



Completed by: Les Major
 Department Head Review: Dan Hartman

Responsible Department: Public Works
 Fund: Water Fund #5

Project Name:	Utility Line Replacement - water				
Brief Description:	Replacement and rehabilitation of aging water distribution lines				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility Safety Issue
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☐ Equipment ☐ Vehicle ☐ Technology ☒ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs		768,700	952,400	912,500	949,000	987,000	1,026,400	1,067,500	1,110,200	1,154,600	1,200,800	10,129,100
On-Going Maintenance												-
Total Project Costs	-	768,700	952,400	912,500	949,000	987,000	1,026,400	1,067,500	1,110,200	1,154,600	1,200,800	10,129,100

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☐ Formal Proposal ☐ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☒ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Utility Line Replacement - water
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	The City of Golden owns 110.3 miles of water distribution mains with an expected life span of 75 years. In order to maintain the current system, approximately 1.5 miles of water main should be replaced each year. Since we have slightly over-invested in water mains in recent years, the cost estimate has been calculated based on replacing 1.4 miles of water main (90% of the goal) at current contract unit costs. Increased water quality complaints, main breaks and reduced flow are used as indicators for planning replacements. ROW costs associated with cutting newer streets also drive replacement of mains that may not need replacement today but will within the next five to 10 years. A reliable and safe water distribution system is expected by the residents of Golden and this type of project ensures that. This project will not change ongoing maintenance costs for the distribution system overall, but deferred investment would result in increases to maintenance.
Strategic Action Plan Success Factor(s):	Quality Services
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	The utility line replacement program assures that we have a reliable potable water distribution system and can provide quality public service of potable water.
List any obstacles for implementation	

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Theresa Worsham
 Department Head Review: Dan Hartman

Responsible Department: Public Works
 Fund: Water Fund #6

Project Name:	Hydroelectric Power Project				
Brief Description:	A feasibility study completed in 2018 (funded by a State grant) identified one or more hydroelectric projects to be sited at City reservoirs in Clear Creek County that could yield a significant source of renewable energy for the City.				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
New/Additional Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No New/Additional Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility/ Safety Issue
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☐ Equipment ☐ Vehicle ☐ Technology ☒ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs					250,000							250,000
On-Going Maintenance						1,000	1,000	1,000	1,000	1,000	1,000	6,000
Total Project Costs	-	-	-	-	250,000	1,000	1,000	1,000	1,000	1,000	1,000	256,000

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☐ Formal Proposal ☒ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☐ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate							10,000	10,000	10,000	10,000	10,000	50,000

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Hydroelectric Power Project
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	<p>In order to make progress on the City Council adopted renewable energy goals embodied in Resolutions 1793, 2330, and 2656, it will be necessary to pursue the implementation of significant renewable energy projects for city facilities. Council's stated goal is to achieve 50% of electricity from renewable sources. Hydroelectric power could yield a significant source of renewable energy for City operations. The feasibility study included identification of opportunities, economic analysis, conceptual design and permitting. The best opportunities for return on investment are at the Upper & Lower Urad and Guanella Reservoir locations. Preliminary estimates include \$250,000 for a 10kW turbine and associated pipe infrastructure. There may be opportunities for state grant funds to offset a portion of the costs and monthly revenue for the electricity generation.</p> <p>Revenues are dependent on both the utility offerings at the time of construction and the price paid per kWh of electricity generated. Because this turbine would not offset any COG electricity generation, but would sell energy to the Henderson Mine (nearest electric consumer) through a net metering agreement, the cost offset is minimal for the City. However, the energy produced would directly benefit the City's renewable energy goals and be counted toward the City's investment and progress. Due to financial feasibility determined from the feasibility study we have pushed this project back 5 years, to 2025.</p>
Strategic Action Plan Success Factor(s):	Active, Connected and Sustainable
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	<p>This project will help meet Golden's renewable energy goals.</p>
List any obstacles for implementation	<p>The Federal Energy Regulatory Commission (FERC) publishes rules on the process for activities within regulated bodies of water. The process to obtain permits may take longer than the estimated timeline proposed here.</p>

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Will Stambaugh
 Department Head Review: Anne Beierle

Responsible Department: Public Works
 Fund: Water Fund #8

Project Name:	Vidler Tunnel Improvements				
Brief Description:	Rebuild and Replace infrastructure including: collection points, pipelines, instrumentation, portals, and tunnel				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility Safety Issue
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☐ Equipment ☐ Vehicle ☐ Technology ☒ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs		325,000	375,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	1,900,000
On-Going Maintenance												-
Total Project Costs	-	325,000	375,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	1,900,000

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☐ Formal Proposal ☐ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☒ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Vidler Tunnel Improvements
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	<p>The Vidler collection system and diversion tunnel allows Golden to divert water from the Colorado River headwaters to Clear Creek for use at Fossil Trace and for other uses that require "Non-tributary" water. It is a vital part of Golden's water infrastructure. It consists of six collection points with six head gates that feed snowmelt into a pipeline. The pipeline is about 5000 feet long and carries the snowmelt across the Horseshoe basin. At the end of the pipeline is a flume that measures and controls the water before feeding it into the West Portal of a tunnel (Vidler Tunnel). The tunnel extends 1.4 miles (7400 feet) through a mountain, under the Continental Divide, and discharges the water into the headwaters of Clear Creek several miles above Georgetown. Once the water is in Clear Creek, it becomes available for Golden to use. This project will not change ongoing maintenance costs for the Vidler system overall, but deferred investment would result in increases to maintenance.</p> <p>In 2022 we will replace the remaining section of the collection system pipe, approximately 1,000 ft. and rebuild one collection point structure. Current market conditions for materials may require that we purchase materials in 2021 and install in 2022 as part of a multi year project. A transfer of \$75,000.00 from the 2022 Water Distribution Replacement Project to the Vidler Tunnel Improvements is reflected in the 2022 budget amount. This amount will be reimbursed in 2023 from the Vidler account. This project will increase the prorated share of the carriage fees to all Vidler water users.</p>
Strategic Action Plan Success Factor(s):	Quality Services
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	<p>Routine reinvestment in capital assets such as the Vidler Tunnel reduces long term costs and assures that we continue to have a reliable water supply so that we can provide potable water to the community.</p>
List any obstacles for implementation	

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Anne Beierle/Theresa Worsham
 Department Head Review: Dan Hartman

Responsible Department: Public Works
 Fund: Water Fund #9

Project Name:	Solar Photovoltaic Projects at Water Treatment Ponds				
Brief Description:	10-500kW of solar photovoltaic panels can generate electricity to meet 100% of the RV park and additional electricity needs for the City.				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
			x	water	
New/Additional Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No New/Additional Revenue Generated	
		X			
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
					X
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
					X
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
	X				
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
	X				
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
	X				
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility/ Safety Issue
				X	No
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
	X				
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
		X			
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
			X		
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	
	X				

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☐ Equipment ☐ Vehicle ☐ Technology ☒ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs					650,000							650,000
On-Going Maintenance												-
Total Project Costs	-	-	-	-	650,000	-	-	-	-	-	-	650,000

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☒ Formal Proposal ☐ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☐ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Solar Photovoltaic Projects at Water Treatment Ponds
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	<p>Ground-mounted and rooftop solar photovoltaic is the most cost-effective technology for renewable energy generation in Golden. The surface of the water treatment ponds presents an opportunity for newer floating solar technology and to integrate renewable energy into the water plant/RV park area as a means toward the City's 100% renewable energy goals (adopted by Resolution 2656). A small 30kW system (equivalent to 15% of the RV Park's annual electricity usage) as a pilot project to assess durability over a winter season is a reasonable first step. Pending success and additional data to ensure reliability, a system up to 500kW could be appropriate.</p> <p>Revenue generated would be dependent on the utility rebates offered at the time of construction. In general, solar rebates are declining, but total costs of equipment are also trending down, resulting in a similar or better payback period as other city solar projects. It is expected that overall monthly consumption (electricity bills) will decrease, offset by any loan payment for construction, and significant reduced costs after the payback period. The total system size would offset the entire electricity usage at the RV Park and some additional from the Water Treatment Plant.</p>
Strategic Action Plan Success Factor(s):	Active, Connected and Sustainable
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	This project will help meet Golden's renewable energy goals.
List any obstacles for implementation	All major projects at the water plant faces the challenge of doing the work while continuing to operate the plant and provide water. Work is scheduled based on potential impact and generally avoids high demand periods.

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Brynn Goe
 Department Head Review: Anne Beierle

Responsible Department: Public Works
 Fund: Water Fund #10

Project Name:	Water Treatment Plant Improvements - General				
Brief Description:	Capital replacement of components of the potable water plant to assure reliable operations and ongoing treatment of safe potable water for residents and businesses in the city				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
New/Additional Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No New/Additional Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility/ Safety Issue
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☐ Equipment ☐ Vehicle ☐ Technology ☒ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs		600,000	730,000	2,000,000	1,000,000	750,000	750,000	750,000	750,000	750,000	750,000	8,830,000
On-Going Maintenance												-
Total Project Costs	-	600,000	730,000	2,000,000	1,000,000	750,000	750,000	750,000	750,000	750,000	750,000	8,830,000

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☐ Formal Proposal ☒ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☐ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Water Treatment Plant Improvements - General
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	<p>Golden's water treatment plant provides safe, clean potable water to residents and businesses in the City of Golden. The water plant starts at the raw water ponds west of the plant and includes several processes, including oxidation, coagulation, flocculation, sedimentation, filtration, disinfection, and solids handling, controlled using state of the art process control. The oldest facilities at the plant date back to the 1950s and the plant has been updated and modified to meet demand and to improve the reliability and quality of water delivered to the system. Capital replacement projects at the plant are identified and planned based on age of facility, life cycle of equipment, reliability and regulatory changes.</p> <p>The reclaim basin is a single underground tank at the water treatment plant that holds approximately 500,000 gallons of water. The reclaim basin acts as a flow equalization basin for the water treatment plant and plays a crucial role in recycling water back to the raw water holding ponds rather than sending any water to the sewer system unnecessarily. The reclaim basin was part of the 1991 upgrade and plant expansion project. The equipment in the reclaim basin, such as the residuals collectors, piping, valves and pumps are reaching the end of their useful life and some parts will soon be obsolete. The reclaim project for 2022 will replace these components with updated equipment which will allow for longer life and easier operations of the basin. If the sludge collection system and sludge pumps are not replaced, it will make it impossible to keep residuals from building up in the reclaim basin. Once the basin gets full, the water quality leaving the basin will change and a large cost will be associated with having to pump the residuals from the basin. This would also eliminate the option for the residuals to be dewatered using existing equipment at the WTP.</p>
Strategic Action Plan Success Factor(s):	Quality Services
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	<p>Routine reinvestment in capital assets such as the water treatment plant reduces long term costs and assures that we continue to reliably provide potable water to the community.</p>
List any obstacles for implementation	<p>All major maintenance at the water plant faces the challenge of doing the work while continuing to operate the plant and provide water. Work is scheduled based on potential impact and generally avoids high demand periods.</p>

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Brynn Goe
 Department Head Review: Anne Beierle

Responsible Department: Public Works
 Fund: Water Fund #10

Project Name:	Water Treatment Plant Security Updates				
Brief Description:	Addition of physical security measures such as cameras, glass protection, outdoor lighting and additional alarms on doors to buildings that house critical infrastructure.				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
New/Additional Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No New/Additional Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility/ Safety Issue
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☒ Equipment ☐ Vehicle ☐ Technology ☐ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs		50,000										50,000
On-Going Maintenance												-
Total Project Costs	-	50,000	-	-	-	-	-	-	-	-	-	50,000

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☐ Formal Proposal ☒ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☐ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Water Treatment Plant Security Updates
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	Cybersecurity and physical security are important to operator safety as well as equipment and communication reliability. Per the 2018 American Water Infrastructure Act, utilities are required to do a thorough assessment of the cyber and physical security of their facilities. These assessments were completed for the City's water treatment plant in June 2020. Based on recommendations from the assessments, additional security measures should be taken. After prioritizing the recommendations, the conclusion was that additional security cameras, lighting, glass coatings (doors and some wall space) and additional alarms will need to be added at the water treatment plant. The security upgrades mostly fall under equipment as the capital expenditure category, but can also include technology (camera operating system and alarm notification system) as well as building improvements (glass protection coatings). The new cameras will be added to the video management system purchased by the IT department to manage the clear creek cameras. Additional alarms will be added using systems already in place. There will not be a significant on-going maintenance cost to maintain and monitor the additional security measures put in place. By not adding some of the security measures identified during the risk and resilience assessment, the water treatment plant and water plant operators will be less secure from outside acts of terrorism on the water treatment plant.
Strategic Action Plan Success Factor(s):	Quality Services
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	Routine reinvestment in capital assets such as the water treatment plant reduces long term costs and assures that we continue to reliably provide potable water to the community.
List any obstacles for implementation	All major maintenance at the water plant faces the challenge of doing the work while continuing to operate the plant and provide water. Adding additional cameras and alarms around the plant will involve integrating the equipment into existing PLC cabinets. If a PLC needs to be taken off line to tie in new equipment, the plant may need to be shut down. Installation of most security upgrade components can be added with little to no impact on plant operations.

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Brynn Goe
 Department Head Review: Anne Beierle

Responsible Department: Public Works
 Fund: Water Fund #10

Project Name:	Water Quality/Plant Improvements - PLC replacement				
Brief Description:	Replacement of Programmable Logic Controllers (PLCs) used for automation at the water treatment plant, pump stations and tanks.				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
New/Additional Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No New/Additional Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility/ Safety Issue No
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☐ Equipment ☐ Vehicle ☐ Technology ☒ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs		100,000	100,000	100,000	100,000							400,000
On-Going Maintenance												-
Total Project Costs	-	100,000	100,000	100,000	100,000	-	-	-	-	-	-	400,000

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☐ Formal Proposal ☐ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☒ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Water Quality/Plant Improvements - PLC replacement
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	Operation of Golden's water treatment plant has been automated using a control system and PLCs that control individual components of the plant such as pumps, valves and chemical feeders. PLCs are essentially small programmable computers that communicate with a central control system. The potable treatment plant and distribution system contains dozens and dozens of individual PLCs. As with all technology, PLCs are quickly outdated. In the past we have replaced all the PLCs at once in a comprehensive program. Doing the upgrades in this manner is expensive and presents challenges for continuous operation of the plant. This multi-year replacement program spreads the project over several years. This project is necessary to assure continued, reliable, uninterrupted operations of the water plant. This project will not change ongoing maintenance costs for the water plant overall, but deferred investment would result in increases to maintenance. In 2018, funds were used to complete a comprehensive PLC and SCADA system inventory to better plan for the changes in technology and cost associated with PLC upgrades. In 2019, funds were used to complete an updated SCADA masterplan. As of 2020, there is a total of 33 PLC's in the water plant and distribution system. Each unit has a life expectancy of 8-10 years and the cost to replace a single unit (including hardware and labor) is approximately \$22,000. The number of individual PLC units will also increase as time goes on and more of the plant and distribution system becomes further automated. New regulatory instrumentation at the water plant and in the distribution system will also add to the number of PLC units as instrumentation becomes more automated and communicates better with our SCADA system.
Strategic Action Plan Success Factor(s):	Quality Services
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	Routine reinvestment in capital assets such as the control system at the water treatment plant reduces long term costs and assures that we continue to reliably provide potable water to the community.
List any obstacles for implementation	All major maintenance at the water plant faces the challenge of doing the work while continuing to operate the plant and provide water. When a PLC needs to be taken off line for replacement, the plant may need to be shut down. Work is scheduled based on potential impact and generally avoids high demand periods.

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Brynn Goe
 Department Head Review: Anne Beierle

Responsible Department: Public Works
 Fund: Water Fund #10

Project Name:	Water Treatment Plant - Fire Resiliency				
Brief Description:	Upgrades to improve facility resiliency and treated water quality under challenging source water conditions resulting from a forest fire event within the watershed.				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
New/Additional Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No New/Additional Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility/ Safety Issue
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☒ Equipment ☐ Vehicle ☐ Technology ☒ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs		300,000	300,000									600,000
On-Going Maintenance				93,000		93,000		93,000		93,000		372,000
Total Project Costs	-	300,000	300,000	93,000	-	93,000	-	93,000	-	93,000	-	972,000

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☐ Formal Proposal ☒ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☐ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Water Treatment Plant - Fire Resiliency
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	After the wildfire seasons in 2019 and 2020, it has become clear that water plants need to prepare for the possibility that source water will be impacted by wildfire. Golden is active in efforts to protect the watershed and water supply, but these projects are implemented over many years and only reduce, not eliminate, the risk of wildfire. This project makes it possible to treat water that has been impacted by wildfire in the upper Clear Creek Basin. The water treatment plant draws water from Clear Creek, which is a heavily forested mountainous, dry watershed that has been highly impacted by the Mountain Pine Beetle epidemic. Clear Creek is the only water source for Golden and is either treated in the water treatment plant or conveyed in the non-potable irrigation system. Golden does not have the option to use a different water supply if Clear Creek is compromised by fire. Anticipated water quality impacts that can take place following a wildfire event in the clear creek watershed are: increased turbidity, increased organic carbon, increased heavy metals, increase in alkalinity and pH, increase in radionuclides, and increased nutrient loading. The current process at the water treatment plant is not set up to effectively treat raw water impacted by wildfire. Even if plant flow could be reduced and slowed to try to achieve higher removal to be safe to drink, the treated water would likely have taste and odor issues. Infrastructure and additional or alternative treatments would be needed to treat this water. Most either have long lead times or cannot address taste and odor concerns. Based on engineering assessments, the most cost effective first step in moving the water treatment plant towards being able to treat the effected water is to replace the current filter media from anthracite and sand to granular activated carbon. The granular activated carbon (GAC) will help in the removal of organics, taste, odor, color, metals, radionuclides and turbidity. GAC will improve water quality from the plant under normal conditions, but is only necessary to meet drinking water standards if the watershed is impacted by wildfire.
Strategic Action Plan Success Factor(s):	Quality Services
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	The water utility has identified an upstream wildfire as a risk to our ability to provide potable water to the community. This risk is high enough that this project has been proposed to assure that the water plant has the treatment methods necessary to treat a water supply that has been contaminated as a result of a wildfire and assure that we can provide continuous quality service and potable water to the community.
List any obstacles for implementation	All major projects at the water plant faces the challenge of doing the work while continuing to operate the plant and provide water. Work is scheduled based on potential impact and generally avoids high demand periods.

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Will Stambaugh
 Department Head Review: Anne Beierle

Responsible Department: Public Works
 Fund: Water Fund #11

Project Name:	Pump Station Improvements				
Brief Description:	Pump Station equipment and facilities rehabilitation and replacement				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
New/Additional Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No New/Additional Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility/ Safety Issue
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☐ Equipment ☐ Vehicle ☐ Technology ☒ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs		67,500	70,200	73,000	75,900	79,000	82,100	85,400	88,800	92,400	96,100	810,400
On-Going Maintenance												-
Total Project Costs	-	67,500	70,200	73,000	75,900	79,000	82,100	85,400	88,800	92,400	96,100	810,400

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☐ Formal Proposal ☐ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☒ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Pump Station Improvements
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	Golden has nine pump stations that are essential components of Golden's water infrastructure. Gravity is used to maintain water pressure throughout the city by storing water in tanks at different elevations. The water treatment plant on Clear Creek is at an elevation of about 5700 feet. Finished water is pumped from the plant to tanks at an elevation of 6000 feet, then pumped up to tanks at elevations of 6130, 6170, 6200 and 6260 feet, then finally to tanks at an elevation of 6400 feet. The pump stations also provide pumped non-potable irrigation and pumped diversions from Clear Creek. Included in the Pump Station infrastructure are four automated control valves and the bulk water station, plus nine pressure reducing valves which are not automated. This project will not change ongoing maintenance costs for pump stations overall, but deferred investment would result in increases to maintenance. 2022 projects include pump and motor rebuild/upgrades at the seasonal pump station and Welch Ditch pump station.
Strategic Action Plan Success Factor(s):	Quality Services
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	Routine reinvestment in capital assets such as the pump stations reduces long term costs and assures that we continue to reliably provide potable water to the community.
List any obstacles for implementation	

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Les Major
 Department Head Review: Anne Beierle

Responsible Department: Public Works
 Fund: Water Fund #12

Project Name:	Storage Tank Improvements				
Brief Description:	Replace existing interior and exterior coatings on potable water tanks				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
New/Additional Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No New/Additional Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility/ Safety Issue
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☐ Equipment ☐ Vehicle ☐ Technology ☒ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs		300,000	100,000	100,000								500,000
On-Going Maintenance												-
Total Project Costs	-	300,000	100,000	100,000	-	-	-	-	-	-	-	500,000

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☒ Formal Proposal ☐ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☐ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Storage Tank Improvements
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	The City of Golden owns ten tanks that serve as potable water storage for the citizens of Golden. Five tanks are above ground steel tanks with an expected life of 70-80 years. Five are concrete tanks with an expected life of 100+ years. Repainting the steel tanks with new polymer based coatings will extend the life of the existing structures and ensure good water quality for the next 20 plus years. This project will not change ongoing maintenance costs for storage tanks overall, but deferred investment would result in increases to maintenance. 2022 Projects include Rimrock tank interior piping coating, ladder replacement and circulation improvements.
Strategic Action Plan Success Factor(s):	Quality Services
Describe how this project connects to and supports Strategic Action Plan success factor(s) identified above.	Routine reinvestment in capital assets such as water storage tanks reduces long term costs and assures that we continue to reliably provide potable water to the community.
List any obstacles for implementation	

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	



Completed by: Anne Beierle
 Department Head Review: Dan Hartman

Responsible Department: Public Works
 Fund: Water Fund #13

Project Name:	Meter System Upgrde - Water Meter Replacement				
Brief Description:	Replace water meters that are approaching their 20 year design life and were not replaced as part of the 2016 replacement program				
Funding Source	Existing Grant Funds Identified for Project	Potential Grant Funds Identified	Funds Identified From Capital Project Fund	Funds Identified From Other Fund (Name)	No Identified Funding
New/Additional Revenue Generated	Significant Ongoing Revenue Source	Small Ongoing Revenue Source	One-Time Revenue Generated	No New/Additional Revenue Generated	
Legally Mandated	Court Decision	Regulatory Requirement	Pending Legal Action	Potential Legal Action	Normal Liability
Public Health & Safety	Existing Severe Hazard	Existing Minor Hazard	Potential Severe Hazard	Potential Minor Hazard	No Health or Safety Issue
Operating Budget Impact	Decreases Operating and/or Personnel Costs	Minimal or No Impact on Operating and/or Personnel Costs	Slight Increase to Operating and/or Personnel Costs	Significant Increase to Operating and/or Personnel Costs	
Environment and Sustainability	Enhances Environment and/or Sustainability	Benefits Environment and/or Sustainability	No Environmental Impact	Minor or Negative Environmental Impact	Diminishes Environment
% Of Population Served	100% of Population Served by Project	Majority of Population Served	Approximately 50% of Population Served	Less than 50% of the Population Served	
Preservation of Facility	Loss of Facility Imminent without Project Completion	Additional Damage Likely without Project Completion	Project Constitutes Normal Major Maintenance	Project Constitutes Normal Minor Maintenance	New Facility/ Safety Issue No
Project Useful Life	20+ Years With Little/No Maintenance	20+ Years With Normal Maintenance	10-20 Years With Normal Maintenance	5-9 Years with Normal Maintenance	1-4 Years with Normal Maintenance
Conformity to Strategic Plans & Department Goals	Critical to accomplishing Established Plans / Goals	Assists in Accomplishing Established Plans / Goals	Will Not Assist or Will Hinder Accomplishing Plans / Goals	Recommended by City Council	Recommended by Staff
Recreational or Aesthetic Value	Major Value	Moderate value	No Value	Possibly Detrimental	
Estimated Frequency of Use	Every Day	Several Times per Week	Several Times per Month	Once per Month or Less	

Vision 2030 Guiding Principles Priority - (Choose One Best Fit)

☒ (A) Safe and Reliable Public Infrastructure ☐ (B) Economic Vitality and Community Amenities that Improve Quality of Life ☐ (C) Public Safety ☐ (D) Other

Category of Capital Expenditures - (Choose One Best Fit)

☐ Land Improvement ☐ Building Improvement ☐ Equipment ☐ Vehicle ☐ Technology ☐ Infrastructure

Financial Impact - Expenses

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Project Costs			100,000	100,000	100,000	100,000	100,000					500,000
On-Going Maintenance												-
Total Project Costs	-	-	100,000	100,000	100,000	100,000	100,000	-	-	-	-	500,000

*Life-to-date includes any actual expenditures from start of project through July 2021 and estimates for the remainder of FY 2021

Basis for Project Cost Estimate

☐ Formal Proposal ☐ Contractor/Engineer Estimate ☐ State Purchasing Co-Op ☒ Staff Estimate

Financial Impact - Revenues

	Life-To-Date*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Revenue Estimate												-

*Life-to-date includes any actual revenue generated from start of project through July 2021 and estimates for the remainder of FY 2021

Project Name:	Meter System Upgrde - Water Meter Replacement
Please provide details for the following: 1. Project Description 2. Justification 3. Measure of Success 4. Description of Revenue Generated (if applicable)	Replace meters that were in stalled after January 1, 2006 and before January 1 2016. Mechanical meters lose accuracy as the age which results in lost revenue. Replacing these meters before they fail will result in a more even revenue stream and avoid increasing maintenance costs associated with failing or stopped meters. In the past we have replaced all of the meters at once in a comprehensive program. Upgrading meters in this manner is expensive and leads to challenges in data quality control and billing. A multi year approach will allow for better data quality control and ensure billing needs are met in a timely manner. The project will not change ongoing maintenance costs, but deferred investment would result in increases to maintenance. This is a five year campaign.
Strategic Action Plan Success Factor(s):	Quality Services
Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.	Accurate water meters assure that we bill correctly and continue to provide quality public services in the delivery of potable water to the community.
List any obstacles for implementation	

Finance Use Only

	Date
Received by Finance Department	
Reviewed by City Manager:	