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## SAANICH PENINSULA WASTEWATER COMMISSION

Notice of Meeting on **Thursday, March 18, 2021 at 9:30 a.m.**

Meeting Room #6 Greenglade Community Centre, 2151 Lannon Way, Sidney 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.

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|                         |                 |             |
|-------------------------|-----------------|-------------|
| R. Barnhart (Chair)     | Z. King         | M. Williams |
| M. Doehnel (Vice Chair) | C. McNeil-Smith | R. Windsor  |
| S. Duncan               | G. Orr          |             |
| D. Kelbert              | M. Weisenberger |             |

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### AGENDA

#### 1. TERRITORIAL ACKNOWLEDGEMENT

#### 2. APPROVAL OF AGENDA

#### 3. ADOPTION OF MINUTES ..... 3

*Recommendation: That the minutes of the January 21, 2021 meeting be adopted.*

#### 4. CHAIR'S REMARKS

#### 5. PRESENTATIONS/DELEGATIONS

*In keeping with directives from the Province of BC, this meeting will be held without the public present. A phone in number is provided above that will allow the public to listen to the meeting.*

*Presentation and Delegation requests can be made [online](#) or complete this [printable form](#) (PDF). Requests must be received no later than 4:30 p.m. two calendar days prior to the meeting.*

#### 6. COMMISSION BUSINESS

##### 6.1. Saanich Peninsula Wastewater Treatment Plant - Rotary Press Replacement – Installation Location Options ..... 7

*Recommendations: That the Saanich Peninsula Wastewater Commission directs staff to proceed with the installation of the replacement rotary press in the Solids Handling room.*

##### 6.2. Established Harbours Environmental Action Services in the Region ..... 13

*Recommendations: That the Saanich Peninsula Wastewater Commission receive this report for information.*

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*To ensure a quorum, advise Denise at 250.360.3087 if you or your alternate cannot attend.*

**Saanich Peninsula Wastewater Commission  
Agenda – March 18, 2021**

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**6.3. Long-Term Biosolids Management Planning Update .....21**

***Recommendations:** That the Saanich Peninsula Wastewater Commission receive this report for information.*

**7. NEW BUSINESS**

**8. ADJOURNMENT**

**Next Meeting:** Thursday, May 20, 2021



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**MINUTES OF A MEETING OF THE SAANICH PENINSULA WASTEWATER COMMISSION**  
**Held Thursday, January 21, 2021 in Meeting Room #6 at Greenglade Community Centre,**  
**2151 Lannon Way, Sidney BC**

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**PRESENT: Commissioners:** R. Barnhart; M. Doehnel; B. Fallot for C. McNeil-Smith; G. Orr  
**WebEx:** S. Duncan; D. Kelbert; Z. King; M. Weisenberger; R. Windsor

**Staff:** T. Robbins, General Manager, Integrated Water Services; M. Cowley, Manager, Wastewater Engineering & Planning; D. Dionne (recorder);

**WebEx:** I. Jesney, Senior Manager, Infrastructure Engineering; M. McCrank, Senior Manager, Infrastructure Wastewater Operations; S. Irg, Infrastructure Water Operations; G. Harris, Senior Manager, Environmental Protection; G. Gullekson, Senior Financial Advisor, Financial Services

**1. TERRITORIAL ACKNOWLEDGEMENT**

T. Robbins provided the Territorial Acknowledgement

**2. CALL TO ORDER**

The meeting was called to order at 10:16 a.m.

**3. ELECTION OF CHAIR**

The General Manager called for nominations for the position of Chair of the Saanich Peninsula Wastewater Commission for 2021.

Commissioner Orr nominated Commissioner Barnhart. Commissioner Barnhart accepted the nomination.

The General Manager called for nominations a second time.

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

Hearing no further nominations, the General Manager declared Commissioner Barnhart Chair of the Saanich Peninsula Wastewater Commission for 2021 by acclamation.

**4. ELECTION OF VICE CHAIR**

Chair Barnhart called for nominations for the position of Vice Chair of the Saanich Peninsula Wastewater Commission for 2021.

Commissioner Orr nominated Commissioner Doehnel. Commissioner Doehnel accepted the nomination.

Chair Barnhart called for nominations a second time.

Chair Barnhart called for nominations a third and final time.

Hearing no further nominations, Chair Barnhart declared Commissioner Doehnel Vice Chair of the Saanich Peninsula Wastewater Commission for 2021 by acclamation.

## 5. APPROVAL OF AGENDA

**MOVED** by Alt. Commissioner Fallot, **SECONDED** by Commissioner Doehnel,  
That the Agenda be approved as circulated.

**CARRIED**

## 6. APPROVAL OF RESOLUTION FOR 2021

**MOVED** by Alt. Commissioner Fallot, **SECONDED** by Commissioner Doehnel,  
That the Saanich Peninsula Wastewater Commission adopt the resolution as presented.

1. That this resolution applies to the Saanich Peninsula Wastewater Commission for the meetings being held between January 1, 2021 and December 31, 2021.
2. That the attendance of the public at the place of the meeting cannot be accommodated in accordance with the applicable requirements or recommendations under the Public Health Act, despite the best efforts of the Saanich Peninsula Wastewater Commission, because:
  - a. The available meeting facilities cannot accommodate more than (8) people in person, including members of the Saanich Peninsula Wastewater Commission and staff, and
  - b. There are no other facilities presently available that will allow physical attendance of the Saanich Peninsula Wastewater Commission and the public in sufficient numbers; and
3. That the Saanich Peninsula Wastewater Commission is ensuring openness, transparency, accessibility and accountability in respect of the open meeting by the following means:
  - a. By allowing the public to hear or participate via teleconference or electronic meeting software,
  - b. By providing notice of the meeting in newspaper or local notice Board, including the methods for providing written or electronic submissions,
  - c. By making the meeting agenda, as well as the other relevant documents, available on the CRD website, and directing interested persons to the website by means of the notices provided in respect of the meeting,
  - d. By strongly encouraging the provision of, and subsequently receiving and distributing to members, written correspondence from the public in advance of the meeting, and
  - e. By making the minutes of the meeting available on the CRD website following the meeting.

**CARRIED**

## 7. ADOPTION OF MINUTES

**MOVED** by Alt. Commissioner Fallot, **SECONDED** by Commissioner Doehnel,

That the minutes of the October 15, 2020 meeting and November 10, 2020 special meeting be adopted.

**CARRIED**

## 8. CHAIR'S REMARKS

The Chair had no remarks.

## 9. PRESENTATIONS/DELEGATIONS

No one registered to speak.

## 10. COMMISSION BUSINESS

### 10.1. Supply of Sludge Dewatering Equipment – RFP No. 2020-632

M. Cowley spoke to the report noting that the existing rotary press has performed well but requires replacement. He outlined the design brief that recommends a rotary press and that it takes about 25 weeks to manufacture the item, which allows time to get the design ready.

He noted that only one proposal was received to the Request for Proposals noting that it was \$300,000 more than originally planned, due to electrical code changes.

Discussion ensued and staff responded to questions from the Commission regarding:

- The Triple Bottom Line factors including finance, staff experience, vendor response, technical requirements and safety
- The collection of Development Cost Charges (DCC) and the process for the transfer of funds from DCC to capital reserve.
- Location of the new rotary press and the consideration of a better option for locating the equipment

**MOVED** by Commissioner Weisenberger, **SECONDED** by Alt. Commissioner Fallot,

1. That the Saanich Peninsula Wastewater Commission recommends to the Capital Regional District Board that the 19-01 Project Budget, in the Saanich Peninsula Wastewater Services 2021 Capital Plan, be increased by \$300,000 from the capital reserve fund to bring the revised project budget up to \$1,490,000.

**CARRIED**

**MOVED** by Commissioner Weisenberger, **SECONDED** by Alt. Commissioner Fallot,

2. That the Saanich Peninsula Wastewater Commission award Contract 2020-632 - Supply of Sludge Dewatering Equipment, to Fournier Industries in the amount of \$589,730 plus taxes.

**CARRIED**

## 11. NEW BUSINESS

T. Robbins noted that there is still a vacancy on the Commission for a Sidney citizen representative. Sidney received no response to its first advertisement and is in the process

of advertising again. It is anticipated that a representative will be appointed before the next Commission meeting.

The Commission discussed septic systems and how they may be related to the new Harbour Service.

## 12. ADJOURNMENT

**MOVED** by Alt. Commissioner Fallot, **SECONDED** by Commissioner Orr,  
That the meeting be adjourned at 10:51 a.m.

**CARRIED**

\_\_\_\_\_  
CHAIR

\_\_\_\_\_  
SECRETARY

**REPORT TO SAANICH PENINSULA WASTEWATER COMMISSION  
MEETING OF THURSDAY, MARCH 18, 2021**

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**SUBJECT**     **Saanich Peninsula Wastewater Treatment Plant - Rotary Press Replacement - Installation Location Options**

**ISSUE SUMMARY**

To summarize location options and obtain approval on where to install the new 6-channel Rotary Press.

**BACKGROUND**

At its January 21, 2021 meeting, the Saanich Peninsula Wastewater Commission (the Commission) approved awarding a \$589,730 (excluding taxes) contract to Fournier Industries to supply a new 6-channel rotary press and to increase the overall project budget to \$1.49 million. At the meeting, the Commission was also informed that staff were evaluating options on where to best locate the new press including the possible removal of the pasteurization vessel (part of the old RDP biosolids process) in the solids handling room area. This report summarizes the following two press location options that were considered.

1. Same location as existing press
2. New location at pasteurization vessel (on the solids handling floor)

The second option was suggested because of the many challenges associated with the first option including: space constraints, no overhead crane to remove and install equipment, demolition of an exterior wall, and temporary dewatering issues (until the new press was commissioned). If a new location were available for the press, many of those issues would be resolved and there would be less risk for installing and commissioning the new press while the existing one remains in service.

One potential new location identified was on the solids handling floor, but this would require the removal of some of the existing RDP biosolids processing equipment (that has not been in operation since 2011), and reconfiguration of stairs and platforms from the press room down to the solids handling room. This location was discussed with operations, electrical, and mechanical staff who indicated that this location made sense and was even preferable, as the old RDP process created potential health and safety concerns, is no longer operational, and staff are still completing work orders on some of this old equipment even though it is not being used. A complete list of all the pros and cons for both options is attached in Appendix A. Photos showing the two location options are attached in Appendix B.

It is extremely unlikely that the existing RDP process will be re-activated for the following reasons:

- The process creates potential health and safety concerns that would reduce significant capital and operating improvements to address. The key issues are lime dust, ammonia gas, odours, and code changes.
- The equipment has been idle for 10 years and many components would need to be replaced.
- The Capital Regional District (CRD) Board Policy banning land application of biosolids is not likely to change.

## Saanich Peninsula Wastewater Commission – March 18, 2021

### Saanich Peninsula Wastewater Treatment Plant - Rotary Press Replacement - Installation Location Options 2

- The Hartland Residual Solids Treatment Facility is now operational and can accept Saanich Peninsula solids and beneficially extract biogas and use the dried solids as a fuel substitute.

The financial summary of the Rotary Press Replacement project is as follows:

#### Overall Project Budget Summary

| Task               | Budget             | Actual and Committed Cost To-Date | Remaining Cost to Complete | Variance   |
|--------------------|--------------------|-----------------------------------|----------------------------|------------|
| Project Management | \$50,000           | \$23,269                          | \$26,731                   | \$0        |
| Design             | \$200,000          | \$196,436                         | \$3,564                    | \$0        |
| Equipment Supply   | \$610,000          | \$609,798                         | \$202                      | \$0        |
| Construction       | \$550,000          | \$0                               | \$550,000                  | \$0        |
| Ops/Commissioning  | \$30,000           | \$0                               | \$30,000                   | \$0        |
| Contingency        | \$50,000           | \$0                               | \$50,000                   | \$0        |
| <b>Total</b>       | <b>\$1,490,000</b> | <b>\$829,503</b>                  | <b>\$660,497</b>           | <b>\$0</b> |

Based on the above, the estimated funds available to install the new rotary press are approximately \$550,000 not including the \$80,000 remaining for commissioning and project contingency.

In order to assess the installation cost estimate and other logistical considerations for both options, the CRD invited its consultant, HDR, and a contractor, Caird Mechanical, to visit the site and provide a rough cost estimate for each option along with any other comments/suggestions. Overall, HDR and Caird both indicated that it would be easier to install, less risk, and less cost to locate the press in the new location (Option 2). The table below summarizes the cost information received and includes other items to provide a complete apples-to-apples installation cost comparison:

#### Installation Cost Estimate

| Task                           | Option 1 – Same location as existing press | Option 2 – New location at pasteurization vessel (on the solids handling floor) |
|--------------------------------|--------------------------------------------|---------------------------------------------------------------------------------|
| Exterior Wall Re & Re          | \$15,000                                   | n/a                                                                             |
| Press Removal                  | \$20,000                                   | \$20,000                                                                        |
| Portion of RDP/Stair Removal   | n/a                                        | \$35,000                                                                        |
| Offload Press & move in place  | \$40,000                                   | \$25,000                                                                        |
| Temporary Dewatering           | \$110,000                                  | n/a                                                                             |
| Mechanical Installation        | \$50,000                                   | \$55,000                                                                        |
| Electrical and Controls        | \$100,000                                  | \$110,000                                                                       |
| New Stairs/Platform            | \$5,000                                    | \$40,000                                                                        |
| General Requirements           | \$110,000                                  | \$95,000                                                                        |
| Contingency/Risk               | \$100,000                                  | \$75,000                                                                        |
| <b>Total Construction Cost</b> | <b>\$550,000</b>                           | <b>\$455,000</b>                                                                |

The installation cost estimate for both options is within the budget, but the cost to install the new rotary press in the Solids Handling room is significantly lower than installing it in the same location as the existing press.

In addition, the funds spent on temporary dewatering does not provide any value; whereas the funds used to remove some of the existing RDP equipment does provide value as the equipment removal was budgeted to be removed in 2024. Moreover, the new press can be situated so that dewatered solids can be dropped directly onto the existing belt conveyor without the use of an intermediate conveyor, and the control panel can more easily be located in the solids handling room versus the press room.

### **ALTERNATIVES**

#### *Alternative 1*

That the Saanich Peninsula Wastewater Commission directs staff to proceed with the installation of the replacement rotary press in the Solids Handling room.

#### *Alternative 2*

That the Saanich Peninsula Wastewater Commission directs staff to proceed with the installation of the replacement rotary press in the existing Press room.

### **IMPLICATIONS**

Alternative 1 – Installation of the Rotary Press in the solids handling room is easier, less risk, and less cost. Removal of some of the old RDP equipment was planned and budgeted to take place in 2024. The removal of old equipment and placement of the press in the solids handling room provides the best use of space at the plant and long-term benefit for ongoing operations and maintenance. The new press can be installed, tested, and commissioned while the existing press remains in place. The existing press can remain in place for additional redundancy until it is no longer serviceable at which point it can be removed in pieces through the existing man-door without having to remove the exterior wall.

Alternative 2 – Installation of the rotary press in the existing press room is within budget, but is more difficult, creates more risk, and is more expensive. An exterior wall will need to be removed and replaced, specialized cranes will be required and a temporary dewatering press will be needed requiring more operator involvement and increasing the potential odour complaints from the surrounding neighbourhood.

### **CONCLUSION**

The existing 25-year-old press has operated well but is nearing its end of life. A contract has been awarded to Fournier Industries for the supply of a new 6-channel Rotary Press. Two location options for installation of the replacement press are considered and the best option is the Solids Handling room.

**Saanich Peninsula Wastewater Commission – March 18, 2021****Saanich Peninsula Wastewater Treatment Plant - Rotary Press Replacement - Installation  
Location Options**

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**RECOMMENDATION**

That the Saanich Peninsula Wastewater Commission directs staff to proceed with the installation of the replacement rotary press in the Solids Handling room.

|               |                                                                           |
|---------------|---------------------------------------------------------------------------|
| Submitted by: | Malcolm Cowley, P.Eng., Manager, Wastewater Engineering and Planning      |
| Concurrence:  | Ian Jesney, P.Eng., Senior Manager, Infrastructure Engineering            |
| Concurrence:  | Ted Robbins, B. Sc., C. Tech., General Manager, Integrated Water Services |
| Concurrence:  | Robert Lapham, MCIP, RPP, Chief Administrative Officer                    |

**ATTACHMENTS**

Appendix A: Pros and Cons of Location Options

Appendix B: Photos showing two Location Options

## Appendix A – Pros and Cons of Rotary Press Location Options

| Rotary Press Location Options                                                  | Pros                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Option 1 – Same location as existing press</b>                              | <ul style="list-style-type: none"> <li>• Same Room as existing press</li> <li>• Good connections for sludge feed, filtrate and dewatered sludge</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Requires a wall removal</li> <li>• Tight fit in the room, relocate stairs, etc.</li> <li>• Tight fit for new control panel</li> <li>• Difficult to get old equipment out and new equipment in</li> <li>• Requires a temporary structural platform on the clarifier to land equipment</li> <li>• Requires a temporary dewatering press</li> <li>• Requires operations to operate the temporary press</li> <li>• Requires conveyor rental/bin for dewatered sludge</li> <li>• Potential odours from temporary dewatering</li> <li>• Additional risks with temporary dewatering/time pressure to get new press commissioned.</li> <li>• Higher capital cost</li> </ul> |
| <b>Option 2 – At Pasteurization Vessel location (on Solids Handling Floor)</b> | <ul style="list-style-type: none"> <li>• Easier offloading/installation of new press; truck can drive in to the room for offloading</li> <li>• No temporary dewatering press required</li> <li>• No wall removal and no platform</li> <li>• Can leave exist press in place for on-going use</li> <li>• More space to locate the control panel</li> <li>• Direct feed onto the existing conveyor</li> <li>• No containment curb req'd – just wash down existing floor to drain</li> <li>• Cleans up clutter in the Solids Handling Room</li> <li>• Saves maintaining old RDP equipment that is never used</li> <li>• Better long-term location</li> <li>• Frees up space in the old press room for storage, etc.</li> <li>• Lower capital cost</li> </ul> | <ul style="list-style-type: none"> <li>• Requires demolition of some RDP equipment and existing stairs</li> <li>• Need to reconfigure stair access to the lower floor</li> <li>• Custom support for the press to straddle the pipe chase under the floor</li> <li>• May require a platform to access the press</li> <li>• No overhead crane (but one should not be required as there is forklift access)</li> </ul>                                                                                                                                                                                                                                                                                          |

## Appendix B – Photos showing two location options



**Option 1 – Existing Press Room**



**Option 2 – Solids Handling Room**



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EEP 21-11

## REPORT TO SAANICH PENINSULA WASTEWATER COMMISSION MEETING OF THURSDAY, MARCH 18, 2021

**SUBJECT**     Established Harbours Environmental Action Services in the Region

### **ISSUE SUMMARY**

Provide a summary of outcomes and benefits of the core area harbours service for the Saanich Peninsula Wastewater Commission.

### **BACKGROUND**

While considering the establishment of the Saanich Peninsula Waterways Environmental Action Service at the November 10, 2020 Saanich Peninsula Wastewater Commission, the Peninsula local governments requested that Capital Regional District (CRD) staff prepare a summary of outcomes from similarly established services in the region and the cost benefit of it, so that the Commission can evaluate how the services have resulted in changes.

Since 1997, the CRD has operated a “Harbours Environmental Action” service for the core area, local governments and First Nations, with an emphasis on environmental stewardship through education and outreach efforts, facilitation and coordination between local government staff and community groups, liaising with First Nations and senior government agencies and conducting harbours monitoring and restoration. This service meets a commitment under the Core Area Liquid Waste Management Plan, and in 2010, the service was expanded beyond liquid waste management to include broader environmental stressors on the watersheds and land draining to the harbour areas. With this expansion, many community watershed groups were engaged.

Through the harbours service, CRD staff play a key role in coordinating and facilitating harbour based initiatives such as:

- Gorge Waterway Initiative and Esquimalt Lagoon Stewardship Initiative, which involve a broad coalition of community and environmental groups, institutions, the business community, recreational user groups and government (federal, First Nations, provincial and municipal) interested in Portage Inlet, Gorge Waterway and Esquimalt Lagoon.
- Liaising with senior government agencies and First Nations (primarily Esquimalt and Songhees Nation) and providing support municipal staff and the communities in this multi-jurisdictional environment.
- Conducting key ecological inventories and environmental monitoring of the harbours, and
- Supporting and coordinating restoration efforts of the area

A summary of key activities, initiatives and outcomes is provided in Appendix A.

### **IMPLICATIONS**

#### *Environmental & Climate Implications*

The harbours environmental action service has resulted in improved stewardship and

understanding of the ecological values as well as improved ecological inventories and water quality monitoring through the development of water quality objectives for the Victoria and Esquimalt Harbours, Gorge Waterway, Portage Inlet and Esquimalt Lagoon. This increased understanding by residents, government agencies and First Nations has improved the environmental stewardship and restoration of the waterway. Providing a forum for sharing and collaboration has been a hallmark of the Gorge Waterway Initiative and the Esquimalt Lagoon Stewardship Initiative and has resulted in many collaborative shoreline, creek and fisheries habitat restoration projects and the engagement of more than twenty stewardship and resident groups. The groups work together on stewarding the area and provide outreach and education to residents and visitors. Interpretive signage highlighting the ecological features, natural history and rich First Nations connection provide permanent awareness to all who visit the Gorge Waterway and Esquimalt Lagoon.

The harbours on the Saanich Peninsula face multiple environmental risks associated with near shore waters, including contaminant runoff, bilge discharges, habitat alteration and illegal dumping. Local government actions to address these issues range from education and outreach, advocacy to senior levels of government for action, and the pursuit of new regulatory and enforcement options for local governments. By working together through a newly established harbours service, improved stewardship and management of these areas can be achieved.

### *Intergovernmental Implications*

There are multiple government agencies at the local, provincial and federal level, First Nations, public and private landholders and environmental groups with an interest or some level of jurisdiction for the stewardship and management of the nearshore marine areas. CRD staff play a key role in bringing these agencies together and providing a consistent approach throughout the region, examples of which are provided in Appendix A.

The harbours service has demonstrated its value in bringing together agencies and stakeholders to work towards common goals. A key example is the regional approach taken on abandoned boats in the region. The CRD provided 25% of the required funding, created a partnership with the Dead Boats Disposal Society (DBDS) and Salish Sea Industrial Services who conducted the assessment and coordinated removal of several boats on a harbour by harbour basis. The CRD operated an abandoned boat reporting line and shared all information with DBDS so that they could coordinate boat removal. As a result of this program, more than 70 abandoned boats were removed from the regions harbours and shoreline.

Initially, a new service for the Peninsula harbours would be similar to the efforts in the core area that provide a forum to bring senior levels of government together with local government staff and First Nations, along with community groups to discuss the issues and coordinate roles and responsibilities for action. The service would not likely achieve any regulatory powers. Senior levels of government hold responsibility for implementation and enforcement of associated legislation and have not indicated any willingness to transfer that responsibility. Significant resources would also be required by local governments along with any transfer of responsibility. The service, however, would dedicate effort and attention through public outreach and engagement, advocacy, pursuit of specific projects and coordination of any local government actions with senior levels of government.

### *Financial Implications*

For a relatively low investment of staff time and some funding for projects, the core harbours service leverages significant community investment of time and effort in the protection and enhancement of natural areas, delivering outreach and education to residents and visitors, and creating collaborative opportunities to steward and restore the watersheds and the harbour areas.

Staff will pursue provincial and federal grants to support service priorities. As well, the current model to engage and coordinate partnerships with community groups results in a significant investment of volunteer effort in outreach, restoration, creation of fisheries habitat, and monitoring of water quality.

### **CONCLUSION**

The Core Area Harbours Environmental Action Service has successfully brought together harbour stakeholders to the benefit and improvement of the harbours. Keys to success have been advocacy and coordination with senior levels of government on harbour issues, engagement of community and environmental groups alongside local government, coordination of issues of concern to all local governments and providing a forum for knowledge sharing and collaboration. A similar, but scaled, approach is proposed for the Saanich Peninsula area.

### **RECOMMENDATION**

That the Saanich Peninsula Wastewater Commission receive this report for information.

|               |                                                                           |
|---------------|---------------------------------------------------------------------------|
| Submitted by: | Glenn Harris, Ph.D., R.P.Bio., Senior Manager, Environmental Protection   |
| Concurrence:  | Larisa Hutcheson, P.Eng., General Manager, Parks & Environmental Services |

### **ATTACHMENT**

Appendix A: Key Activities of the Harbours Environmental Action Service for the Core Area Harbours

## KEY ACTIVITIES OF THE HARBOURS ENVIRONMENTAL ACTION SERVICE FOR THE CORE AREA HARBOURS

March 2021

The Harbours Environmental Action service pertains to Portage Inlet, Gorge Waterway, Victoria Harbour, Esquimalt Harbour and Esquimalt Lagoon. Saanich, Victoria, Colwood, Esquimalt, View Royal and Langford. The following provides examples of the key activities and outputs of the core area harbours service.

### 1. Coordination and Facilitation

Capital Regional District (CRD) staff play a key role in coordinating and facilitating harbour based initiatives – Gorge Waterway Initiative (GWI) and Esquimalt Lagoon Stewardship Initiative (ELSI) – which involve a broad coalition of community and environmental groups, institutions, the business community, recreational user groups and government (federal, First Nations, provincial and municipal) interested in Portage Inlet, Gorge Waterway and Esquimalt Lagoon. These initiatives focus on environmental issues in the waterways and the surrounding watersheds. Main activities include:

- Environmental Strategy Development: Each initiative develops a stewardship strategy or management plan that is supported by the group. The group then works collaboratively to implement the strategy.
- Information Sharing Forum: The initiatives meet quarterly to share information about waterway issues and concerns, ongoing environmental activities happening in and around the waterways, and to develop public outreach and engagement tools. Proponents of major projects or developments are often invited to the initiatives to present their plans and obtain community feedback and suggestions to enhance environmental considerations. CRD staff chair and facilitate these meetings.
- Coordinated Reviews: Initiative members review and submit coordinated responses to the appropriate municipalities on topics such as Official Community Plan reviews, new bridge construction (Admirals Bridge, Craigflower Bridge), development applications along the waterfront or in riparian areas, anchored boats, sewer pump station upgrade project in Portage Inlet and related subjects as they come up. Some municipalities have identified the initiatives as official reviewers for development applications and with the depth of knowledge base among the initiative members, are regularly consulted by local governments for input regarding issues that affect the waterways and the ecosystems they support.
- Migratory Bird Sanctuary Protection: Most of the core harbour areas fall within two federally designated Migratory Bird Sanctuaries– Esquimalt Lagoon and Victoria Harbour Migratory Bird Sanctuaries (which includes Portage Inlet and the Gorge Waterway) and protection of the birds and habitats within these areas are key priority of both ELSI and the GWI. CRD staff have close ties with staff at Canadian Wildlife Service and consult regarding a variety of issues impacting migratory birds.

### 2. Liaison with Senior Government Officials and First Nations

CRD staff play an important function in liaising with senior government agencies and First Nations (primarily Esquimalt and Songhees Nation) and help support municipal staff and the communities.

## Appendix A

### Key Activities Of The Harbours Environmental Action Service For The Core Area Harbours – March 2021

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- Abandoned Boats: In July 2017, the CRD's Environmental Services Committee and the CRD Board directed staff to submit funding applications for the assessment and removal of derelict boats through Transport Canada's Abandoned Boat Program. In 2018, the CRD established a Letter of Agreement with the Dead Boats Disposal Society (DBDS) and the Salish Sea Industrial Services (SSIS) - a subsidiary of Ralmax that employs local First Nations in the marine industry - to identify, assess and remove abandoned boats in the capital region. Under the agreement, the CRD provided the 25% grant funding required for the DBDS and SSIS to apply for removal funding through Transport Canada's Abandoned Boat Program grants (up to 75% of expenditures). Many municipalities participated in the program by identifying boats in their region, assisting with placing notices on boats and informing their communities about this work. Through this working partnership, the CRD provided the required 25% removal funding and operated an abandoned boat reporting line. All reported boats were provided to the DBDS who worked with SSIS to submit the required paperwork and funding applications, coordinate equipment and trained the crews in removal of these vessels. As a result, more than 70 abandoned vessels were removed from the bays and harbours in the region and 10 local First Nations received training and experience on vessel removal techniques through SSIS.
- Wildlife Refuge Areas: CRD staff worked with Colwood and the Canadian Wildlife Service to establish Wildlife Refuge Area in Esquimalt Lagoon. The wildlife refuge areas were placed at locations where large flocks of waterfowl would congregate to feed, roost or rest. After consulting with the ELSI, the boating community and other stakeholders at the lagoon, Canadian Wildlife Service established four Wildlife Refuge Areas within the Esquimalt Lagoon, all boaters are asked to stay out of these areas.
- Dog On-Leash within Migratory Bird Sanctuary: ELSI worked with Colwood to establish a dog on-leash bylaw in July 2008 to ensure that federal regulations regarding pet control are upheld within the Migratory Bird Sanctuaries. In addition, ELSI, Colwood and Citizen Canine worked to create dog off-leash areas with beach access just outside of the Migratory Bird Sanctuaries boundaries. Colwood municipal bylaw officers monitor compliance.
- Bird Diverters: Following the death of several herons that had come in contact with powerlines crossing the Gorge Waterway, CRD staff worked with BC Hydro staff to provide data required to warrant the installation of bird diverters on power lines on Gorge Bridge. When the Craigflower Bridge was replaced in 2015, BC hydro worked with Saanich and View Royal to install all utility lines under the bridge deck so that there were no more bird strikes.

### 3. Ecological Inventories and Environmental Monitoring

- Harbours Ecological Inventory: In the early 2000's, the Harbours program conducted an intertidal and subtidal inventory of key habitats and species in Portage Inlet, Gorge Waterway, Victoria Harbour, Esquimalt Harbour and Esquimalt Lagoon. The intertidal habitats were given an ecological rating and the entire inventory and rating is publically accessible through the Harbours Atlas, an online GIS platform. In 2021-2022, an updated intertidal and subtidal inventory for these core area harbours will be obtained and displayed on the Harbours Atlas.
- Water Quality Objectives: In collaboration with the Stormwater Quality Monitoring program and the Province of BC, extensive sampling at more than 30 harbour locations using 5-in-30 sampling methodology was completed for the purpose of developing specific water quality objectives for the harbours. A draft report was provided to the Province which has not been finalized. Every five years, attainment monitoring is completed by CRD staff and the results submitted to the Province. In addition, extensive sampling using the 5-in-30 methodology occurs every five years in the major creeks that enter the harbour areas. Some high rated

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### Key Activities Of The Harbours Environmental Action Service For The Core Area Harbours – March 2021

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stormwater discharges are also extensively monitored using this methodology to enhance the ongoing annual discharge monitoring that occurs. Using this data, CRD staff work with municipal staff to identify and eliminate contaminant sources from land-based activities.

- Algal Blooms and Fish Kills - In recent years, several dense algal blooms have threatened the health of Esquimalt Lagoon. These algal blooms, combined with very low night-time tides, caused serious depletion of the oxygen levels in the lagoon (algae take up oxygen at night through respiration). These conditions are thought to have caused fish kills observed in 2008 and 2009. Stormwater sampling in the lagoon and adjacent areas was increased in 2009. CRD engaged a graduate student from the University of Victoria who completed her Master of Science in 2012, focused on studies of phytoplankton communities in the lagoon.
- Land Cover Analysis: CRD staff are updating the land cover data for the core area, peninsula and southern gulf islands. These analyses provide tree cover and impervious surface cover and show the change over time (1985, 2007, 2013, 2019). This updated land cover data that will also define wetlands, canopy height model and differentiate between deciduous and coniferous trees using LiDAR. This project should be complete by July 2021 and the data will be made available on the regional maps products and to municipalities.

In 2013, the Habitat Acquisition Trust sponsored a project to classify land cover within portions of the CRD's 2005 and 2011 orthophoto imagery. Percent cover of tree canopy and impervious surfaces based on one hectare grids are also available from 1986, 2005 and 2011 datasets. The land cover is now being updated by the CRD using 2019 and 2017 orthophoto imagery as well as available LiDAR datasets.

The updated land cover classification results will inform a variety of regional strategies, assessments and initiatives including monitoring for urban forest strategies, watershed risk assessment tools, municipal tree protection bylaw review, biodiversity strategies and stormwater management and planning.

The project includes the following analysis using available datasets:

- Updated land cover classification.
- Comparisons between the updated classification and the 2011 and 2005 datasets for each municipality, electoral area, First Nation and watershed boundary within the project boundaries.
- Percent cover of canopy and impervious surfaces based on one hectare grids including comparison to past datasets.
- Riparian/wetland model.
- Canopy height model.
- Identification of suitable tree planting areas.
- Species monitoring: CRD staff work in collaboration with senior government agencies and community volunteers to monitor the following marine species:
  - European Green Crab: Volunteers participate in green crab monitoring at Esquimalt Lagoon through programs led by Fisheries and Oceans Canada. The invasive European Green Crab, recently found in Esquimalt Lagoon is of concern because it has the potential to destroy eel grass meadows, which are important nursery habitat for herring and salmon. The crabs also eat local clams, oysters, and mussels, and compete with other native crabs.

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- Fish monitoring: ELSI volunteers monitor fish (Coho Salmon and Cutthroat Trout) in three fish-bearing streams that enter Esquimalt Lagoon. Data is shared with Fisheries and Oceans Canada.
- Oyster Monitoring in the Gorge: The Gorge Waterway Initiative supports monitoring of the subtidal population of the native Olympia oyster (*Ostrea lurida*) in the Gorge and Portage Inlet. This is a federally designated “species of special concern” and one of the few remaining populations on the BC coast occurs in the Gorge Waterway. This project will add to our understanding of the habitat needs of this species, potential threats posed by invasive marine species and other factors that affect the distribution and abundance of the Olympia oyster in the waterway.

#### 4. Habitat Restoration Projects

- Purple Martin Nest Boxes: The GWI supported the installation of 12 purple martin nest boxes along the waterway to enhance nesting habitat for the Purple Martin.
- Restoration Activities: coordinate volunteers for specific restoration sites – Point Ellice Shoreline, Esquimalt Lagoon dune habitat restoration and protection. GWI member groups are actively involved with a variety of restoration projects along the waterway. The GWI acts as a hub for information distribution.
- Coburg Peninsula Dune Restoration: ELSI led a pilot Dune Habitat Restoration project on the Coburg Peninsula at Esquimalt Lagoon. The goals of the project were to restore native dune habitats through the establishment of demonstration restoration plots; realign beach access points and benches to reduce trampling across sensitive dune habitat; monitor the effectiveness of restoration, and raise public awareness of dune habitats and engage residents and visitors in stewardship of the dunes. In consultation with ELSI, the City of Colwood’s Parks Department contributed to the project by defining beach access paths, aligning benches with the access paths and decommissioning some vehicle parking spaces. School groups, community groups and individual volunteers then worked with ELSI to plant nearly 2,000 native plants in the restoration plots and decommissioned parking areas. Students from Camosun College’s Environmental Technology program and the University of Victoria’s Restoration of Natural Systems program participated by doing ecological analysis, monitoring and report writing.
- Point Ellice Shoreline Restoration: The Gorge Waterway Initiative partnered with the Point Ellice Historical Society to remove more than 20 tons of invasive ivy from the shoreline.

#### 5. Public Engagement

- First Nations Murals and Interpretive Signage: CRD staff worked with Saanich, View Royal, and Esquimalt and Songhees Nations to create a large sign using the basic design of the existing GWI interpretive signs along the waterway. This dramatic three-panel sign highlights the deep cultural and spiritual roots of the Lkwungen-speaking people, and the significance of the Gorge Waterway and surrounding lands within their traditional territory. It also symbolizes a bridge between cultures and generations, and celebrates the foundation and legacy of the living Lkwungen culture left to the Songhees and Esquimalt people by their ancestors and elders. Esquimalt Nation artist Darlene Gait and Songhees artist and master carver Butch Dick worked together to create artwork and graphic layout for the three panels. A school of herring is depicted along the bottom of the First Nations sign panels and also imbedded in the concrete beneath the sign, acknowledging the importance of this species in the local marine ecosystem. Lkwungen land means “land of the smoked herring”.

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CRD staff also worked with Songhees and Esquimalt Nation to develop murals and interpretive signs at Esquimalt Lagoon.

- Outreach at event, watershed models demonstrating how pollution enters the harbours, The ELSI display and interactive watershed model is regularly brought to events around Esquimalt Lagoon
- Development of outreach materials that can be distributed by the groups involved in the initiatives
- Watershed Models: The local Stream Team group built a series of 3-D models of the Esquimalt Lagoon watershed to demonstrate how water moves through the watershed, and how pollution can affect water quality in the lagoon. This interactive model demonstrates how water moves through the watershed, and how non-point source pollution can affect water quality in the lagoon. Volunteers at special events and school presentations use the model to demonstrate how and where pollution occurs around the home and community, and how rain can transport this pollution from around the watershed into creeks and ultimately into Esquimalt Lagoon.
- Harbour User Survey: The GWI worked with partners in the University of Victoria Geography Department in 2013 to create an online survey to gain public input about the Gorge Waterway, Portage Inlet and three other harbour areas in the capital region. This is part of a broader initiative to establish water quality objectives for the five harbour areas. Survey questions covered how people use the harbours, the features they most valued about the harbours, and what their visions were for the future
- Interpretive Signage:
  - The Gorge Waterway Initiative worked in partnership with the parks staff at Esquimalt, Victoria, Saanich and View Royal to develop an interpretive signage strategy for the Gorge Waterway. The aim of the interpretive signs is to improve awareness of the underwater ecology of the waterway, marine wildlife and habitat features, the watersheds drain to the waterway, key historical and cultural points of interest and other topics. A series of 12 interpretive signs have been placed along the waterway within the four municipalities that share this waterway
  - ELSI worked with several community partners to install interpretive signs at the lagoon. The signs help educate visitors about the wildlife, birds, marine life, dune ecosystems as well as the human and cultural history of this unique area.
- Speakers Series: The GWI and ELSI host Speakers Series events periodically, covering a wide variety of topics to do with the Esquimalt Lagoon, Gorge Waterway and adjacent area. These events are offered free of charge and often are attended by 60-80 people. Highlights from past talks include: Biodiversity, Eelgrass, Oysters, Otters, Alien Plants, Herons, and Healthy Shorelines.
- Greater Victoria Naturehood: ELSI, GWI and several other regional conservation partners collaborated in 2017 to celebrate the 100<sup>th</sup> anniversary of the Migratory Bird Convention Act. The goals were to improve stewardship of the ecosystems that support birds and other wildlife in our urban centres, and to raise awareness of the three sanctuaries in the CRD. A brochure was developed to highlight the unique features of our three local bird sanctuaries. In 2018, our region was declared a NatureHood in recognition of the excellent opportunities for people of all ages and abilities to get out into nature in an urban setting.



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EEP 21-12

**REPORT TO SAANICH PENINSULA WASTEWATER COMMISSION  
MEETING OF THURSDAY, MARCH 18, 2021**

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**SUBJECT     Long-term Biosolids Management Planning Update**

**ISSUE SUMMARY**

Request for Expressions of Interest (RFEOI) submissions to investigate long-term biosolids management options.

**BACKGROUND**

Residual solids from McLoughlin Point Wastewater Treatment Plant are conveyed to the Residuals Treatment Facility (RTF) located adjacent to the Hartland Landfill, as part of the overall Wastewater Treatment Project for the Capital Regional District (CRD). Additionally, through the other municipal residual solids receiving area, the RTF also has capacity to accept wastewater residuals from other CRD facilities located outside of the core area including residual solids from the Saanich Peninsula Wastewater Treatment Plant. At the RTF, a new treatment system has been constructed, where wastewater residuals undergo mesophilic anaerobic digestion and heat drying to produce biogas and pelletized Class A dried biosolids. The RTF (including the other municipal residual solids) is currently completing its commission acceptance testing and it is expected that RTF operations will commence in Q2 of 2021.

The Province (regulator) required a management plan for the beneficial use of biosolids as a component of the overall regulatory process for wastewater operations under the Liquid Waste Management Plan. In October 2020, the Province approved a short-term plan to transport biosolids to a cement manufacturing facility located in the lower mainland. The Province further required a final decision on long-term biosolids management by Q2 2024. As part of the process to determine the long-term management plan, the Province will require the evaluation of land application options and also consultation with citizens, local government and Indigenous communities within the CRD.

To advance the long-term planning process to consider thermal destruction technologies, the CRD issued an RFEOI in July 2020. The CRD received a total of 11 submissions in response to the RFEOI, eight of which included pilot studies to test RTF dried biosolids with pyrolysis and gasification technologies. The CRD retained an external consultant, HDR Consultants to assist with the technical evaluation because of the emerging and complex operational requirements of pyrolysis and gasification systems. HDR, with CRD staff input, recommended that given the potential uncertainties, that the CRD enter into negotiations with vendors that proposed pilot studies at existing facilities located outside of the CRD. Pilot studies at existing facilities were selected due to their significantly lower costs, shorter durations for completion, and overall lower potential risk to the CRD. Selected pilot studies will likely be concluded by Q3 2021.

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**Long-term Biosolids Management Planning Update**

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## **IMPLICATIONS**

### *Financial Implications*

Vendors that proposed pilot studies at existing facilities were selected for further negotiations, as they outlined significantly lower indicative costs than vendors that proposed the construction of new pilot study facilities located within the CRD. Funding for long-term biosolids management planning, including pilot studies, will be taken from the Core Area Liquid Waste Planning operating reserves budget. Staff have identified grant opportunities (Federation of Canadian Municipalities “Pilot Project: Waste Stream Management” Program and “Study: Waste Stream Management” Program) as potential funding sources to support this project.

### *Regulatory Implications*

In BC, municipal wastewater residuals must be beneficially used in accordance with provincial requirements. The regulator approved a short-term plan, but directed the CRD to consider options for a long-term management plan. As directed by the Minister of Environment and Climate Change Strategy, land application must be included in the options analysis for long-term biosolids management, which will follow this pilot project stage.

## **CONCLUSION**

In July 2020, the CRD issued an RFEI that focused on the use of thermal technologies as a long-term beneficial use option for biosolids produced at the RTF. Given the complex operational nature of thermal technologies, an external consultant recommended that the CRD pursue pilot studies at existing facilities. CRD staff will obtain detailed proposals and enter into negotiations with successful candidates to carry out Biosolids Beneficial Use Pilot studies in 2021.

## **RECOMMENDATION**

That the Saanich Peninsula Wastewater Commission receive this report for information.

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|---------------|---------------------------------------------------------------------------|
| Submitted by: | Glenn Harris, Ph.D., R.P.Bio., Senior Manager, Environmental Protection   |
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