



Utilities

Guiding Principles

- Maintain existing underground utility infrastructure in acceptable condition
- Upgrade or provide new underground utility infrastructure to meet future community needs

Guiding Plans

- Official Community Plan
- City of Victoria Strategic Plan
- Water System Master Plan
- Stormwater Master Plan
- Sanitary Sewer Master Plan
- Condition Assessment Reports

CURRENT STATUS of Our Community's Assets

Area	What We Have	% In Poor Condition	What We Renewed 2017 – 2021	What We Added 2017 – 2021
Waterworks	<ul style="list-style-type: none"> • 349 km of water mains¹ • 1 pump station • 1,806 fire hydrants • 10 PRV stations 	<ul style="list-style-type: none"> • 19% 	<ul style="list-style-type: none"> • 10.7 km 	<ul style="list-style-type: none"> • 3.0 km of water main
Sanitary Sewers	<ul style="list-style-type: none"> • 237 km of sanitary mains • 11 pump stations 	<ul style="list-style-type: none"> • 10% 	<ul style="list-style-type: none"> • 13.8 km 	<ul style="list-style-type: none"> • 2.6 km of sanitary main
Stormwater	<ul style="list-style-type: none"> • 260 km of storm drain mains • 4 pump stations • 7,216 catch basins 	<ul style="list-style-type: none"> • 10% 	<ul style="list-style-type: none"> • 10.6 km 	<ul style="list-style-type: none"> • 1.0 km of storm drain main • 316 catch basins
Water Connections	<ul style="list-style-type: none"> • 20,883² 	<ul style="list-style-type: none"> • 19% 	<ul style="list-style-type: none"> • 177 	<ul style="list-style-type: none"> • 27 water services
Sewer Connections	<ul style="list-style-type: none"> • 13,775 	<ul style="list-style-type: none"> • 10% 	<ul style="list-style-type: none"> • 215 	<ul style="list-style-type: none"> • 40 sanitary connections
Storm Connections	<ul style="list-style-type: none"> • 10,767 	<ul style="list-style-type: none"> • 10% 	<ul style="list-style-type: none"> • 179 	<ul style="list-style-type: none"> • 13 storm connections

¹ Includes Esquimalt

² Includes Esquimalt. Based on water meter numbers.

INVESTING
in Our Community’s Future (2023 – 2025)

Area	Today’s City (Renewal): Renewal: \$63.654m	Tomorrow’s City (New): New Infrastructure: TBD
Waterworks	<ul style="list-style-type: none">• Replace/Rehab of Water Mains: \$6.117m in 2023, \$6.564m in 2024, and \$6.601m in 2025	<ul style="list-style-type: none">• N/A
Sanitary Sewers	<ul style="list-style-type: none">• Replace/Rehab of Sanitary Sewers: \$7.826m in 2023, \$8.065m in 2024, and \$8.087m in 2025	<ul style="list-style-type: none">• N/A
Stormwater	<ul style="list-style-type: none">• Replace/Rehab of Storm Drains: \$6.788m in 2023, \$6.738m in 2024, and \$6.970m in 2025	<ul style="list-style-type: none">• N/A

Capital Summary

Project Name	2023	2024	2025	2026	2027	2028 – 2042	Total
Waterworks							
New Services	550,000	550,000	550,000	550,000	550,000	8,250,000	11,000,000
Mains Replacement	5,463,000	5,718,000	6,004,000	6,303,000	6,618,000	129,106,000	159,212,000
System Planning & Assessment	0	250,000	0	0	0	1,050,000	1,300,000
Capital Equipment	104,000	46,000	47,000	48,000	49,000	855,000	1,149,000
Waterworks Total	6,117,000	6,564,000	6,601,000	6,901,000	7,217,000	139,261,000	172,661,000
Sanitary Sewers							
New Services	300,000	300,000	300,000	300,000	300,000	4,500,000	6,000,000
Mains Replacement	2,429,000	2,550,000	2,678,000	2,812,000	2,953,000	66,934,000	80,356,000
Inflow & Infiltration	1,379,000	1,449,000	1,522,000	1,597,000	1,678,000	38,018,000	45,643,000
System Planning	0	250,000	0	0	0	1,050,000	1,300,000
System Assessment	276,000	282,000	288,000	294,000	300,000	5,301,000	6,741,000
System Upgrades	3,153,000	3,216,000	3,280,000	3,346,000	3,413,000	32,863,000	49,271,000
Capital Equipment	289,000	18,000	19,000	20,000	21,000	435,000	802,000
Sanitary Sewers Total	7,826,000	8,065,000	8,087,000	8,369,000	8,665,000	149,101,000	190,113,000
Stormwater							
New Services	300,000	300,000	300,000	300,000	300,000	4,500,000	6,000,000
Stormwater Quality	323,000	329,000	336,000	343,000	350,000	6,171,000	7,852,000
Mains Replacement	3,396,000	3,566,000	3,744,000	3,931,000	4,128,000	87,313,000	106,078,000
Brick Main Rehabilitation	2,234,000	2,279,000	2,325,000	2,372,000	2,419,000	42,643,000	54,272,000
System Planning & Assessment	250,000	250,000	250,000	470,000	250,000	4,470,000	5,940,000
Capital Equipment	285,000	14,000	15,000	16,000	17,000	375,000	722,000
Stormwater Total	6,788,000	6,738,000	6,970,000	7,432,000	7,464,000	145,472,000	180,864,000

Project Summary

Project Number: ENG-076
Project Title: New Services

Budget Year: 2023
Business Unit: 10010

Overview:

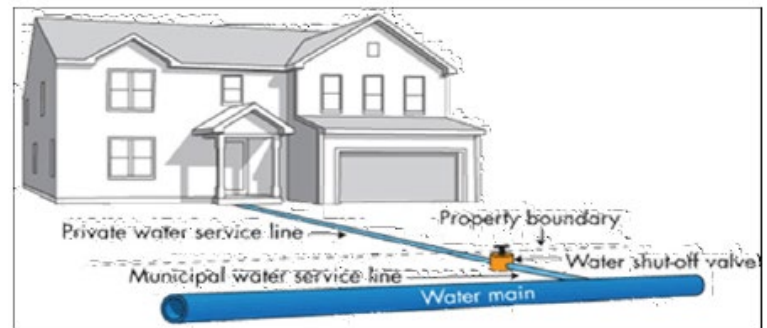
To install water service connections as requested by residents, businesses, and commercial/institutional properties.

Deliverables:

- Water service connections for applicants (residents, businesses, institutions)

Project Forecast

Year	Total Expense
2023	550,000
2024	550,000
2025	550,000
2026	550,000
2027	550,000
2028	550,000
2029	550,000
2030	550,000
2031	550,000
2032	550,000
2033	550,000
2034	550,000
2035	550,000
2036	550,000
2037	550,000
2038	550,000
2039	550,000
2040	550,000
2041	550,000
2042	550,000
	11,000,000



Project Summary

Project Number:	ENG-078	Budget Year:	2023
Project Title:	Mains Replacement	Business Unit:	10030

Overview:

To replace and upgrade water system infrastructure which has been identified as a system deficiency, having inadequate capacity, or has reached the end of its service life. Rehabilitation efforts include extending the life of existing infrastructure that is nearing the end of its service life or is in need of repair.

Deliverables:

- Watermains replacement program
- Prior to Paving program
- Watermains lining program
- System component funding
- Disaster Mitigation and Adaption Fund (DMAF) grant projects
- 2024 Projects design

**Project
Forecast**

Year	Total Expense	Grants	Net City Funding
2023	5,463,000	542,000	4,921,000
2024	5,718,000	795,000	4,923,000
2025	6,004,000	835,000	5,169,000
2026	6,303,000	876,000	5,427,000
2027	6,618,000	920,000	5,698,000
2028	5,983,000	-	5,983,000
2029	6,282,000	-	6,282,000
2030	6,596,000	-	6,596,000
2031	6,926,000	-	6,926,000
2032	7,272,000	-	7,272,000
2033	7,636,000	-	7,636,000
2034	8,018,000	-	8,018,000
2035	8,419,000	-	8,419,000
2036	8,840,000	-	8,840,000
2037	9,282,000	-	9,282,000
2038	9,746,000	-	9,746,000
2039	10,233,000	-	10,233,000
2040	10,745,000	-	10,745,000
2041	11,282,000	-	11,282,000
2042	11,846,000	-	11,846,000
	159,212,000	3,968,000	155,244,000



Project Summary

Project Number: ENG-077

Budget Year: 2023

Project Title: System Planning & Assessment

Business Unit: 10031

Overview:

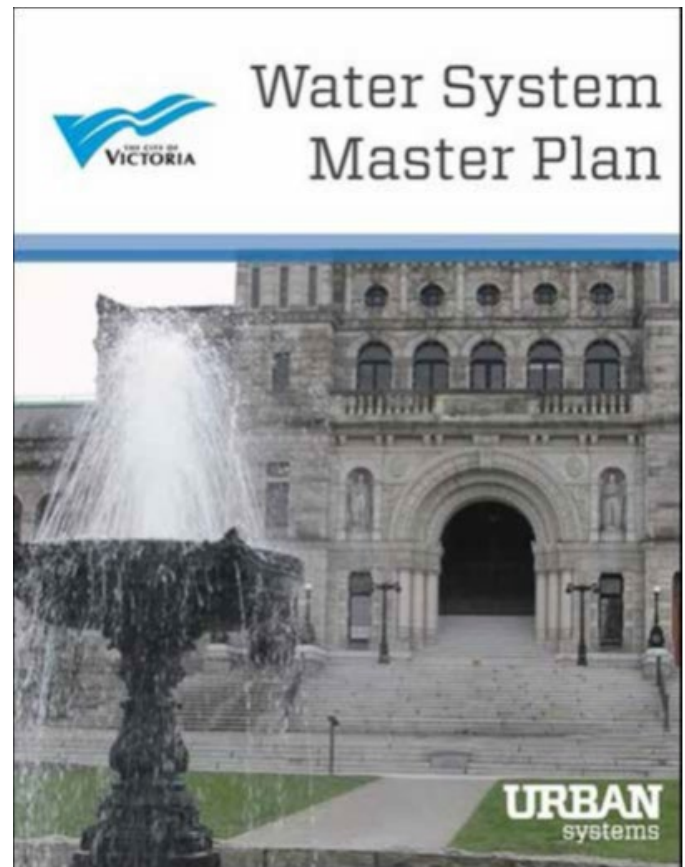
Ongoing water distribution infrastructure planning work including periodic updates to the water system hydraulic model and master plan. Generally, the master plan gets updated every five years.

Deliverables:

- Water System Master Plan

Project Forecast

Year	Total Expense
2024	250,000
2029	300,000
2034	350,000
2039	400,000
	1,300,000



Project Summary

Project Number:	ENG-122	Budget Year:	2023
Project Title:	Capital Equipment	Business Unit:	10036

Overview:

Purchase of equipment, tools, and supplies used for construction of water infrastructure capital works projects.

Deliverables:

- Miscellaneous equipment, tools, and supplies

Project Forecast

Year	Total Expense
2023	104,000
2024	46,000
2025	47,000
2026	48,000
2027	49,000
2028	50,000
2029	51,000
2030	52,000
2031	53,000
2032	54,000
2033	55,000
2034	56,000
2035	57,000
2036	58,000
2037	59,000
2038	60,000
2039	61,000
2040	62,000
2041	63,000
2042	64,000
	1,149,000



Project Summary

Project Number: ENG-038
Project Title: New Services

Budget Year: 2023
Business Unit: 30010

Overview:

To install sanitary service connections as requested by residents, businesses, and commercial/institutional properties.

Deliverables:

- Sanitary service connections for applicants (residents, businesses, institutions)

Project Forecast

Year	Total Expense
2023	300,000
2024	300,000
2025	300,000
2026	300,000
2027	300,000
2028	300,000
2029	300,000
2030	300,000
2031	300,000
2032	300,000
2033	300,000
2034	300,000
2035	300,000
2036	300,000
2037	300,000
2038	300,000
2039	300,000
2040	300,000
2041	300,000
2042	300,000
	6,000,000



Project Summary

Project Number:	ENG-037	Budget Year:	2023
Project Title:	Mains Replacement	Business Unit:	30011

Overview:

To replace and upgrade sanitary mains which have been identified as a system deficiency, having inadequate capacity, or having exceeded life expectancy. Rehabilitation efforts include extending the life of existing infrastructure that is nearing the end of its service life or is in need of repair.

Deliverables:

- Sanitary sewers replacement program
- Prior to Paving Program
- Underground Utilities Capital Projects Crew Administration
- System components funding
- 2024 Projects design

Project Forecast

Year	Total Expense
2023	2,429,000
2024	2,550,000
2025	2,678,000
2026	2,812,000
2027	2,953,000
2028	3,101,000
2029	3,256,000
2030	3,419,000
2031	3,590,000
2032	3,770,000
2033	3,959,000
2034	4,157,000
2035	4,365,000
2036	4,583,000
2037	4,812,000
2038	5,053,000
2039	5,306,000
2040	5,571,000
2041	5,850,000
2042	6,142,000
	80,356,000



Project Summary

Project Number: ENG-035
Project Title: Inflow & Infiltration

Budget Year: 2023
Business Unit: 30015

Overview:

To address problems of rain and groundwater inflow and infiltration to the sanitary sewer system. This program will support pipe rehabilitation, lateral service connection sealing, manhole upgrades, the removal of cross-connections, flow monitoring to determine priorities, and pilot projects to effectively reduce inflow and infiltration.

Deliverables:

- Flow monitoring and investigation program
- Inflow and infiltration reduction program
- Annual mainline rehabilitation (lining) program

Project Forecast

Year	Total Expense
2023	1,379,000
2024	1,449,000
2025	1,522,000
2026	1,597,000
2027	1,678,000
2028	1,762,000
2029	1,849,000
2030	1,942,000
2031	2,039,000
2032	2,142,000
2033	2,249,000
2034	2,362,000
2035	2,479,000
2036	2,604,000
2037	2,733,000
2038	2,870,000
2039	3,014,000
2040	3,164,000
2041	3,322,000
2042	3,487,000
	45,643,000



Project Summary

Project Number:	ENG-039	Budget Year:	2023
Project Title:	System Planning	Business Unit:	30016

Overview:

Periodic reviews and updates to the Sanitary Sewer Master Plan. The Master Plan allows for simulation and analysis of the sanitary sewer system using computer software, and the determination of sewage flows, including inflow and infiltration flows, forecasting of future development flows, assessment of the conveyance system capacity, impacts of climate changes, and evaluation of upgrade scenarios. It also allows staff to make informed, economical decisions about the system for future construction activities.

The Master Plan provides a prioritized, multi-year plan for system wide improvements including a list of priorities and cost estimates. It incorporates Closed Circuit Television (CCTV) condition assessment data and coordinate upgrades with other infrastructure master plans.

A request for proposal for specialty engineering services to develop the Master Plan will be prepared and a consultant with expertise in this field will be selected. The consultant will be provided with the existing hydraulic model, infrastructure data, as well as planning and development information. Detailed design criteria and land use information for generation of flows will be developed and incorporated into the Master Plan. Generally, the Master Plan is updated every five years.

Deliverables:

- Sanitary Sewer System Master Plan

Project Forecast

Year	Total Expense
2024	250,000
2029	300,000
2034	350,000
2039	400,000
	1,300,000



Project Summary

Project Number: ENG-040

Budget Year: 2023

Project Title: System Assessment

Business Unit: 30019

Overview:

To complete Closed Circuit Television (CCTV) pipe video investigations to gather current condition information to prioritize system rehabilitation.

To investigate sanitary sewer service connections by CCTV lamping program to help with reduction of inflow and infiltration caused by aging infrastructures, offset joints, root intrusion, debris sediment, sagging laterals, and cross-connections.

Deliverables:

- System condition assessment
- Engineering investigations

Project Forecast

Year	Total Expense
2023	276,000
2024	282,000
2025	288,000
2026	294,000
2027	300,000
2028	306,000
2029	312,000
2030	318,000
2031	325,000
2032	332,000
2033	339,000
2034	346,000
2035	353,000
2036	360,000
2037	367,000
2038	374,000
2039	381,000
2040	388,000
2041	396,000
2042	404,000
	6,741,000



Project Summary

Project Number:	ENG-125	Budget Year:	2023
Project Title:	System Upgrades	Business Unit:	30021

Overview:

Large projects or initiatives that are focused on the optimum functioning of the system. New pumps and mains that allow optimal rerouting or diversion of heavy flows and allow the system to function with less surcharging and energy expended.

Deliverables:

- Sanitary sewer system upgrades design consulting services
- Disaster Mitigation and Adaptation Fund (DMAF) grant projects

Project Forecast

Year	Total Expense	Grants	Net City Funding
2023	3,153,000	1,247,000	1,906,000
2024	3,216,000	919,000	2,297,000
2025	3,280,000	937,000	2,343,000
2026	3,346,000	956,000	2,390,000
2027	3,413,000	975,000	2,438,000
2028	1,900,000	-	1,900,000
2029	1,938,000	-	1,938,000
2030	1,977,000	-	1,977,000
2031	2,017,000	-	2,017,000
2032	2,057,000	-	2,057,000
2033	2,098,000	-	2,098,000
2034	2,140,000	-	2,140,000
2035	2,183,000	-	2,183,000
2036	2,227,000	-	2,227,000
2037	2,272,000	-	2,272,000
2038	2,317,000	-	2,317,000
2039	2,363,000	-	2,363,000
2040	2,410,000	-	2,410,000
2041	2,458,000	-	2,458,000
2042	2,506,000	-	2,506,000
	49,271,000	5,034,000	44,237,000



Project Summary

Project Number: ENG-188
Project Title: Capital Equipment

Budget Year: 2023
Business Unit: 30022

Overview:

Purchase of equipment, tools, and supplies used for construction of Sanitary Sewer capital works projects.

Deliverables:

- Miscellaneous equipment, tools, and supplies

Project Forecast

Year	Total Expense
2023	289,000
2024	18,000
2025	19,000
2026	20,000
2027	21,000
2028	22,000
2029	23,000
2030	24,000
2031	25,000
2032	26,000
2033	27,000
2034	28,000
2035	29,000
2036	30,000
2037	31,000
2038	32,000
2039	33,000
2040	34,000
2041	35,000
2042	36,000
	802,000



Project Summary

Project Number:	ENG-026	Budget Year:	2023
Project Title:	New Services	Business Unit:	50005

Overview:
To install storm service connections as requested by residents, businesses, and commercial/institutional properties.

- Deliverables:**
- Storm service connections for applicants (residents, businesses, institutions)

Project Forecast

Year	Total Expense
2023	300,000
2024	300,000
2025	300,000
2026	300,000
2027	300,000
2028	300,000
2029	300,000
2030	300,000
2031	300,000
2032	300,000
2033	300,000
2034	300,000
2035	300,000
2036	300,000
2037	300,000
2038	300,000
2039	300,000
2040	300,000
2041	300,000
2042	300,000
	6,000,000



Project Summary

Project Number: ENG-024

Budget Year: 2023

Project Title: Stormwater Quality

Business Unit: 50092

Overview:

To fund stormwater quality infrastructure and continue stormwater utility development.

Deliverables:

- Stormwater program information, consulting, and promotional materials
- Investigations/ Lab testing
- Green Infrastructure program (incl. rain gardens maintenance)
- Leasing agreements with Transport Canada (monitoring system)
- Stormwater rehabilitation unit (SWRU) maintenance

Project Forecast

Year	Total Expense
2023	323,000
2024	329,000
2025	336,000
2026	343,000
2027	350,000
2028	357,000
2029	364,000
2030	371,000
2031	378,000
2032	386,000
2033	394,000
2034	402,000
2035	410,000
2036	418,000
2037	426,000
2038	435,000
2039	444,000
2040	453,000
2041	462,000
2042	471,000
	7,852,000



Project Summary

Project Number:	ENG-027	Budget Year:	2023
Project Title:	Mains Replacement	Business Unit:	50096

Overview:

Replace and upgrade storm mains which have been identified as a system deficiency, having inadequate capacity, or having gone well beyond their service life. Rehabilitation efforts include extending the life of infrastructure that is nearing the end of its service life or is in need of repair.

Deliverables:

- Storm mains replacement program
- Prior to paving program
- Storm drain lining program
- System components funding
- Disaster Mitigation and Adaptation Fund (DMAF) grant projects
- 2024 Projects design

Project
Forecast

Year	Total Expense	Grants	Net City Funding
2023	3,396,000	60,000	3,336,000
2024	3,566,000	237,000	3,329,000
2025	3,744,000	249,000	3,495,000
2026	3,931,000	261,000	3,670,000
2027	4,128,000	274,000	3,854,000
2028	4,047,000	-	4,047,000
2029	4,249,000	-	4,249,000
2030	4,461,000	-	4,461,000
2031	4,684,000	-	4,684,000
2032	4,918,000	-	4,918,000
2033	5,164,000	-	5,164,000
2034	5,422,000	-	5,422,000
2035	5,693,000	-	5,693,000
2036	5,978,000	-	5,978,000
2037	6,277,000	-	6,277,000
2038	6,591,000	-	6,591,000
2039	6,921,000	-	6,921,000
2040	7,267,000	-	7,267,000
2041	7,630,000	-	7,630,000
2042	8,011,000	-	8,011,000
	106,078,000	1,081,000	104,997,000



Project Summary

Project Number: ENG-030

Budget Year: 2023

Project Title: Brick Main Rehabilitation

Business Unit: 50494

Overview:

Rehabilitation of brick storm drain mains based on structural condition assessment. Most of the brick mains are approaching 100 years in age and are showing signs of aging. Many of these mains are located within easements and under buildings. A condition assessment program using closed circuit television (CCTV) inspection is used to prioritize system brick main rehabilitation.

Deliverables:

- 2023 rehabilitation of brick storm drains

Project Forecast

Year	Total Expense
2023	2,234,000
2024	2,279,000
2025	2,325,000
2026	2,372,000
2027	2,419,000
2028	2,467,000
2029	2,516,000
2030	2,566,000
2031	2,617,000
2032	2,669,000
2033	2,722,000
2034	2,776,000
2035	2,832,000
2036	2,889,000
2037	2,947,000
2038	3,006,000
2039	3,066,000
2040	3,127,000
2041	3,190,000
2042	3,253,000
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	54,272,000



Project Summary

Project Number:	ENG-105	Budget Year:	2023
Project Title:	System Planning & Assessment	Business Unit:	50522

Overview:

To complete Closed Circuit Television (CCTV) pipe video investigations to gather current condition information to prioritize system rehabilitation.

Deliverables:

- Engineering investigations and spill response
- System condition assessment

Project Forecast

Year	Total Expense
2023	250,000
2024	250,000
2025	250,000
2026	470,000
2027	250,000
2028	250,000
2029	250,000
2030	250,000
2031	480,000
2032	250,000
2033	250,000
2034	250,000
2035	250,000
2036	490,000
2037	250,000
2038	250,000
2039	250,000
2040	250,000
2041	500,000
2042	250,000
	5,940,000



Project Summary

Project Number: ENG-189
Project Title: Capital Equipment

Budget Year: 2023
Business Unit: 50617

Overview:

Purchase of equipment, tools, and supplies used for construction of Stormwater capital works projects.

Deliverables:

- Miscellaneous equipment, tools, and supplies

Project Forecast

Year	Total Expense
2023	285,000
2024	14,000
2025	15,000
2026	16,000
2027	17,000
2028	18,000
2029	19,000
2030	20,000
2031	21,000
2032	22,000
2033	23,000
2034	24,000
2035	25,000
2036	26,000
2037	27,000
2038	28,000
2039	29,000
2040	30,000
2041	31,000
2042	32,000
	722,000

