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**MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE**  
Notice of Meeting on **Tuesday, September 12, 2023 at 9:30 a.m.**  
Goldstream Conference Room, 479 Island Highway, Victoria, BC

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.

M. Fossil (Chair)      J. Deschenes (Vice Chair)      P. Brent (Electoral Area Director)      A. Cyr  
W. Foster              D. Reed                                      R. Sullivan

**AGENDA**

- 1. APPROVAL OF AGENDA**
- 2. ADOPTION OF MINUTES .....2**  
*Recommendation: That the minutes of the June 13, 2023 meeting be adopted.*
- 3. CHAIR’S REMARKS**
- 4. 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 Magic Lake Estates Water and Sewer 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.*
- 5. SENIOR MANAGER’S REPORT**
  - **Water Sampling Results**
- 6. COMMITTEE BUSINESS**
  - 6.1. Project and Operations Update .....5**  
*There is no recommendation. This report is for information only.*
- 7. CORRESPONDENCE**
- 8. NEW BUSINESS**
- 9. ADJOURNMENT**

**Next Meeting:** Tuesday, October 10, 2023

*To ensure quorum, advise [IWSAdministration@crd.bc.ca](mailto:IWSAdministration@crd.bc.ca) if you cannot attend.*



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**MINUTES OF A MEETING OF THE Magic Lake Estates Water and Sewer Committee, held Tuesday, June 13, 2023 at 9:30 a.m., In the Goldstream Meeting Room, 479 Island Highway, Victoria, BC**

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**PRESENT: Committee Members:** M. Fossil (Chair); J. Deschenes (Vice Chair) (EP); P. Brent (EA Director) (EP); A. Cyr (EP); W. Foster (EP); D. Reed

**Staff:** J. Marr, Acting Senior Manager, Infrastructure Engineering; D. Robson, Acting Senior Manager, Wastewater Infrastructure Operations; M. Cowley, Manager, Wastewater Engineering & Planning; M. Risvold (Recorder)

**REGRETS:** R. Sullivan

EP = Electronic Participation

The meeting was called to order at 9:32.

**1. APPROVAL OF AGENDA**

**MOVED** by D. Reed, **SECONDED** by P. Brent,  
That the agenda be approved.

**CARRIED**

**2. ADOPTION OF MINUTES**

**MOVED** by D. Reed, **SECONDED** by A. Cyr,  
That the minutes of the April 4, 2023 meeting be adopted.

**CARRIED**

**3. CHAIR'S REMARKS**

The Chair made no remarks.

**4. PRESENTATIONS/DELEGATIONS**

There were none.

**5. SENIOR MANAGER'S REPORT**

J. Marr advised that Water Conservation Bylaw No. 1, 2022 (Bylaw No. 4492) was approved by the Board and is now in effect. Water conservation is now mandatory with the potential to enforce. An information insert will be sent to water system users with the next water bill.

Staff informed the committee of an internal Capital Regional District (CRD) grant opportunity called Growing Communities. Staff have applied for the grant in the amount of \$450,000. If successful, the grant will fund 75% of the project and the service will be responsible to pay 25%. Grant application results will be available in September.

The wastewater treatment plant tour for Committee members took place April 21, 2023. Discussion ensued regarding including the community on a future tour of the plant.

## **6. COMMITTEE BUSINESS**

### **6.1. 2022 Annual Report**

J. Marr spoke to item 6.1.

The committee advised it is useful to see the back end of financial transactions that are mentioned in the annual report.

### **6.2. Project and Operations Update**

Staff provided the capital projects and operational update.

Staff responded to a question regarding completing the Genset and Ultraviolet treatment projects during the winter. Staff advised it is unlikely the work will be completed during the winter season due to delays receiving materials.

### **6.3. Scope and funding for the remaining work after the current wastewater treatment plant project is complete [Verbal]**

The committee discussed the following:

- Long term implications
- Current funding model
- Ability to fund future work
- Remaining pipe to be replaced
- Pipe replacement being part of a capital project or if it will be completed in smaller portions over time
- Potential rate increases to create a surplus for future projects
- Drought and climate change concerns

Staff estimate that there are two to three million dollars' worth of pipe remaining that will require replacement. Staff suggest:

- including the pipe replacement project on the next 5-year capital plan, being presented in November, in the event a grant comes available.
- listing the pump station to be built in 2024 or 2025.
- phasing the work and continuing to look for grant opportunities.

Staff recommend completing a Closed-Circuit Television (CCTV) inspection of the sewer system to monitor and determine if there is any further wear than the previous inspection. Staff advised that, in the long-term, the pipe needs replacement. Emergency failures would need to be addressed right away. Discussion ensued.

## **7. CORRESPONDENCE**

There was none.

**8. NEW BUSINESS**

Staff responded to a question regarding the maximum capacity of the water and sewer service and advised the sewer upgrades were designed for a full build-out of the current service area, which is approximately 715 properties and single structure on each one. The tanks have the ability to add additional membranes for treatment if necessary.

Discussion ensued regarding rainwater catchment and subsidizing rainwater storage for non-potable water.

**9. ADJOURNMENT**

**MOVED** by D. Reed, **SECONDED** by A. Cyr,  
That the September 12, 2023 meeting be adjourned at 10:25.

**CARRIED**

\_\_\_\_\_  
**CHAIR**

\_\_\_\_\_  
**SECRETARY**



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**REPORT TO MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE  
MEETING OF TUESDAY, SEPTEMBER 12, 2023**

**SUBJECT Capital Project Status Reports and Operational Updates**

**ISSUE SUMMARY**

To provide the Magic Lake Estates Water and Sewer Committee with capital project status reports and operational updates up to and including August 31, 2023.

**BACKGROUND**

The Magic Lake Estates (MLE) Water and Sewer Systems are located on the south shore of North Pender Island in the Southern Gulf Islands Electoral Area and provides drinking water and wastewater services to approximately 1,036 customers. Capital Regional District (CRD) Integrated Water Services is responsible for the overall operation of the water and wastewater systems with day-to-day operation, maintenance, design and construction of water and wastewater system facilities provided by the CRD Infrastructure Engineering and Operations Divisions. The quality of drinking water provided to customers in the Magic Lake Estates Water System is overseen by the CRD Water Quality Section.

**CAPITAL PROJECT UPDATE**

**Magic Lake Estates Water**

**23-03 | SCADA and Radio Communication Upgrades**

Project Description: Replace SCADA Communication infrastructure with modern radio system based on Radio Pathway Study completed under wastewater capital project 21-01.

Project Rationale: Upgrade communication equipment at water facilities as part of the wastewater upgrades (under Project 21-01) to make the entire system more secure and reliable.

Project Update and Milestones:

- The scope of work for the SCADA and Radio upgrades was included in the Wastewater Upgrade Tender.
- Contract 2022-846 - Magic Lake Estates Wastewater Pump Station and Treatment Plant Upgrades was awarded to Coast Utility Contracting Ltd. in April 2023.
- Installation of the radio upgrades will likely occur towards the end of the Treatment Plant upgrades in 2024.

<b>Milestone</b>	<b>Completion Date</b>
Detailed Design	January 2023
Tender	March 2023
Construction	May 2023 – May 2024
Commissioning (Substantial Completion)	May 2024
Warranty	May 2025

**21-02 | Design and Construction Buck Lake and Magic Lake Adjustable Intakes**

Project Description: Detailed design and construction of adjustable intakes to inform future capital works to maintain water quality.

Project Rationale: Both the Buck and Magic Lake adjustable intakes are unsafe to clean and adjust without employing divers. Funds are required to design and construct adjustable intakes.

Project Update and Milestones:

- A consultant was retained in November 2021 and they produced a draft design report summarizing design requirements for the intakes and floats on December 6, 2021.
- Design was completed.
- Tendering closed on June 29, 2022 but no bids were received.
- CRD had discussions with potential bidders who may be interested in providing quotations for this scope, only Pacific Industrial Marine (PIM) was interested in bidding.
- Recommendation to Award to PIM was signed off on November 4, 2022.
- Contract was executed on February 1, 2023 and Notice to Proceed was provided on February 7, 2023.
- Shop drawings have been reviewed and returned to Contractor to commence off-site construction.
- The stipulated Substantial Completion date is September 30, 2023 but there is a potential for this to push out slightly based on Contractor deliverables and also operational coordination requirements.

<b>Milestone</b>	<b>Completion Date</b>
Consultant retained	November 12, 2021
Draft conceptual design report received	December 6, 2021
Design submitted to Front Counter BC for notification	April 21, 2022
Original Tender Closing (no bids)	June 29, 2022
Subsequent bid and Recommendation to Award to PIM	November 4, 2022
Contract Executed	February 1, 2023
Notice to Proceed	February 7, 2023
Shop Drawing Review	August 22, 2023
Substantial Completion (Anticipated)	Q4 2023

**21-04 | Buck Lake Dam Repairs - Phase 1**

Project Description: Conduct additional inspections, minor repairs, and performance analysis highlighted in the 2019 Dam Safety Review. Phase 2 dam improvements to be completed in the following five years.

Project Rationale: Resulting from the Hatch 2019 Dam Safety Review, funds are required to conduct additional inspections, minor dam repairs, and performance analysis. Phase 2 dam improvements to be completed in the following five years. The November 26, 2020 staff report outlines the detailed expenditure plan for Phase 1.

Project Update and Milestones:

- Detailed scope of work and acceptable options for preventing high live loads at Buck Lake Dam’s west dam have been developed. This was reviewed during the 2022 annual inspection and a scope for warning signage is being proposed to be installed in 2023.

- Consultant was retained to conduct a dam breach analysis for both dams to confirm the dam flood area and improve the dam emergency plan. This report was finalized in January 2023.
- Operations to coordinate with CRD Protective Services so that dam emergencies are part of CRD’s Public Alert Notification System (PANS).
- CRD staff have started compiling required information for the dam emergency plan and operating and maintenance manuals. Updates are being completed as of January 2023.
- In 2023, engineering is assessing options for installation of a v-notch weir to monitoring lower flow seepage rates and will continue with design work into Q4 of 2023.

<b>Milestone</b>	<b>Completion Date</b>
Consultant retained to conduct dam breach analysis	December 20, 2021
Draft Dam Breach Analysis Complete and Comments returned	July 14, 2022
Final Dam Breach Analysis Complete	January 2023
Design of Seepage Weir on West Dam Commenced	August 2023

**22-01 | Failed Valve Replacement**

Project Description: Replace six failed water main valves.

Project Rationale: Through annual operations of the water system, three valves have been identified as having failed. Funding is required to replace these valves at Capstan Crescent, Schooner Way and Privateers, Rum Road, Schooner Way and Ketch Road, Bosun Way, and Galleon Way.

Project Update and Milestones:

- Project to commence upon CRD Board approval of the 5-year capital plan at the March 16, 2022 meeting.
- Operations has completed three of the six valve locations and determined two of the sites no longer require replacement due to increased corrective maintenance. The remaining valve replacement sites are being further reviewed operationally. If further work is to proceed it will be completed by the end of 2023.

**22-02 | EV Charging Station**

Project Description: Construct a new Electric Vehicle (EV) Charging Station at the Water Treatment Plant.

Project Rationale: Construct a new EV Charging station at the water treatment plant, project is to be partially funded through a cost matching grant and the Service.

Project Update and Milestones:

- Project delivery is currently being planned with CRD Facilities and Operations.
- This project is now anticipated to be delivered in late 2023 to align with anticipated delivery time of electric vehicles.

<b>Milestone</b>	<b>Completion Date</b>
Notification of conditional grant approval	January 18, 2022

## **WATER SYSTEM OPERATIONAL UPDATE**

This is a water system operational update report for June, July, and August 2023.

- Stage 2 water conservation measures enacted in accordance with the Electoral Areas Water Conservation Bylaw 4492 on July 17. Public communications included issuing a Public Service Announcement (PSA), updating water conservation signage within the community and notification directly to the Magic Lake Estates Committee.
- Initialized discussions with two Magic Lake property owners whose properties are situated on the Magic Lake North Dam, to negotiate Statutory Right of Way's (SRW) over these properties. The SRW's are necessary for CRD to operate and maintain the Magic Lake North Dam in accordance with Dam Safety Regulatory requirements. This work is being funded from the Operations Reserve Fund (ORF) as provided in the Magic Lake Estates Water Financial Plan.
- Water system leak/break repairs:
  - Gunwhale Road – July 25
  - Ketch Road – August 13
  - Intersection of Privateers and Doubloon (standpipe riser cracked) – July 31
- Ongoing water distribution system Schooner/Buccaneers interconnect leak repairs.
- Buck Lake and Magic Lake raw water intake infrastructure cleaning and inspection by certified diving company on July 19. The intake screens needed cleaning as noted in the inspection report. Some deficiencies were noted for the existing Buck Lake float. These deficiencies will be addressed as part of adjustable intake capital work scheduled this year. The capital work will provide operations the ability to complete regular intake cleaning without the need for a certified diving company.
- Annual formal site dam inspections performed for Buck Lake and Magic Lake dam structures on August 30.

## **Magic Lake Estates Sewer Utility**

### **21-01 | Wastewater Improvements – Pump Station and Treatment Plant Upgrades**

Project Description:

1. Renew Galleon and Schooner Pump Stations (upgrade communications at Buccaneer, Capstan, Cutlass and Masthead Pump Stations).
2. Replace Cannon Wastewater Treatment Plant (WWTP) with a new pump station.
3. Upgrade Schooner WWTP.

Project Rationale: Successfully received an Infrastructure Canada grant to complete upgrades on pump stations, install a new pump station at Cannon to pump to Schooner WWTP, and upgrade Schooner WWTP to treat flow from Cannon and renew many components to bring the wastewater system into compliance with environmental regulations.

Project Update and Milestones:

- Notice to Proceed for Contract 2022-846 was issued to Coast Utility Contracting Ltd. in May 2023.
- Slight delay in completing the excavation at Schooner WWTP due to bird nests and bedrock. The bedrock was removed on August 15 and the excavation is complete.
- The pre-purchased fine-screen equipment was received on August 11.
- Import gravel for the entire project was received in one load by barge on August 25.



- Formwork for the tank base has been completed and the delivery of cement trucks is being coordinated with BC Ferries.
- Cannon pump station wet well excavation has commenced and rock is being removed.
- The Ministry of Forests, Lands and Natural Resources has received the Habitat Restoration Plan for compensation of disturbing the wetland area adjacent to Schooner WWTP, and CRD is waiting for their response.
- Rock removal quantities were greater than estimated but the additional cost can be covered within the project contingency allowance.
- Overall, the project schedule has slipped, but it is still anticipated to be substantially complete by the end of the second quarter of 2024.
- A financial status update will be provided at the next meeting after the rock volumes have been confirmed.
- See photos below the table showing some of the progress.

Milestone	Completion Date
Preliminary Design (30%)	September 2022
Detailed Design (90%)	December 2022
Tender Period	January 27 – March 14, 2023
Construction Period	May 2023 – May 2024
Substantial Completion	June 2024
Warranty Period	June 2025



Rock at Schooner WWTP



Rock Removed and Excavation Complete



Excavation at Cannon Pump Station

### **WASTEWATER SYSTEM OPERATIONAL UPDATE**

This is a wastewater system operational update report for June, July, and August 2023.

- Chart Drive sewage pump station pump corrective maintenance that included the replacement of a failed pump.
- Schooner Wastewater Treatment Plant air blower corrective maintenance.
- Masthead Pump Station corrective maintenance that included troubleshooting and replacement of pumping control system equipment.
- Cutlass Court Pump Station corrective maintenance that included removing and de-ragging (removing obstructions) of the pumps. This occurred during the last reporting period.
- Buccaneers Pump Station corrective maintenance that included responding to a pump electrical overload condition. The pumps required removal for further troubleshooting and repairs.
- Operations assistance at the Schooner Wastewater Treatment Plant Capital Project upgrades on July 11 when the contractor inadvertently struck and damaged an active sewer pipe infrastructure resulting in a sewage spill.

Table 1: Operating Permit Regulatory Non-compliance reporting for June, July, and August 2023

Facility	June, July, and August Reports Issued	Reports YTD 2023	Total Reports 2022	Cause
<b>Schooner WWTP</b>	0	4	20	Environmental Incidence Reports are issued typically as a result of: 1. Facility power outage causing loss of UV disinfection resulting in exceedance of fecal coliform (FC) regulatory requirements (permit <200 cfu/100ml). 2. Exceedance of permitted daily maximum flows (< 640m <sup>3</sup> /day). Flow exceedances are due to excessive collection system inflow and infiltration (I&I). 3. Exceedance of permitted total suspended solids (TSS) (<45mg/l). This is type of exceedance is the result of high I&I.
<b>Schooner Pump Station</b>	0	0	1	Typically, these are overflow events into the marine environment (Boat Nook) due to extended power failures in the area. There is no standby power at the facility.
<b>Cannon WWTP</b>	0	1	12	Exceeding maximum daily flows due to storm water entering through I&I. However other non-compliances can be: <ul style="list-style-type: none"> <li>Permit exceedance: total suspended solids (TSS) (&lt;60mg/l) and carbonaceous biochemical oxygen demand (CBOD) (&lt;45mg/l)</li> <li>Toxicity testing</li> </ul>

**RECOMMENDATION**

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

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