</b>	\$40,000				\$50,000		\$55,000		\$55,000		\$60,000		\$60,000		\$65,000		\$65,000		\$70,000		\$70,000	
<b>Debt Service (Existing)</b>	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$24,409	\$6,102							
<b>Debt Service (SRF Loan)</b>			\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334	\$73,334
<b>Water Fund Balance</b>	\$409,784	\$431,004	\$442,163	\$456,589	\$469,389	\$537,005	\$554,583	\$632,269	\$660,219	\$731,416	\$747,682	\$811,480	\$820,124	\$893,848	\$913,269	\$983,657	\$993,357	\$1,053,170	\$1,046,977	\$1,094,990	\$1,076,644	\$1,111,542
<b>Combined Expenses</b>	\$373,649	\$342,926	\$425,816	\$435,658	\$495,796	\$456,237	\$521,992	\$478,070	\$544,479	\$501,232	\$573,336	\$525,804	\$598,646	\$533,566	\$606,088	\$555,120	\$634,574	\$584,461	\$669,795	\$615,589	\$701,856	\$648,612
<b>Debt Service Coverage Ratio</b>	18%	187%	111%	115%	113%	169%	118%	179%	129%	173%	117%	165%	109%	193%	126%	196%	113%	182%	92%	165%	75%	148%
<b>Rate Increase</b>		3%	20%	3%	13%		3%	3%	3%		3%		3%		3%		3%		3%		3%	0%
<b>Water Base Rate</b>	\$33.34	\$34.34	\$41.21	\$42.44	\$47.96	\$49.40	\$50.88	\$52.41	\$53.98	\$53.98	\$55.60	\$55.60	\$57.27	\$57.27	\$58.99	\$58.99	\$60.76	\$60.76	\$62.58	\$62.58	\$64.46	\$64.46

Loan Terms	
<b>Phase 2 Project</b>	
Estimated Cost	\$4,669,490
DOLA Grant	\$600,000
CO Congress. Direct. Spending Grant	\$750,000
Design Engineering Cost	\$444,715
Forgiveness	50%
Anticipated Loan Amount	\$1,437,388
Term (Years)	30
Rate	3%
Yearly Payment	\$73,334.45
Min. Debt Service Ratio	110%

Phase 1 Project (Existing)	
Premium	\$275,000
Term (Years)	15
Rate	4%
Yearly Payment	\$24,733.80
Total Payout	\$371,007.04
Yearly Principal Payment	\$18,307.00
Yearly Interest Payment	\$6,102.00
Remaining Premium	\$239,294.00
Current Month	23

Water Service Rate		
<b>Existing 2023</b>		
Rate	In-Town	Out-of-Town
Base Rate - 5,000 gals.	\$33.34	\$46.85
5,001 to 10,000 gals.	\$3.00	\$4.50
10,001 - 20,000 gals.	\$4.00	\$6.00
> 20,000 gals.	\$5.00	\$7.50

3% Increase in 2024		
Rate	In-Town	Out-of-Town
Base Rate - 5,000 gals.	\$34.34	\$48.26
5,001 to 10,000 gals.	\$3.09	\$4.64
10,001 - 20,000 gals.	\$4.12	\$6.18
> 20,000 gals.	\$5.15	\$7.73

20% Increase in 2025		
Rate	In-Town	Out-of-Town
Base Rate - 5,000 gals.	\$41.21	\$57.91
5,001 to 10,000 gals.	\$3.71	\$5.56
10,001 - 20,000 gals.	\$4.94	\$7.42
> 20,000 gals.	\$6.18	\$9.27

