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**MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE**  
Notice of Meeting on **Tuesday, February 9, 2016 at 9:30 am**  
Goldstream Conference Room, 479 Island Highway, Victoria, BC

J. Petrie (Chair)  
Director D. Howe

M. Steel  
C. Rodash

K. Heslop  
A. Wilson

J. Gill

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**AGENDA**

1. Approval of Agenda
2. Adoption of Minutes of January 12, 2016
3. Chair's Remarks
4. Presentations/Delegations
  - Angila Bains, CRD – Information on Freedom of Information and Closed Committee Meeting Processes
5. Wastewater Infrastructure Renewal – Phase 1 Update (staff report)
6. Water and Wastewater Operations Report – January 2016 (information report)
7. Review of Action List
8. Correspondence
  - e-mail: Magic Lake Estates Water Quality
  - e-mail: Magic Lake Gaia Water
9. New Business
10. Motion to Close the Meeting  
That the Magic Lake Estates Water and Sewer Committee close the meeting in accordance with the Community Charter, Part 4, Division 3, 90(1)(g) *litigation or potential litigation affecting the municipality.*
11. Adjournment

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*To ensure quorum, advise Lorrie Siemens 250.360.3087 or [lsiemens@crd.bc.ca](mailto:lsiemens@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, January 12, 2016 in the Main Conference Room, 479 Island Highway,**  
**Victoria, BC**

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**PRESENT:**     **Committee Members:** A. Wilson, J. Gill, K. Heslop, Director D. Howe  
                  **Staff:** M. Cowley, Senior Manager, Infrastructure Engineering, S. Mason,  
                  Manager, Water Engineering and Planning, D. Puskas, Project Engineer,  
                  (for items 5 and 10), I. Sander, Manager of Capital Projects (for items 3 & 4), D.  
                  Robson, Manager, Saanich Peninsula and Gulf Islands Operations, J. Marr,  
                  Project Engineer (for items 7 & 8), L. Siemens (recorder), Debbie Glew (recorder  
                  in training).

**ABSENT:**     J. Petrie, M. Steel, C. Rodash

The meeting was called to order at 9:30 am

**1.     Approval of Agenda**

**MOVED** by J. Gill, **SECONDED** by A. Wilson,  
That the agenda be approved previously as distributed.

**CARRIED**

**2.     Adoption of Minutes of November 10, 2015**

**MOVED** by J. Gill, **SECONDED** by Director Howe,  
That the minutes of November 10, 2015 be adopted as presented.

**CARRIED**

**3.     Capital Projects Status Update at Year-End 2015**

I. Sander presented a written report.

**MOVED** by Director Howe, **SECONDED** by K. Heslop,  
That the Magic Lake Estates Water and Sewer Committee receive the report for  
information.

**CARRIED**

**4.     Magic Lake – Adjustable Water Intake Concept Review**

I. Sander presented a written report.

**MOVED** by A. Wilson, **SECONDED** by J. Gill,  
That the Magic Lake Estates Water and Sewer Committee direct staff to close the 2015  
Magic Lake Adjustable Intake Project and include a new project, in the 2017 Capital  
Planning process, to upgrade the Buck Lake and Magic Lake intakes in five years (2022).

**CARRIED**

**5.     Wastewater Infrastructure Projects – Phase 1 Update**

M. Cowley presented a written report.

**MOVED** by J. Gill, **SECONDED** by A. Wilson,  
That the Magic Lake Estates Water and Sewer Committee receive the report for information.

**CARRIED**

**6. Proposed Water Conservation Bylaw**

S. Mason presented a written report.

**MOVED** by J. Gill, **SECONDED** by A. Wilson,  
That the Magic Lake Estates Water and Sewer Committee received the report for information.

**CARRIED**

**MOVED** by G. Gill, **SECONDED** by A. Wilson,  
That the Magic Lake Estates Water and Sewer Committee direct CRD staff to:

1. Prepare a report for a future committee meeting to identify options for water conservation measures and proposed bylaw details; and
2. Fund the initial effort by transferring up to \$5,000 from the capital reserve fund, and request the EASC to support funding from all other electoral area water utility services for the development and implementation of the bylaw.

**DEFEATED**  
**Gill opposed**  
**Wilson opposed**  
**Heslop opposed**

**7. Water System Capital Improvement Project Update**

S. Mason presented a written report.

**MOVED** by A. Wilson, **SECONDED** by Director Howe,  
That the Magic Lake Estates Water and Sewer Committee receive the report for information.

**CARRIED**

**8. Motion to Close the Meeting**

**MOVED** by Director Howe, **SECONDED** by A. Wilson,  
That the Magic Lake Estates Water and Sewer Committee close the meeting in accordance with the Community Charter, Part 4, Division 3, 90(1)(g) *litigation or potential litigation affecting the municipality*.

**CARRIED**

The Magic Lake Estates Water and Sewer Committee closed the meeting at 10:30 am and resumed in open session at 11 am.

**9. Water and Wastewater Operations Report – November and December 2015**

D. Robson presented a written report.

**MOVED** by A. Wilson, **SECONDED** by Director Howe,  
That the Magic Lake Estates Water and Sewer Committee receive the report for  
information.

**CARRIED**

**10. Request for Expression of Interest – Pilot Testing of Wastewater Treatment Technologies**

M. Cowley presented a written report.

**MOVED** by J. Gill, **SECONDED** by Director Howe,  
That the Magic Lake Estates Water and Sewer Committee:

1. Direct staff to prepare a RFEI for pilot testing of wastewater treatment technologies at Schooner WWTP;
2. Authorize funding of up to \$2,500 from the Capital Reserve Fund to prepare and evaluate the RFEI; and
3. Direct staff to report back to the committee on the initial responses, costs, evaluations and recommendations from the RFEI submissions

**CARRIED**

**11. Review of Action List**

The action list was reviewed and updated.

Items Arising From Action List

- CRD staff on Pender Island have been requested to update the lake level sign on a weekly basis.
- The report to document the next steps for the pilot project with Boydel was presented at this meeting.

**12. Correspondence**

There was no correspondence.

**13. New Business**

The committee advised that the Magic Lake Estates property owners Association will be taking a greater interest in the Magic Lake Estates Water and Sewer Committee business.

A discussion took place on presentation of information to the public at the upcoming open house on February 27, 2016.

**14. Adjournment**

The meeting was adjourned at 11:50 am.



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## **REPORT TO MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE MEETING OF TUESDAY, FEBRUARY 9, 2016**

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### **SUBJECT     WASTEWATER INFRASTRUCTURE PROJECTS – PHASE 1 UPDATE**

#### **ISSUE**

To provide an update to the Magic Lake Estates Water and Sewer Committee on the Phase 1 wastewater projects.

#### **BACKGROUND**

At the January 12, 2016 committee meeting, the committee was provided with an update on the progress of the Alternative Approval Process (AAP); which was the process approved by the committee on October 13, 2015 to seek elector approval for funding for the Phase 1 projects.

Since that time, staff have received approval from the Inspector of Municipalities to proceed with the AAP and seek elector approval for the funding for the projects.

#### **Next Steps in the Alternative Approval Process**

A staff report has been prepared for the February 10, 2016 Capital Regional District (CRD) Board meeting to inform the Board that the Inspector of Municipalities has approved the process to date and to request Board approval to commence with the AAP notifications.

Subject to Board approval, staff then will publish the first and second Statutory Notices in newspapers on February 17 and 24, 2016, respectively.

CRD Legislative Services have also prepared a report to show the basis for determining the fair total number of electors of the service area to which the AAP applies utilizing Provincial and CRD voters lists. See Appendix A for a copy of the report.

In addition to the statutory notices, staff are also preparing for the upcoming public open house on February 27, 2016. The open house will take place at St. Peter's Anglican Church between 11 am and 3 pm. As outlined in the communications plan presented at the January 12, 2016 committee meeting, presentation boards highlighting the reason for the required works, a breakdown of the Phase 1 budget, and information on the AAP are being prepared.

CRD Integrated Water Services technical staff and CRD financial staff will be present to answer any questions that attendees may have.

#### **Chart Drive Replacement Design Update**

At the September 8, 2015 meeting, the committee directed staff to commence with two detailed designs for the Chart Drive replacement (one was for a new septic treatment system and the other was for a pump station and forcemain at an approved budget of \$100,000). Urban Systems was retained in November 2015 to undertake the detailed design.

Urban Systems, with CRD staff assistance, inspected the existing septic tank to determine its condition and determine whether it could be rehabilitated and reused as part of the design solution for both options. Based on Urban System's inspection report, it was noted that groundwater was leaking into the upper areas of the tank, but generally it was structurally sound and worth remediating.

Urban Systems also provided short-term recommendations to minimize groundwater infiltration into the tank by constructing a french drain to intercept groundwater before it reaches the tank. This work was completed on January 22, 2016 and has significantly reduced infiltration into the tank.

The 70% complete design drawings, report and Class 'C' cost estimates have been submitted by Urban Systems. The estimated construction costs, and total project costs, for the two options are:

Table 1 – Chart Drive Replacement Class 'C' Cost Estimates

	<b>Septic Field Replacement</b>	<b>Pump Station and Forcemain</b>
Construction Cost Estimate by Urban Systems	\$398,700	\$481,400
Contingency Estimate by Urban Systems (25%)	\$99,700	\$120,400
Estimated Construction Cost Sub Total	\$498,400	\$601,800
Engineering Design (actual RFP amount by Urban Systems)	\$92,510	\$92,510
Construction Services (previous estimate from Sept. 15, 2014 staff report)	\$104,170	\$104,710
<b>TOTAL PROJECT COST</b>	<b>\$695,080</b>	<b>\$799,020</b>

Construction Services include construction inspection, administration and CRD Operation labour. The total project cost for both options are estimated to be under the approved budget of \$810,000 (\$760,000 originally plus \$50,000 for the second design).

Staff have evaluated the designs and have returned comments back to the consultant for review. The detailed designs are expected to be completed by the end of March. Sample drawings from the designs will be provided at the open house.

It is still intended that both designs will be tendered and each option will be evaluated to determine the one with the best value to the MLE Sewer Service.

## **ALTERNATIVES**

### **Alternative 1**

That the Magic Lake Estates Water and Sewer Committee receive this report for information.

Alternative 2

That the Magic Lake Estates Water and Sewer Committee request additional information.

**IMPLICATIONS**

Alternative 1 – Staff will continue with advancement of the AAP and public engagement preparing presentation boards and handouts for the public open house.

Alternative 2 – Staff will present a report addressing the request for information in a subsequent staff report.

**CONCLUSION**

The Magic Lake Estates wastewater system requires improvements. Initial works identified as Phase 1 include the replacement of the Chart Drive septic system, upgrades to Buck Lake and Privateers Road sewers, undertaking an inflow and infiltration (I&I) reduction program, and assessment of the tanks at Schooner wastewater treatment plant. Good progress is being made on the implementation of the Alternative Approval Process that is required for elector consent to borrow funds for the projects and the detailed design for the replacement of the Chart Drive septic system is on schedule as planned. Subject to CRD Board approval, statutory notifications of the AAP will be advertised in the newspaper and a public open house is being planned for February 27, 2016.

**RECOMMENDATION**

That the Magic Lake Estates Water and Sewer Committee receive this report for information.

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Dale Puskas, P.Eng.  
Project Engineer  
Infrastructure Engineering

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Malcolm Cowley, P.Eng.  
Acting Senior Manager  
Infrastructure Engineering

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Ted Robbins, B.Sc., C.Tech.  
General Manager, Integrated Water Services  
Concurrence

DP/MC:ls  
Attachments: 1



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## ALTERNATIVE APPROVAL PROCESS

The purpose of this report is to show the basis for determining the total number of electors to Bylaw No. 4048, *Magic Lake Estates Wastewater System Loan Authorization Bylaw No. 2, 2015*, that is the subject of an alternative approval process.

Section 86(3)(c) of the *Community Charter* requires the regional board to make a fair determination of the total number of electors of the area to which the approval process applies. In addition, the regional board must make available to the public, on request, a report respecting the basis on which the determination was made.

The number of people eligible to be a resident elector or a non-resident property elector is determined based on those individuals who, *when signing an elector response form*:

- are 18 years of age or older;
- are a Canadian citizen;
- have lived in British Columbia for at least six months;
- have lived or owned property in the Magic Lake Estates Sewage Local Service Area for at least 30 days; and
- are not disqualified under the *Local Government Act*, or any other enactment from voting in a local election, or be otherwise disqualified by law.

The estimated number of eligible electors within the Magic Lake Estates Sewage Local Service Area was determined by taking the Provincial Voters List for North Pender Island (April 2015) and the CRD Voters List of Non-Resident Electors for North Pender Island (November 2015) and overlaying the addresses of the registered voters with the addresses of the taxable property folios within the service area.

Number of Registered Resident Electors in the Service Area	565
Number of Registered Non-Resident Electors in the Service Area	53
Total	618
10% of Total	62

Sheila Norton, Deputy Corporate Officer  
January 20, 2016





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## REPORT TO MAGIC LAKE ESTATES WATER AND SEWER COMMITTEE MEETING OF TUESDAY, FEBURARY 9, 2016

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### **SUBJECT**     WATER AND WASTEWATER OPERATIONS REPORT – JANUARY 2016

### **ISSUE**

The purpose of this report is to provide the Magic Lake Estates Water and Sewer Committee general information regarding significant operational activities carried out for the water and wastewater service.

### **BACKGROUND**

During the month of January 2016, operations staff attended to the regular operational and maintenance activities for the water and wastewater service. The activities listed below are intended to capture significant regular maintenance undertakings, capital project activities and unplanned emergency events.

#### **Wastewater Service Activities**

- Assisted with the Chart Drive septic tank confined space entry and inspection. The inspection was overseen by Urban Systems Engineering. This work is related to the approved design scope of Chart Drive replacement project.
- Installed Chart Drive septic tank ground infiltration drainage system. This work was recommended by Urban Systems to reduce the amount of ground water infiltrating into the septic tank. Preliminary information suggests that the drainage system is performing quite well. As an example, prior to the drainage improvement, water levels inside the tank were rising approximately 24" per day, compared to a rise of 2" per day after the improvements. The expectation is that the frequency of septage hauling and disposal will decrease.
- Emergency response and reporting for the Cannon Wastewater Treatment Plant as a result of permit exceedances due to wet weather during January. Daily permitted flow exceedances occurred on Jan. 21, 22, 23, 26, 28, 29, and 30, 2016.
- Emergency response to a report of sewer backing up at 3738 Privateers Road. Confirmed that the sewer backup was the result of a blockage on private property and not the public utility sewer collection system.
- Repairs at the Schooner Wastewater Treatment Plant; non-working exterior lighting equipment repaired; non-working exhaust fan located in the blower room repaired.

#### **Water Service Activities**

- Change-out of the ultraviolet lamps in the UV reactors at the Magic Lake Water Treatment Facility.
- Provided access to the MLE Water Treatment Facility for Rohl to conduct site inspection of the corroding stainless steel pipework. Some assistance provided to Rohl for the inspection work.
- Installation of the Magic Lake water level staff gauge commenced; approved 2015 capital project (Magic Lake Dam Safety Upgrades). Fabrication of the staff gauge is complete. Installation expected January/February 2016 pending weather conditions.

- Continued restoration/alterations work at the Buck Lake building; approved 2015 capital project. Expect to have the work completed by March 2016
- Leak repairs at the Galleon and Rum Road pressure regulating station.

### **ALTERNATIVES**

#### **Alternative 1**

That the Magic Lake Estates Water and Sewer Committee receive the report for information.

#### **Alternative 2**

That the Magic Lake Estates Water and Sewer Committee request CRD staff to provide further information.

### **IMPLICATIONS**

Alternative 1 - There are no implications.

Alternative 2 - There will be extra staff time required in order to; collect additional information; prepare and present a staff report to the committee for their consideration. As a result there will be additional costs.

### **CONCLUSION**

The operations staff attended to the regular operational and maintenance activities for the water and wastewater service for January 2016.

### **RECOMMENDATION**

That the Magic Lake Estates Water and Sewer Committee receive the report for information.

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Dan Robson, ASCT  
Manager, Saanich Peninsula and Gulf  
Islands Operations

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Ted Robbins, B.Sc., C.Tech  
General Manager, Integrated Water Services  
Concurrence

DR:ls:



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**MAGIC LAKE ESTATES WATER AND SEWER LOCAL SERVICE COMMITTEE  
ACTION LIST**

	<b>TASK</b>	<b>ACTION</b>	<b>STATUS</b>
<b>July 9, 2013</b>			
1.	Negotiate for R/W over dam with property owners.	J. Petrie	Ongoing

**From:** Christoph Moch  
**Sent:** Monday, February 01, 2016 3:29 PM  
**To:** [candiscommunications@gmail.com](mailto:candiscommunications@gmail.com)  
**Cc:** directorsgi <[directorsgi@crd.bc.ca](mailto:directorsgi@crd.bc.ca)>; Glenn Harris <[gharris@crd.bc.ca](mailto:gharris@crd.bc.ca)>; Malcolm Cowley <[mcowley@crd.bc.ca](mailto:mcowley@crd.bc.ca)>; Dan Robson <[drobson@crd.bc.ca](mailto:drobson@crd.bc.ca)>; Kristi Wilson <[kwilson@crd.bc.ca](mailto:kwilson@crd.bc.ca)>  
**Subject:** Magic Lake Estates water quality

Dear Candis;

Your email below to the Southern Gulf Island Area Director was forwarded to me so please let me give you a few answers to your questions and concerns.

We do know *Giardia*, a common parasitic protozoan that is transmitted by various animals and can be found in surface water bodies such as lakes and streams. A common symptom after contraction by humans is the so called "Beaver Fever". You are right that UV treatment of raw surface water is the more reliable method of killing and/or inactivating these parasites; more reliable than chlorination alone. UV plus chlorination has proven to be a very effective disinfection combination to address this health risk. That is what CRD uses at Magic Lake Estates for primary water disinfection. Parasites are typically not found in confined groundwater aquifers so that well users may not necessarily need a UV treatment stage.

I have reviewed our recent taste and odour lab results and can report that no increase in chlorine smell/taste have been noted; in fact the rating for "chlorine" taste and odour has been the lower than usual in the last two months. There has also been no change in the chlorine dosage at the treatment plant. I have therefore no explanation for your observation noted below regarding strong chlorine odour.

Lastly, in regard to your concerns about the state of condition of treatment equipment at the plant, I can confirm that the plant operates and performs well and as expected and there are no reports of malfunctioning.

I hope these answers are able to address your concerns. If not, please call me. Thanks.

Sincerely,

**Christoph Moch** | Dipl.-Ing., P.Eng.  
Manager, Water Quality Operations

**Capital Regional District**  
479 Island Highway  
Victoria, BC V9B 1H7  
T. 250.474.9603 | F. 250.474.9691  
email: [cmoch@crd.bc.ca](mailto:cmoch@crd.bc.ca) web: [www.crd.bc.ca](http://www.crd.bc.ca)

Happy New Year Dave!

Sorry to bother you but something interesting has been brought to my attention, and I thought I should go to someone who knows the answer.

Have you heard anything about Giardia?

Apparently it is quite often found in lakes, ponds etc. and of course we have wells.

It probably has no connection but I guess they are having a little trouble with our new water treatment equipment. Supposedly the fittings were put together with metals that react to each other and it's not working perfectly....?? Is that true?

I do know we have smelled a very strong odor of chlorine regularly lately...That's after we have a filter on our main house water and an additional one on our refrigerator from our Magic Lake/Buck Lake water supply, and still smell it.....

Apparently Giardia is not killed with chlorine. It can only be killed by ultraviolet....

I do know people seem to have a lot of stomach problems here.....could be unrelated....

Just wondering.....What do you think?

Thank you for your time.

Take care,

Candis❁

3393

**From:** [Les Bryan](#)  
**Sent:** Thursday, January 21, 2016 12:33 PM  
**To:** [Jim Petrie](#)  
**Cc:** [Tom Richardson](#)  
**Subject:** Magic Lake Gaia Water

Hi Jim

I thought I would update you on some projects we are working on locally and to see where you and the board are for Magic lake. We are currently in talks with Mick Collins Elk Lake Preservation Society and MLA Gary Holman for Gulf Islands and Saanich North with regards to cleaning up Elk and Beaver lake and they have been very involved in getting our technology in front of the CRD and all concerned parties. We were asked to do a test in Florida at Lake Apopka the second largest lake in the state. We have had one machine going for about 2 weeks now and already they have seen the O2 levels rise significantly in a test area beside the lake.

Jim we also read that chlorine is added to Buck lake to kill off pathogens as you may or may not know we have been treating swimming pools with our system for 3 years in the USA and have over 60 pools that have experienced 60 - 80% less chlorine use in the pools due to our high O2 levels . So we feel if we Oxygenate Buck Lake you too could reduce the amount of chlorine needed in the lake.

As spring is approaching we want to get in front of you again and have you start thinking about Gaia Water Ltd for your solutions to your Lake problems. Please let myself or Tom know if you have any questions we hope to hear from you soon. Cheers Les

Les Bryan

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