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**To:** "Direct to Mayor and Council - DL"  
**CC:** "City Manager's Correspondence Group - DL"  
**Date:** 5/14/2019 3:30:47 PM  
**Subject:** Iona Council Report Questions and Answers

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Greetings Mayor and Council

I have received some questions from Council on the report for tomorrow. Please find below answers from staff to your questions:

- 1. The report states an upgrade to secondary treatment. What is the difference between secondary and "enhanced" secondary treatment...this was brought up at last Metro board meeting. Metro Directors also discussed possible upgrade to tertiary treatment. Please comment on this option.**

#### **PRIMARY TREATMENT**

Primary treatment uses various mechanical processes to remove materials that settle or float. It removes 50 to 60 per cent of the total suspended solids (TSS) and 30 to 50 per cent of the biochemical oxygen demand (BOD). The Iona Island and Lion's Gate wastewater treatment plants provide primary treatment.

#### **SECONDARY TREATMENT**

Secondary treatment is an additional treatment step that takes place after primary treatment. Secondary treatment is a biological process that uses aerobic bacteria to consume suspended solids and dissolved organic materials in wastewater. Secondary treatment plants remove about 95 per cent of the organic materials in wastewater. The Lulu Island, Annacis Island and Northwest Langley wastewater treatment plants provide secondary treatment.

In the context of the Iona project, "enhanced" secondary will consider a combination of primary and secondary treatment that will maximize treatment and minimize energy consumption.

#### **TERIARY TREATMENT**

In the context of the Iona project, tertiary treatment will consider biological nutrient removal as well as filtration that will remove more fine material like micro plastics and produce a more polished effluent. It will also examine the cost and benefit of treatment technology that would be effective at removing micro pollutants such as pesticides, pharmaceuticals, personal care products, and commercial chemicals.

The option of Tertiary Treatment will be reviewed during the project definition phase and the added benefits versus costs will be presented, along with a potential phased approach over time.

- 2. What share of overall costs to CoV taxpayers fund?**

Of the projected costs of \$1.9B, the share for CoV rate payers is \$1.011B, or 53% overall.

Metro Vancouver will be actively seeking government funding. When the Lion's Gate Treatment Plant went through on the North Shore, the cost distribution became one third Federal, one third Provincial and one third municipal.

- 3. Is energy capture being considered in the upgrade?**

Resource Recovery is an important part of the project definition phase where the following opportunities will be

considered:

- Heat recovery from the liquid waste
- Electricity from capturing bio gases
- Biosolids

4. I note that the recommendation in this report on Wednesday's agenda doesn't specify what specific workshops staff will be involved in. Could you please provide clarifying language to add to the end of the recommendation - e.g., workshops undertaken by Metro Vancouver and their consultants on upgrades to the Iona Wastewater Treatment Plant.

Staff is included in the project definition phases and are participating in monthly working meetings, and is participating in all the workshops listed in the presentation.

MV will be providing updates at monthly meetings with staff to obtain input for the technical team at Workshops 4, 5 and 6 as the Indicative Design is developed. MV will also have workshop sessions with the Liquid Waste Committee at Metro Vancouver, receive input through Community and First Nations engagement, and present updates to the City Councils (Vancouver, Burnaby and Richmond).

Best

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*The City of Vancouver acknowledges that it is situated on the unceded traditional territories of the Musqueam, Squamish, and Tsleil-Waututh peoples.*