



# Capital Regional District

## Notice of Meeting and Meeting Agenda Surfside Park Estates Water Service Committee

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Thursday, June 27, 2024

2:00 PM

Goldstream Conference Room, 479 Island  
Highway, Victoria, BC

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For members of the public who wish to listen to the meeting via telephone please call 1-833-353-8610 and enter the Participant Code 1911461 followed by #. You will not be heard in the meeting room but will be able to listen to the proceedings.

### MEMBERS:

L. Vallee (Chair); K. Wall (Vice Chair); P. Brent (EA Director); R. Noyes; W. Mulvin

### 1. Territorial Acknowledgement

### 2. Approval of Agenda

### 3. Adoption of Minutes

#### 3.1. **24-667** Minutes of the February 13, 2024 Surfside Park Estates Water Service Committee

**Recommendation:** That the minutes of the February 13, 2024 meeting be adopted.

**Attachments:** Minutes - February 13, 2024

### 4. Chair's Remarks

### 5. Presentations/Delegations

*Delegations will have the option to participate electronically. Please complete the online application for "Addressing the Board" on our website and staff will respond with details.*

*Alternatively, you may email your comments on an agenda item to the Surfside Park Estates Water Service Committee at [iwsadministration@crd.bc.ca](mailto:iwsadministration@crd.bc.ca). Requests must be received no later than 4:30 p.m. two calendar days prior to the meeting.*

### 6. Senior Manager's Report

#### 6.1. Union of British Columbia Municipalities Grant for Disaster Risk Reduction - Climate Adaptation 2024

### 7. Commission Business

7.1. [24-659](#) 2023 Annual Report

**Recommendation:** There is no recommendation. This report is for information only.

**Attachments:** [Staff Report: 2023 Annual Report](#)  
[Appendix A](#)

7.2. [24-576](#) Asset Replacement Report Card

**Recommendation:** There is no recommendation. This report is for information only.

**Attachments:** [Staff Report: Asset Replacement Report Card](#)  
[Appendix A](#)

7.3. [24-571](#) Capital Project Status Reports and Operational Updates - June 2024

**Recommendation:** There is no recommendation. This report is for information only.

**Attachments:** [Staff Report: Project and Operations Update June 2024](#)

**8. Correspondence**

**9. New Business**

**10. Adjournment**

Next Meeting: November 2024

**MINUTES OF A MEETING OF THE Surfside Park Estates Water Service Committee, held Tuesday, February 13, 2024 at 2 p.m., In the Goldstream Conference Room, 479 Island Highway, Victoria, BC**

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**PRESENT: Committee Members:** L. Vallee (Chair); K. Wall (Vice Chair); P. Brent (EA Director); R. Noyes (EP)

**Staff:** J. Marr, Senior Manager, Infrastructure Engineering; J. Dales, Senior Manager, Wastewater Infrastructure Operations; D. Robson, Manager, Saanich Peninsula & Gulf Island Operations; N. Tokgoz, Manager, Water Distribution Engineering & Planning; M. Risvold (Recorder)

**REGRETS:** W. Mulvin

EP = Electronic Participation

The meeting was called to order at 2:07 pm.

## 1. ELECTION OF CHAIR

The Senior Manager called for nominations for the position of Chair of the Surfside Park Estates Water Service Committee for the term ending December 31, 2024.

P. Brent nominated L. Vallee. L. Vallee accepted the nomination.

The Senior Manager called for nominations a second time.

The Senior Manager called for nominations a third and final time.

Hearing no further nominations, the Senior Manager declared L. Vallee Chair of the Surfside Park Estates Water Service Committee for the term ending December 31, 2024, by acclamation.

## 2. ELECTION OF VICE CHAIR

The Chair called for nominations for the position of Vice Chair of the Surfside Park Estates Water Service Committee for the term ending December 31, 2024.

P. Brent nominated K. Wall. K. Wall accepted the nomination.

The Chair called for nominations a second time.

The Chair called for nominations a third and final time.

Hearing no further nominations, the Chair declared K. Wall Vice Chair of the Surfside Park Estates Water Service Committee for the term ending December 31, 2024, by acclamation.

### 3. APPROVAL OF AGENDA

**MOVED** by K. Wall, **SECONDED** by P. Brent,  
That the agenda be approved.

**CARRIED**

### 4. ADOPTION OF MINUTES

**MOVED** by K. Wall, **SECONDED** by P. Brent,  
That the minutes of the November 14, 2023 meeting be adopted.

**CARRIED**

### 5. CHAIR'S REMARKS

The Chair noted there are important decisions ahead with rebuilding the system, and there are good suggestions in the report provided with the agenda.

### 6. PRESENTATIONS/DELEGATIONS

There were none.

### 7. SENIOR MANAGER'S REPORT

J. Dales advised the Request for Proposal (RFP) for the on-island operator has been submitted and will be posted soon. The position will be open for approximately one month, with the review of potential candidates beginning in early April.

### 8. COMMITTEE BUSINESS

#### 8.1. Surfside Park Estates Water System Tank Replacement Options Analysis

N. Tokgoz provided an overview of item 8.1.

Staff responded to questions from the committee regarding:

- The ability for storage tanks to be replaced on-site. Staff advised this option was not priced due to the inaccessibility and length of leaking pipe. Staff advised there are property acquisition concerns as there is currently no statutory right of way (SRW) providing access to the existing locations. Staff noted it would be more costly to the service to operate the tanks in the current location.
- When the public will need to vote for future borrowing. Staff advised the recommendation is to defer the tank replacement and have a preliminary design ready for 2025. Once the preliminary design is complete, fire protection can be determined. Borrowing will likely occur in 2026-2027.

The Electoral Area Director noted that it would be a good idea to consider increasing the capital reserve funds (CRF) at the next budget meeting.

Discussion ensued regarding:

- If the watermains require replacement on Wood Dale Drive.
- Fire protection.

**MOVED** by K. Wall, **SECONDED** by L. Vallee,  
That staff be directed to:

1. Defer tank replacement and continue to operate the system as is;
2. Budget for preliminary design of Option A to pursue further details on required assessment, investigations, and engineering to confirm scope and refine the cost estimates; and
3. Keep the tank replacement project within the 5-year capital plan and apply for any eligible grants to fund the Option A system replacement within 5 years.

**CARRIED**

## **8.2. Project and Operations Update**

D. Robson spoke to item 8.2.

Staff responded to a question from the committee regarding the frequency of arsenic media filter changes. Staff advised there is a leaking pipe between the service area and the tanks. By eliminating the water loss, less water will be produced, which will extend the service life of the filter media. A plan is currently underway for leak detection this upcoming year. Discussion ensued.

## **9. SURFSIDE PARK ESTATES WATER SERVICE COMMITTEE MEETING SCHEDULE**

Regular meetings of the Surfside Park Estates Water Service Committee shall be held in the Goldstream Conference Room, 479 Island Highway, Victoria, BC in February, June, and in November to approve the Operating and Capital Budget.

## **10. CORRESPONDENCE**

There was none.

## **11. NEW BUSINESS**

There was none.

## **12. ADJOURNMENT**

**MOVED** by K. Wall, **SECONDED** by R. Noyes,  
That the February 13, 2024 meeting be adjourned at 2:48 pm.

**CARRIED**

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**CHAIR**

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**SECRETARY**

# Surfside Water System

## 2023 Annual Report



### Introduction

This report provides a summary of the Surfside Park Estates Water Service for 2023 and includes a description of the service, summary of the water supply, demand and production, drinking water quality, operations highlights, capital project updates and financial report.

### Service Description

The community of Surfside is a rural residential development located on Mayne Island in the Southern Gulf Islands Electoral Area which was originally serviced by a private water utility. In 2003 the service converted to the Capital Regional District (CRD). The Surfside Water Service (Figure 1) area is made up of 127 parcels of which 105 parcels can be inhabited encompassing a total area of approximately 25 hectares. Of the 105 parcels, 68 were connected to the water system in 2023.

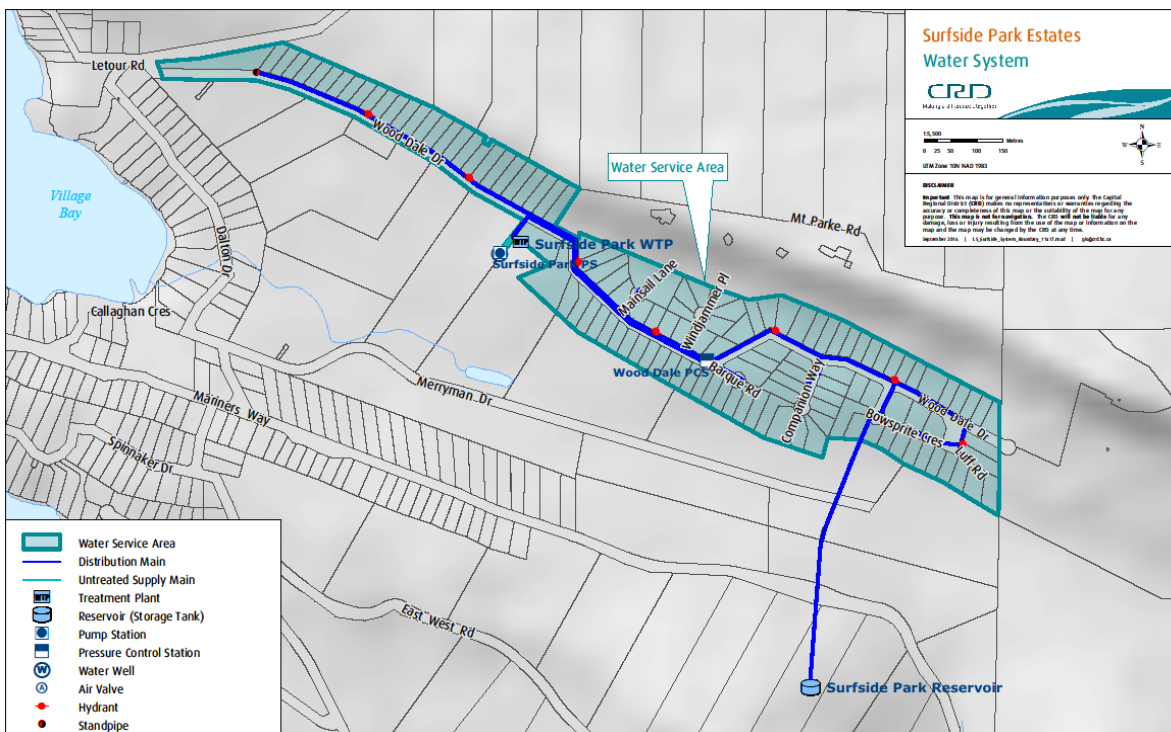


Figure 1: Surfside Park Estates Water Service

The Surfside water system is primarily comprised of:

- One groundwater well, related pumping and control equipment and building.
- Disinfection process equipment (filters, ultraviolet [UV] light and chlorine).
- Two steel storage tanks (total volume is 113 cubic meters).
- Distribution system (3,800 meters of water mains).
- Other water system assets: 68 service connections and water meters, five hydrants, three standpipes, 30 gate valves, one air release valve, Supervisory Control and Data Acquisition (SCADA) system and portable generator.

### Water Supply

Groundwater supply monthly water levels are highlighted for 2023 in Figure 2. Groundwater levels for 2023 are 10% lower than the 5-year average. Aquifer levels are trending down likely the result of ongoing drought in which the Province declared level 5 drought conditions for the Southern Gulf Islands for a second consecutive year.

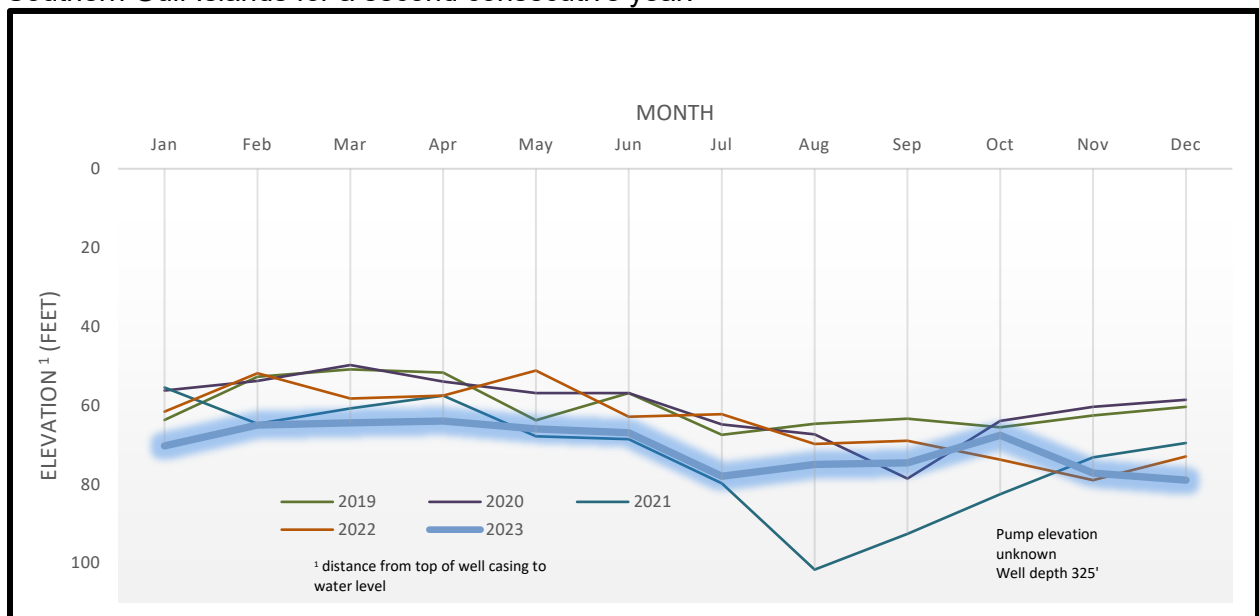
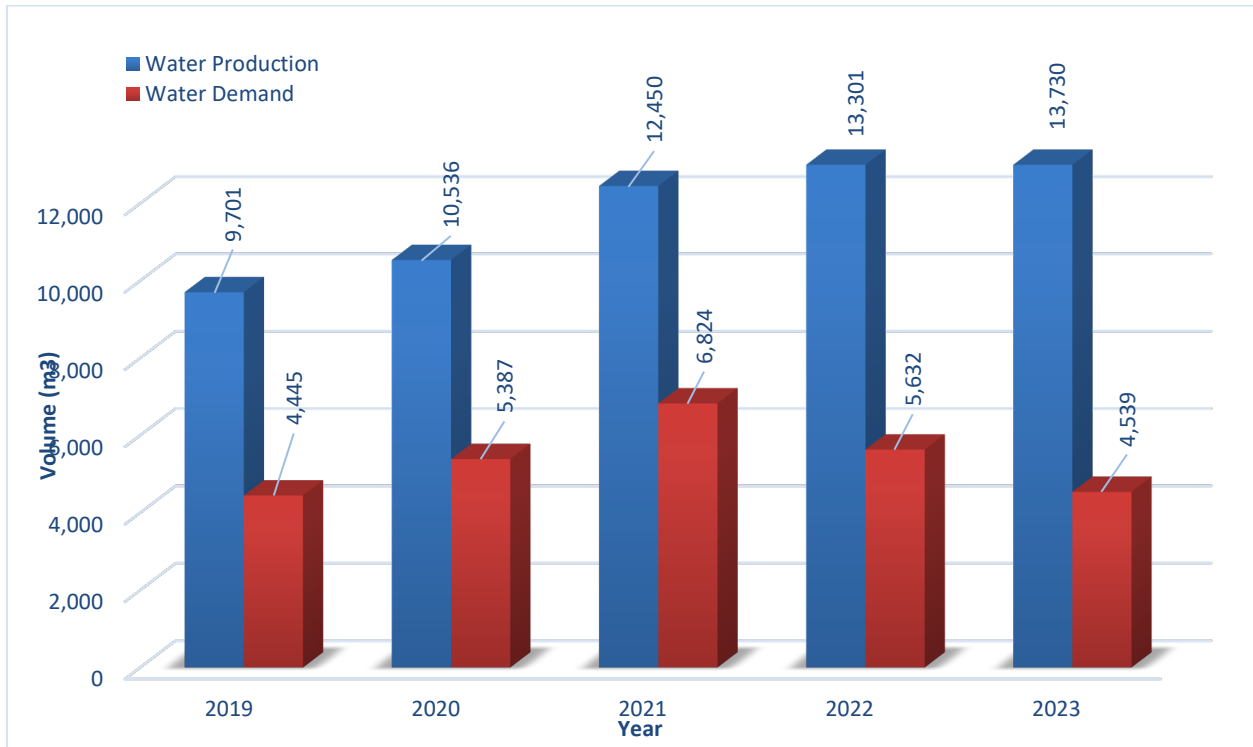


Figure 2: Surfside Park Estates Well #5A Groundwater Supply Monthly Water Level

### Water Production and Demand

Referring to Figure 3, 13,730 cubic meters of water was extracted (water production) from the groundwater source (Well #5) in 2023; a 3% increase from the previous year and a 19% increase from the five-year average. Water demand (customer water billing) for the service totaled 4,539 cubic meters of water; a 19% decrease from the previous year and a 10% decrease from the five-year average.



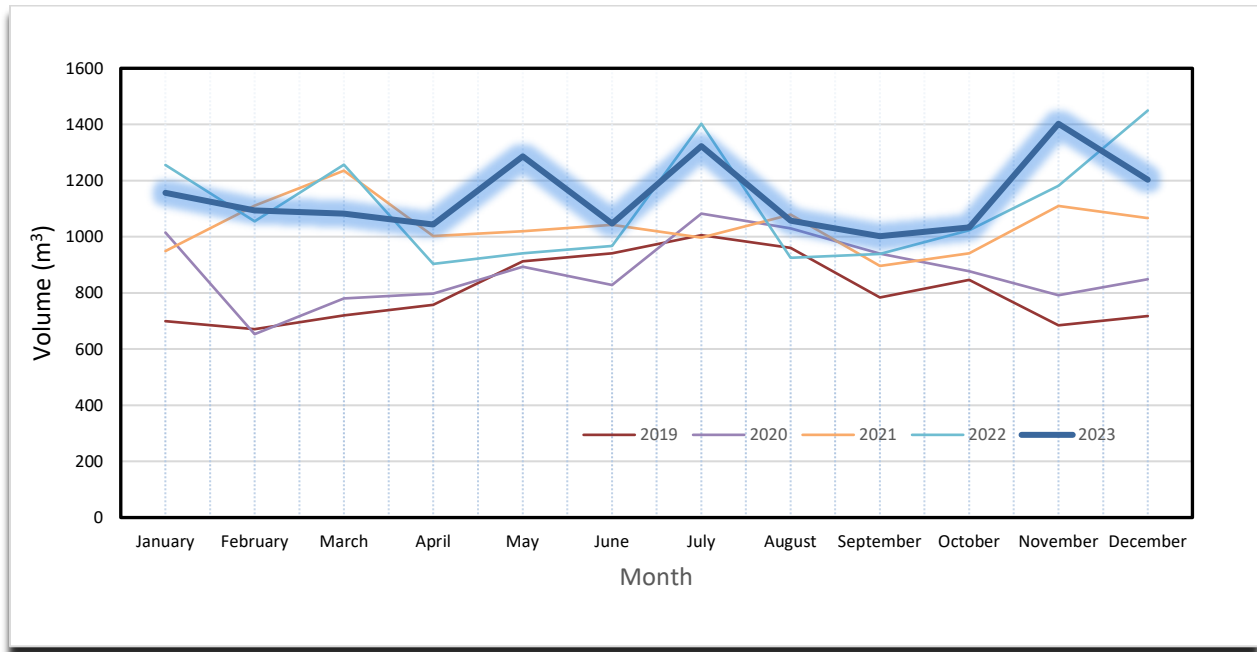
**Figure 3: Surfside Park Estates Water Service Annual Water Production and Demand**

The difference between annual water production and annual customer water demand is referred to as non-revenue water and can include water system leaks, water system maintenance and operational use (e.g. water main flushing, filter system backwashing), potential unauthorized use and fire-fighting use.

The 2023 non-revenue water (9,191 cubic meters) represents approximately 67% of the total water production for the service area. Approximately 264 cubic meters of water can be attributed to operational use so the remaining amount (65%) of non-revenue water is considered significant for a small water service. It is important to note that leak detection and repair efforts continue to be prioritized for the service. Water system leaks located and repaired in 2022 did not result in a reduction of non-revenue water from the previous year. A more robust and focused leak detection program will continue for the service.

Figure 4 below illustrates the monthly water production for 2023 along with the historical water production information for the previous four years. Typically, the monthly water production trend is greatest during the summer period (June to September). However, monthly water production for the most part is consistent throughout the year which indicates limited outdoor water use.





**Figure 4: Surfside Park Estates Water Service Monthly Water Production**

## Drinking Water Quality

Staff completed the water quality monitoring program at Surfside based on the regulatory requirements and system specific risks. Samples were collected at regular frequencies from both the raw water as well as from several sampling stations at the treatment plant and in the distribution system. The samples were submitted for various analyses to the CRD’s Water Quality Lab or to external laboratories for special analyses such as disinfection by-products or metals.

The water system performed well in 2023 and supplied drinking water of good quality to its customers. None of the raw water samples tested positive for *E. coli* or total coliform bacteria in 2023. Also, all treated water samples tested negative for *E. coli* or total coliform bacteria in 2023. The raw water exhibited consistently high arsenic concentrations as well as elevated manganese concentrations. The system experienced one very brief event with slightly elevated arsenic concentrations leaving the treatment plant. Test results revealed that the drinking water that reached the customers was very likely still within the acceptable levels for arsenic concentrations throughout the duration of this event and therefore no health concerns were raised. Overall, the existing treatment successfully reduced arsenic and manganese concentrations to levels well below the health related and aesthetic limits in the Guidelines for Canadian Drinking Water Quality.

The data below provides a summary of the water quality characteristics in 2023:

### Raw Water:

- Results from Well #5, the only water source, indicated that produced water contained no *E. coli* bacteria and no total coliform bacteria.
- The raw water continued to have naturally high concentrations of arsenic and manganese. The arsenic concentration in the raw water ranged from 53.4 to 72.3 µg/L. That is approximately 20% higher than in 2022. Manganese had a median concentration of 33.4 µg/L.
- The raw water turbidity was low with a median of 0.58 Nephelometric Turbidity Unit (NTU).
- The raw water was slightly hard (median hardness 28.8 mg/L (CaCO<sub>3</sub>). Annual median pH was 7.6.

### Treated Water:

- The treated water was safe to drink with no *E. coli* or total coliform bacteria in any sample.
- The treated water turbidity was very low with a median of 0.2 NTU.
- The arsenic concentration after treatment was generally below the maximum allowable concentration (MAC) of 10 µg/L. The annual median arsenic concentration was 3.78 µg/L. One treated water sample collected on July 6 at the treatment plant sampling location recorded an arsenic concentration of 10.1 µg/L. The lab result for this sample was received on July 11. The arsenic filter media in Filter Vessel A had expired much faster than expected. The same day, July 11, the operators took the treatment train A offline, and the system was supplied through Filter Vessel B only, which still had sufficient treatment capacity for the entire flow. While the treated water leaving the treatment plant likely had slightly elevated arsenic concentrations from July 6 to July 11, the arsenic concentrations deeper in the distribution system supplying the customers was very likely still below the MAC of 10 µg/L as evidenced by a distribution sample result from July 6 that recorded an arsenic concentration of 6.6 µg/L which had only risen to 7.8 µg/L by July 12. By July 12, with the expired Filter A offline, the treatment plant was supplying water with very low arsenic concentrations (1.3 µg/L) again which began diluting the elevated concentration further downstream in the system. Therefore, this event did not present an actual health risk to the Surfside customers. The operators have adopted since a more cautious approach when assessing the remaining filter media lifespan.
- Very low manganese concentrations in the treated water indicate the effectiveness of the filtration system in terms of arsenic and manganese removal.
- The annual average levels of the disinfection by-product total trihalomethanes (TTHM) were well below the MAC. Haloacetic acids (HAA) were not tested in 2023. Typically, when THM concentrations are low, HAA are also low.
- The free chlorine residual concentrations ranged from 0.22 to 1.34 mg/L in the distribution system indicating good secondary disinfection in most parts of the system except for some dead-end sections with higher water age.

Table 1 and 2 below provide a summary of the 2023 raw and treated water test results.

Water quality data collected from this drinking water system can be reviewed on the CRD website:

<https://www.crd.bc.ca/about/data/drinking-water-quality-reports>

### Operational Highlights

The following is a summary of the major operational issues that were addressed by CRD Integrated Water Services staff:

- Water treatment plant:
  - Backwash tank maintenance including vac truck removal.
  - Drain and clean out WTP clear well.
  - Rebuild control valves.
- Leak detection near Wood Dale Drive and Bowsprite Crescent.
- Remove hose bibs from sample points to improve sample collection.
- Cap service along Wood Dale Drive.
- New ballast installed in UV unit.

### Capital Projects Update

The Capital Projects that were in progress or completed in 2023 include:

- System Review Project – A system review and tank replacement options assessment was completed in 2023. This engineering study assessed several options and resulted in the recommendation to further pursue the feasibility of replacing the existing water tanks in a new location within Mount Parke Regional Park, which would allow for a more accessible, gravity fed system.

### Financial Report

Please refer to the attached 2023 Statement of Operations and Reserve Balances.

Revenue includes parcel taxes (Transfers from Government), fixed user fees (User Charges), and interest on savings (Interest earnings), a transfer from the Operating Reserve Fund, and miscellaneous revenue such as late payment charges (Other revenue).

Expenses include all costs of providing the service. General Government Services include budget preparation, financial management, utility billing and risk management services. CRD Labour and Operating Costs include CRD staff time as well as the costs of equipment, tools, and vehicles. Debt servicing costs are interest and principal payments on long term debt. Other Expenses include all other costs to administer and operate the water system, including insurance, supplies, water testing and electricity.

The difference between Revenue and Expenses is reported as Net revenue (expenses). Any transfers to or from capital or reserve funds for the service (Transfers to Own Funds) are deducted from this amount and added to any surplus or deficit carry forward from the prior year, yielding an Accumulated Surplus (or deficit) that is carried forward to the following year.

Submitted by:	Jason Dales, B.Sc., WD IV, Senior Manager, Wastewater Infrastructure Operations
	Joseph Marr, P.Eng., Senior Manager, Infrastructure Engineering
	Glenn Harris, Ph.D., R.P.Bio., Senior Manager, Environmental Protection
	Angela Linwood, CPA, CMA, Controller, Financial Services
Concurrence:	Luisa Jones, MBA, General Manager, Parks, Recreation & Environmental Services
	Alicia Fraser, P.Eng., General Manager, Integrated Water Services

Attachments: Table 1  
 Table 2  
 2023 Statement of Operations and Reserve Balances

For questions related to this Annual Report please email [IWSAdministration@crd.bc.ca](mailto:IWSAdministration@crd.bc.ca)

**Table 1**

Table 1: 2023 Summary of Raw Water Test Results, Surfside Water System										
PARAMETER		2023 ANALYTICAL RESULTS				CANADIAN GUIDELINES	2013-2022 ANALYTICAL RESULTS			
Parameter Name	Units of Measure	Annual Median	Samples Analyzed	Range Minimum Maximum		≤ = Less than or equal to	Median	Samples Analyzed	Range Minimum Maximum	
ND means Not Detected by analytical method used										
<b>Physical Parameters</b>										
Hardness as CaCO <sub>3</sub>	mg/L	28.8	13	4.28	45.9	No Guideline Required	41.9	37	18.2	60.3
Turbidity	NTU	0.575	12	0.25	1.3		0.4	46	0.12	1.34
Water Temperature	deg C	11.15	22	6.8	12.3	15°C AO	6.8	191	5.2	21.6
pH	pH units	7.6	3	7.6	8.8	AO pH 7.0 -10.5	8.73	23.0	7	9
Total Organic Carbon	mg/L	0.535	4	0.48	0.69		0.78	25	0.44	4.89
<b>Metals</b>										
Aluminum	ug/L as Al	11.6	13	7.8	24.2	2900 MAC / 100 OG	14.7	37	7.2	65
Antimony	ug/L as Sb	< 1	13	< 0.5	< 1	6 MAC	< 0.5	37	< 0.5	< 2.5
Arsenic	ug/L as As	59.5	13	53.4	72.3	10 MAC	42.2	1	42.2	42.2
Barium	ug/L as Ba	47.1	13	15.5	66.4	1000 MAC	60	37	32.9	75.5
Beryllium	ug/L as Be	< 0.2	13	< 0.1	< 0.2		< 0.1	37	< 0.1	< 3
Bismuth	ug/L as Bi	< 2	13	< 1	< 2		< 1	37	< 1	< 5
Boron	ug/L as B	1960	13	1670	2800	5000 MAC	1720	37	1.25	2110
Cadmium	ug/L as Cd	< 0.02	13	< 0.01	< 0.02	7 MAC	< 0.01	37	< 0.01	0.135
Calcium	mg/L as Ca	9.39	13	1.54	14.9	No Guideline Required	13.5	37	5.91	19.6
Chromium	ug/L as Cr	< 2	13	< 1	21.4	50 MAC	< 1	37	< 1	< 10
Cobalt	ug/L as Co	< 0.4	13	< 0.2	< 0.4		< 0.2	37	< 0.2	30
Copper	ug/L as Cu	1.29	13	< 0.2	21.7	2000 MAC / ≤ 1000 AO	0.57	37	< 0.2	52
Iron	ug/L as Fe	21.4	13	13	155	≤ 300 AO	25.2	36	< 10	61.3
Lead	ug/L as Pb	< 0.4	13	< 0.2	1.39	5 MAC	< 0.2	37	< 0.2	3.51
Lithium	ug/L as Li	68	13	56.6	83.8		61.9	16	50.4	70.5
Magnesium	mg/L as Mg	1.29	13	0.1	2.09	No Guideline Required	1.95	37	0.831	3.07
Manganese	ug/L as Mn	33.4	13	5.4	57.6	120 MAC / ≤ 20 AO	40.9	37	< 4	76.4
Molybdenum	ug/L as Mo	< 2	13	< 1	23		< 1	37	< 1	< 20
Nickel	ug/L as Ni	< 2	13	< 1	93		< 1	37	< 1	< 50
Potassium	mg/L as K	1.66	13	1.18	1.88		1.88	37	1.58	2.56
Selenium	ug/L as Se	< 0.2	13	< 0.1	0.97	50 MAC	< 0.1	37	< 0.1	1.24
Silicon	ug/L as Si	6890	13	5940	8100		7250	37	912	12800
Silver	ug/L as Ag	< 0.04	13	< 0.02	< 0.04	No Guideline Required	< 0.02	37	< 0.02	< 10
Sodium	mg/L as Na	139	13	121	182	≤ 200 AO	123	37	13.1	152
Strontium	ug/L as Sr	215	13	41	327	7000 MAC	277	37	0.312	410
Sulfur	mg/L as S	19.8	13	16.1	28.7		16.8	32	11.7	22
Thallium	ug/L as Tl	< 0.02	13	< 0.01	< 0.02		< 0.01	32	< 0.01	< 0.05
Tin	ug/L as Sn	< 10	13	< 5	< 10		< 5	37	< 5	< 25
Titanium	ug/L as Ti	< 10	13	< 5	< 10		< 5	37	< 5	< 25
Uranium	ug/L as U	< 0.2	13	< 0.1	< 0.2	20 MAC	< 0.1	32	< 0.1	< 0.5
Vanadium	ug/L as V	< 10	13	< 5	< 10		< 5	37	< 5	< 25
Zinc	ug/L as Zn	< 10	13	< 5	< 10	≤ 5000 AO	< 5	37	< 1	185
Zirconium	ug/L as Zn	< 0.2	13	< 0.1	< 0.2		< 0.1	32	< 0.1	< 0.5
<b>Microbial Parameters</b>										
<b>Indicator Bacteria</b>										
Coliform, Total	CFU/100 mL	< 1	12	< 1	< 1		< 1	120	< 1	28
<i>E. coli</i>	CFU/100 mL	< 1	12	< 1	< 1		< 1	120	< 1	< 10
Heterotrophic bacteria, 7 day	CFU/mL	Not analyzed in 2023								
<b>Parasites</b>										
<i>Cryptosporidium</i> , Total oocysts	oocysts/100 L	Last tested in 2015				Zero detection desirable	0.185	4	< 1	0.185
<i>Giardia</i> , Total cysts	cysts/100 L	Last tested in 2015				Zero detection desirable	< 1	4	< 1	< 1

Table 2

Table 2: 2023 Summary of Treated Water Test Results, Surfside Water System										
PARAMETER	2023 ANALYTICAL RESULTS					CANADIAN GUIDELINES	2013-2022 ANALYTICAL RESULTS			
Parameter Name	Units of Measure	Annual Median	Samples Analyzed	Range Minimum Maximum		≤ = Less than or equal to	Median	Samples Analyzed	Range Minimum Maximum	
ND means Not Detected by analytical method used										
<b>Physical Parameters</b>										
Hardness	mg/L as CaCO3	32.6	26	19.3	42.2		35.3	52	20.3	55.9
pH	pH units	7.6	3	7.6	8.9	AO pH 7.0 -10.5	8.5	23	7	8.7
Turbidity	NTU	0.2	12	0.1	0.35		0.15	106	0.09	1.8
Total Organic Carbon	mg/L	0.48	8	0.41	0.72		<0.5	51	<0.2	1.51
Water Temperature	deg C	11.7	171	3.6	21.1	15°C AO	7.8	1774	0.32	24.5
<b>Microbial Parameters</b>										
<b>Indicator Bacteria</b>										
Coliform, Total	CFU/100 mL	< 1	61	< 1	< 1	0 MAC	< 1	419	<1	40
<i>E. coli</i>	CFU/100 mL	< 1	61	< 1	< 1	0 MAC	< 1	419	<1	< 1
Hetero. Plate Count, 7 day	CFU/1 mL		Not tested in 2023			No Guideline Required	< 10	44	<1	940
<b>Disinfectants</b>										
<b>Disinfectants</b>										
Chlorine, Free Residual	mg/L as Cl2	0.65	171	0.22	1.34		0.56	1785	0.04	2.06
Chlorine, Total Residual	mg/L as Cl2	0.74	15	0.35	1.38		0.61	1306	0.12	1.87
<b>Disinfection By-Products</b>										
<b>Disinfection Byproducts</b>										
Bromodichloromethane	ug/L	3.8	7	1.4	5.5		4.29	54	1.1	18
Bromoform	ug/L	7.8	7	2.3	15		5.05	54	<0.1	12
Chloroform	ug/L	1.3	7	< 1	2.1		1.89	54	0.154	10
Chlorodibromomethane	ug/L	9.6	7	2.3	11		7.73	54	1.5	14.1
Total Trihalomethanes	ug/L	25	7	7.2	32	100 MAC	19	53	5.7	50
<b>Haloacetic Acids (HAAs)</b>										
HAA5	ug/L		Not tested in 2023			80 MAC	< 5	4	< 5	< 5
<b>Metals</b>										
Aluminum	ug/L as Al	< 6	26	< 3	10.1	2900 MAC / 100 OG	4.8	51	< 3	59
Antimony	ug/L as Sb	< 0.5	26	< 0.5	< 1	6 MAC	< 0.5	51	< 0.05	< 2.5
Arsenic	ug/L as As	3.775	26	1.19	10.1	10 MAC	4.66	156	< 0.03	31
Barium	ug/L as Ba	41.2	26	18.2	57.6	1000 MAC	46.2	51	3.2	69.9
Beryllium	ug/L as Be	< 0.1	26	< 0.1	< 0.2		< 0.1	51	< 0.1	< 3
Bismuth	ug/L as Bi	< 1	26	< 1	< 2		< 1	49	< 1	< 5
Boron	ug/L as B	1930	26	1620	2170	5000 MAC	1750	51	1200	2240
Cadmium	ug/L as Cd	< 0.01	26	< 0.01	0.025	7 MAC	< 0.01	51	< 0.01	< 0.1
Calcium	mg/L as Ca	9.945	26	5.91	13.3	No Guideline Required	10.8	52	6.22	18
Chromium	ug/L as Cr	< 1	26	< 1	< 2	50 MAC	< 1	51	< 1	< 10
Cobalt	ug/L as Co	< 0.2	26	< 0.2	< 0.4		< 0.2	51	< 0.2	24
Copper	ug/L as Cu	2.955	26	1.62	19	2000 MAC / ≤ 1000 AO	3.38	51	0.91	21.8
Iron	ug/L as Fe	9.65	26	< 5	104	≤ 300 AO	5.7	51	< 5	63.1
Lead	ug/L as Pb	0.425	26	< 0.2	1.55	5 MAC	0.3	51	< 0.2	1.09
Lithium	ug/L as Li	62.85	26	56.2	69.9		60.4	27	54.3	71.1
Magnesium	mg/L as Mg	1.765	26	1.09	2.16	No Guideline Required	1.99	52	1.04	3.05
Manganese	ug/L as Mn	< 1	26	< 1	< 2	120 MAC / ≤ 20 AO	< 1	51	< 1	31
Molybdenum	ug/L as Mo	< 1	26	< 1	< 2		< 1	51	< 1	< 20
Nickel	ug/L as Ni	< 1	26	< 1	< 2		< 1	51	< 1	< 50
Potassium	mg/L as K	1.745	26	1.51	1.91		1.8	52	1.47	2.35
Selenium	ug/L as Se	< 0.1	26	< 0.1	< 0.2	50 MAC	< 0.1	51	< 0.1	< 0.5
Silicon	ug/L as Si	7280	26	4490	7990		7090	51	2350	8950
Silver	ug/L as Ag	< 0.02	26	< 0.02	< 0.04	No Guideline Required	< 0.02	51	< 0.02	< 10
Sodium	mg/L as Na	130.5	26	119	147	≤ 200 AO	125	52	102	142
Strontium	ug/L as Sr	265	26	171	330	7000 MAC	293	51	171	399
Sulphur	mg/L as S	17.35	26	15.3	20.5		17.9	50	13.8	22.4
Thallium	ug/L as Tl	< 0.01	26	< 0.01	< 0.02		< 0.01	49	< 0.01	< 0.05
Tin	ug/L as Sn	< 5	26	< 5	< 10		< 5	51	< 5	< 25
Titanium	ug/L as Ti	< 5	26	< 5	< 10		< 5	51	< 5	< 25
Uranium	ug/L as U	< 0.1	26	< 0.1	< 0.2	20 MAC	< 0.1	49	< 0.1	< 0.5
Vanadium	ug/L as V	< 5	26	< 5	< 10		< 5	51	< 5	< 25
Zinc	ug/L as Zn	< 10	26	< 5	32	≤ 5000 AO	5.8	51	< 5	167
Zirconium	ug/L	< 0.1	26	< 0.1	< 0.2		< 0.1	49	< 0.1	< 0.5

## CAPITAL REGIONAL DISTRICT

### SURFSIDE WATER

#### Statement of Operations (Unaudited)

For the Year Ended December 31, 2023

	2023	2022
<b>Revenue</b>		
Transfers from Government	23,790	23,100
User Charges	101,474	95,588
Other revenue from own sources:		
Interest Earnings	51	39
Transfer from Operating Reserve	1,500	10,837
Other Revenue	634	742
<b>Total Revenue</b>	<b>127,449</b>	<b>130,306</b>
<b>Expenses</b>		
General Government Services	5,050	4,563
Contract for Services	2,774	17,220
CRD Labour and Operating costs	83,474	77,340
Capital Purchases	-	6,686
Other Expenses	28,581	21,497
<b>Total Expenses</b>	<b>119,879</b>	<b>127,306</b>
<b>Net revenue (expenses)</b>	<b>7,570</b>	<b>3,000</b>
Transfers to own funds:		
Capital Reserve Fund	5,570	3,000
Operating Reserve Fund	2,000	-
<b>Annual surplus/(deficit)</b>	<b>-</b>	<b>-</b>
Accumulated surplus/(deficit), beginning of year	-	-
<b>Accumulated surplus/(deficit), end of year</b>	<b>\$ -</b>	<b>-</b>

## CAPITAL REGIONAL DISTRICT

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### SURFSIDE WATER

#### Statement of Reserve Balances (Unaudited)

For the Year Ended December 31, 2023

	Capital Reserve	
	2023	2022
<b>Beginning Balance</b>	70,105	65,217
Transfer from Operating Budget	5,570	3,000
Transfer from Completed Capital Projects	60	-
Transfer to Capital Projects	(25,000)	-
Interest Income	2,997	1,888
<b>Ending Balance</b>	<b>53,732</b>	<b>70,105</b>

	Operating Reserve	
	2023	2022
<b>Beginning Balance</b>	14,255	24,374
Transfer from Operating Budget	2,000	-
Transfer to Operating Budget	(1,500)	(10,837)
Interest Income	716	718
<b>Ending Balance</b>	<b>15,471</b>	<b>14,255</b>



**REPORT TO SURFSIDE PARK ESTATES WATER SERVICE COMMITTEE  
MEETING OF THURSDAY, JUNE 27, 2024**

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**SUBJECT     Asset Replacement Report Card**

**ISSUE SUMMARY**

To provide the Surfside Park Estates Water Service Committee with an asset replacement report card for the Surfside Park Estates Water Service.

**BACKGROUND**

The Capital Regional District (CRD) has prepared an asset replacement report card for the Surfside Park Estates Water Service. The objective of this report card is to provide an overview of asset replacement values and an asset renewal forecast for the next 40 years.

**DISCUSSION**

An asset register was prepared using the inventory of all existing assets from the CRD's maintenance management and Geographic Information Systems (GIS). There are 216 asset components in the register that are grouped by asset class with replacement values as follows:

<b>Asset Class</b>	<b>Average Asset Condition</b>	<b>2024 Replacement Value</b>
Hydrants & Standpipes	Fair	\$255,000
PRV Stations	Fair	\$87,000
Water Mains	Fair	\$5,591,000
Water Meters	Fair	\$128,000
Water Storage	Poor	\$799,000
Water Treatment & Facilities	Fair	\$585,000
Water Wells	Fair	\$204,000
<b>Total</b>	<b>Fair</b>	<b>\$7,649,000</b>

Replacement values are in 2024 dollars, based on inflated historical costs or unit rates from suppliers. The total asset replacement value for the service is \$7.6 million dollars.

Assets are due for replacement at varying times, based on their installation year, expected service life, and condition. A report card is provided in Appendix A, which includes graphical breakdowns of current asset condition and forecasted replacement year for each asset class. An analysis of the asset register indicates that most assets will require replacement in the next 40 years with 43% of assets requiring replacement more than once over that timeframe. The estimated cost of asset replacements over the next 40 years is \$9.6 million.

Water distribution mains that were installed in the 1970s make up the bulk of the replacement costs for the system. The timing for the water main replacements will be based on condition assessments through leak monitoring methods and physical inspections, where indicated. In the near term, the water storage tanks are due for replacement, which is indicated based on expected useful life and physical condition assessment.



**Surfside Park Estates Water Service Committee – June 27, 2024**  
**Asset Value and Forecasting**

2

The report card provides a 40-year asset renewal forecast. Based on current revenue, there appears to be insufficient capital budget to sustain an asset replacement program. The consequences of an insufficient capital budget are increased service interruptions due to failing assets, reduces levels of service including fire flows, and an inability to invest in new assets to meet demands and to meet regulatory requirements. Debt financing and grants are options to address revenue shortfalls; these options should be supported by a long-term financial plan.

Investment in new assets to expand or optimize the service have not been captured in the capital renewal forecast. This report card is intended for budgeting and capital planning purposes in conjunction with other asset and financial processes. The report card could be further developed into a long-term financial plan and asset management plan.

**RECOMMENDATION**

There is no recommendation. This report is for information only.

Submitted by:	Laura Hardiman, P.Eng., Manager, Asset Management
Submitted by:	Stephen Henderson, BSc, PG.Dip.Eng., MBA, Senior Manager of Real Estate and Administration of the Southern Gulf Islands Electoral Area
Concurrence:	Joseph Marr, P.Eng, Senior Manager, Infrastructure Engineering
Concurrence	Alicia Fraser, P.Eng, General Manager, Integrated Water Services

**ATTACHMENT**

Appendix A: Asset Replacement Report Card

# 18 Asset Replacement Report Card

## 2.667 Surfside Park Estates Water Service

Services Provided:

- Water Distribution
- Water Supply
- Water Treatment

Total Asset Replacement Value

# \$7.6M

Average Condition

# Fair

Total Number of Assets

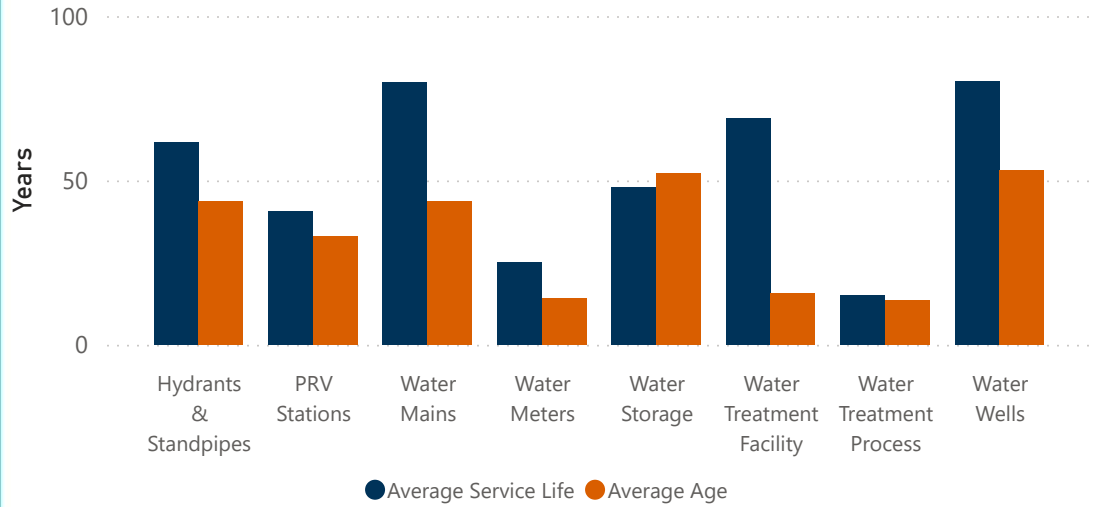
# 216

Asset Class	Quantity
Hydrants & Standpipes	8
PRV Stations	1
Water Mains	3681 m
Water Meters	70
Water Storage	2
Water Treatment Facility	1
Water Treatment Process	1
Water Wells	1



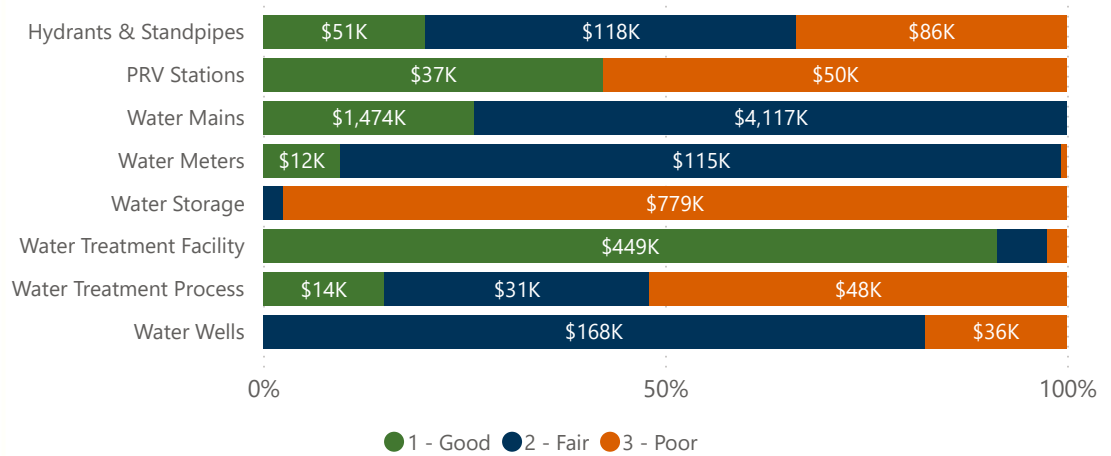
Surfside WTP

## Asset Service Life



The Asset Service Life chart shows the average expected service life of each asset class in relation to the average age of the assets within the class. A weighted average is used based on replacement value.

## Asset Condition by Asset Class



Overall condition rating of the asset classes is based on remaining expected service life. Replacement values are shown in relation to the condition rating.

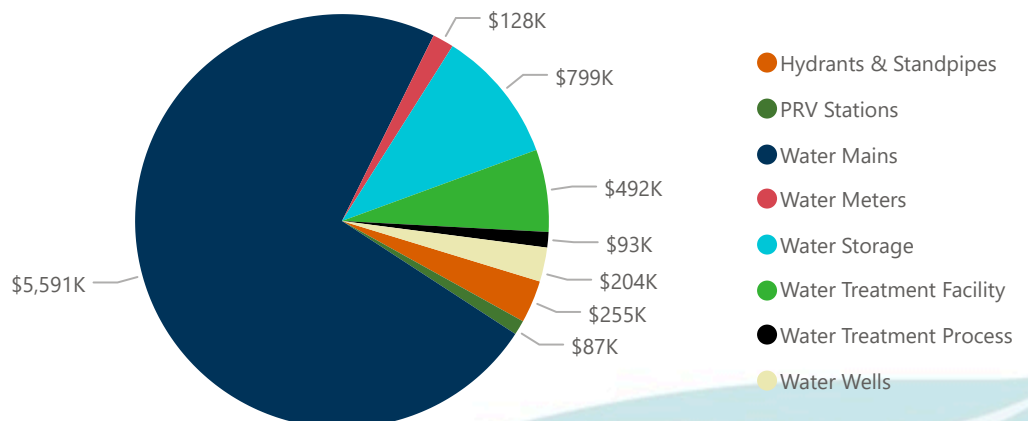
**Good** - Asset has more than 50% of remaining expected service life.

**Fair** - Asset has between 1% and 50% of remaining expected service life.

**Poor** - Asset has reached the end of expected service life.

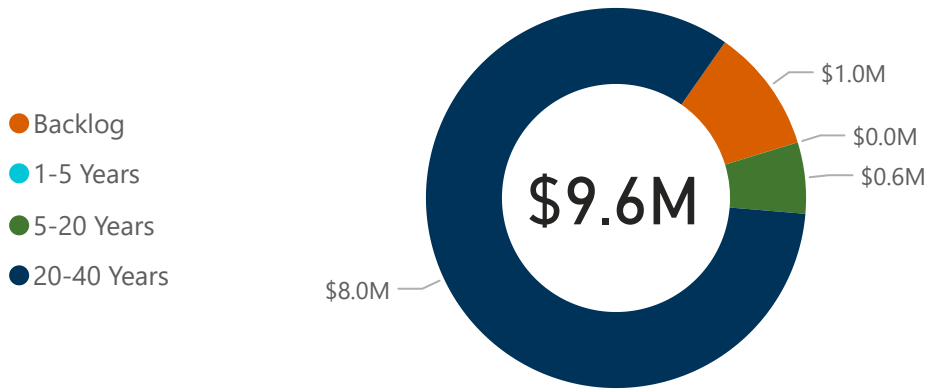
Assets identified in poor condition may still be performing adequately for the service. A condition assessment is advised prior to replacement.

## Asset Replacement Cost by Asset Class



## 2.667 Surfside Park Estates Water Service

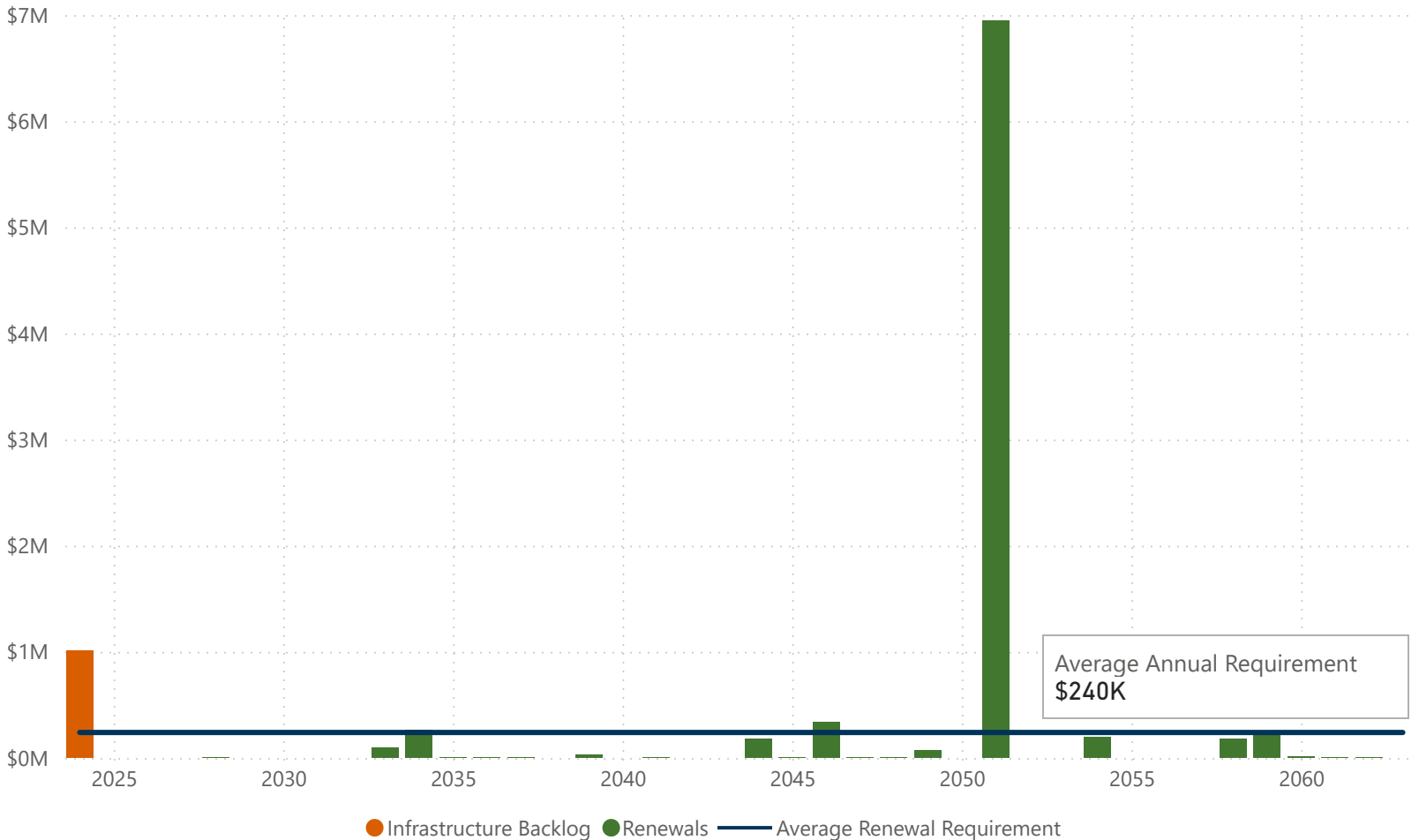
### 40-Year Asset Replacement Cost by Timeframe



In the next 40 years, it is estimated that \$9.6M in assets will need to be replaced (an average of \$240,000 per year).

There are \$1.0M in assets identified as backlog; these are assets that have passed their expected service life and are due for replacement.

### 40-Year Capital Renewal Forecast



The capital renewal forecast is based on the expected service life of assets and their replacement cost (in 2024 dollars). Instances where an asset requires multiple replacements over the 40 year period are accounted for in the projection. Backlog clearance is shown in the first year and it is recommended to distribute these costs depending on project requirements. Since these assets are beyond their expected service life, they may fail prior to renewal. Given the large renewal cost in 2051, a replacement plan should be developed to spread the renewals out over multiple years. A more comprehensive long-term financial plan will inform replacement planning for budgeting purposes.

**The report card is intended for providing a high level overview and for budgeting and capital planning purposes in conjunction with other asset and financial planning processes.**



**REPORT TO SURFSIDE PARK ESTATES WATER SERVICE COMMITTEE  
MEETING OF THURSDAY, JUNE 27, 2024**

**SUBJECT     Capital Project Status Reports and Operational Updates – June 2024**

**ISSUE SUMMARY**

To provide the Surfside Park Estates Water Service Committee with capital project status reports and operational updates.

**BACKGROUND**

The Surfside Park Estates Water System is located on the southwest side of Mayne Island in the Southern Gulf Islands Electoral Area and provides drinking water to approximately 70 customers. Capital Regional District (CRD) Integrated Water Services is responsible for the overall operation of the water system with day-to-day operation, maintenance, design, and construction of water system facilities provided by the CRD Infrastructure Engineering and Operations Divisions. The quality of drinking water provided to customers in the Surfside Park Estates Water System is overseen by the CRD Water Quality Section.

**CAPITAL PROJECT UPDATE**

**21-01 | System Review (Complete)**

**Project Description:** Review the system with water tank location and accessibility taken into account.

**Project Rationale:** Review the location and replacement of the existing water tanks, with accessibility taken into account, resulting in recommendations for future improvements. Staff are to review options for tank replacement for maintenance and maintaining a resilient water system. Tank sizing, location and pumping requirements will all be considered to ensure a sustainable water supply can be effectively delivered.

**Project Update and Milestones:**

<b>Milestone</b>	<b>Completion Date</b>
Recommendation presentation to Committee	Feb 2024 Committee Meeting
Options analysis and preliminary Class D cost estimates.	Q4, 2023
Staff onboarded design consultants (civil and geotechnical) to assist in options analysis and cost estimates.	Q3, 2023
Staff compiled background documents (flow requirements, zoning, record drawings and easements) for project delivery.	Q3 2023

**23-01 | Alternative Approval Process**

**Project Description:** Undertake an Alternative Approval Process (AAP) to borrow funds to carry out water system improvements in future years.

**Surfside Park Estates Water Service Committee – June 27, 2024  
Capital Project Status Reports and Operational Updates – June 2024**

Project Rationale: Capital Reserves are insufficient to carry out needed capital improvements in the water service. In the absence of grant funding, approval to secure debt will be required in order to proceed with capital improvements.

Project Update and Milestones:

Milestone	Completion Date
Funding approved	March 2024

**OPERATIONAL UPDATE**

This is an operational update reporting period from February through May 2024.

- Weekly routine operational site visits by Saanich Peninsula and Gulf Islands Operations Staff. Routine site visits are typically performed on Thursdays. Daily Supervisory Control and Data Acquisition (SCADA) system checks to confirm steady state system operations.
- Leak detection completed on May 28, 2024. Leak detection included public notification of a water service interruption for the community. Initial leak detection efforts identified specific areas or zones the leaks or system losses are occurring. Further investigative work is required to accurately pinpoint the leak site or sites and ultimately complete necessary repairs.
- Issued request for proposals (RFP2024-945) for the operations and maintenance services contract. Submissions were received on April 10. Interviews were conducted and additional information has been requested from the proponents in support of their submission. As of May 31, proposals are still being reviewed.
- Emergency response water system leak near Barque Road. A water service line was damaged during a hydro pole installation. Repairs were completed and an insurance claim has been submitted for review and approval to cover the cost of labour, materials, and travel.
- Wooddale pressure regulating valve station corrective maintenance that included the replacement of a failed isolation valve.
- Well #5A pump electrical cable corrective maintenance.
- Water Treatment Plant (WTP) extraction fan corrective maintenance.
- WTP failed exterior lighting replaced.
- Changeout of WTP arsenic filtration media Vessel A in March and Vessel B in May.
- Public Service Announcement (PSA) issued on May 31, 2024 for the service regarding elevated arsenic concentrations in the treated water system. Health Canada drinking water guidelines state a maximum allowable concentration of 10 parts per billion (ppb) and recent water quality testing results were 19.7 ppb; an exceedance of 9.7 ppb. Corrective actions included posting of the notification within the community, changing of the arsenic filtration media, water system flushing and water quality resampling. *Note the water quality notice was lifted on June 17<sup>th</sup>, 2024.*

**RECOMMENDATION**

There is no recommendation. This report is for information only.

Submitted by:	Jared Kelly, P.Eng., Manager, Capital Projects
Submitted by:	Dan Robson, A.Sc.T., Manager, Saanich Peninsula and Gulf Islands Operations
Concurrence:	Joseph Marr, P.Eng., Senior Manager, Infrastructure Engineering
Concurrence:	Jason Dales, B.Sc., WD IV., Senior Manager, Infrastructure Wastewater Operations
Concurrence:	Alicia Fraser, P.Eng., General Manager, Integrated Water Services