LIONS GATE SECONDARY Wastewater Treatment Plant

Issues, Comments, Questions and Metro Vancouver Responses

Public Meeting

Summary

Wednesday, April 24, 2013, 6:00 – 9:00 p.m.
Norgate Community Elementary School
1295 Sowden Street, North Vancouver, BC

metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

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Meeting Summary

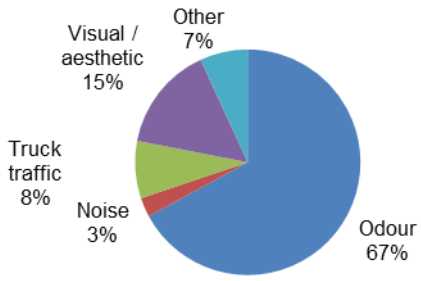
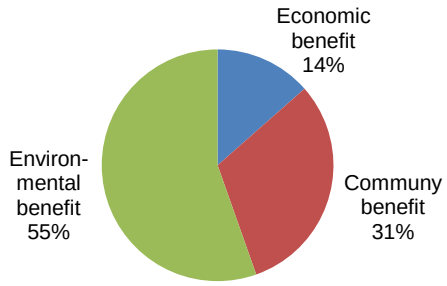
The purpose of the public meeting was to provide information to the wider public, and to obtain feedback from the community on the project and the build scenarios. Held at the Norgate Elementary School, the public meeting was attended by approximately 90 people. Attendees were primarily from the local area with 44% indicating they were Norgate residents, with an additional 42% from other North Shore communities, and 14% from other Metro Vancouver municipalities.

The Utilities Committee Chair gave opening and closing remarks for the meeting which included an open house, presentation, a question and answer period and public input on key questions using a variety of feedback tools.

The feedback mechanisms included a real-time survey using electronic input devices, a "dotmocracy"-style poll where attendees were provided with dots to indicate their views with regard to certain aspects of the build scenarios, "scrawl wall" kraft paper feedback stations where people were encouraged to write their comments, and traditional feedback forms.

The following table provides a summary of the results from the open house, question and answer period, and the survey that followed that section of the meeting.

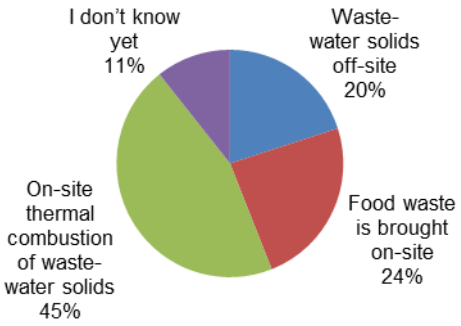
Summary of Interactive Feedback

***Odour** – Odour impacts was the most common concern raised at the meeting, consistent with feedback received via all other public forums associated with the project:* ○ *Comments about other sensory impacts including noise and aesthetics were also noted.*	 **Which operational issue is most top of mind for you?**
***Environmental protection** – the community expressed support for the potential positive environmental impacts associated with project:* ○ *A number attendees asked questions with regard to potential impacts on air quality, and heavy metal discharges.* ○ *A number of people asked about*	 ***Each scenario has some space not needed for wastewater treatment processes. What should this space be used for?***

the potential impact on the plant in relation to sea level rise associated with climate change.

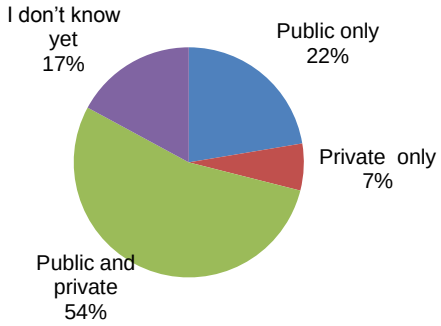
***Integrated Resource Recovery** – the introduction of a build scenario that includes a second site for energy recovery, and the concept of bringing additional feedstocks for co-generation led to queries about odour and truck traffic associated with sludge removal and/or onsite organics collection and processing.*

- *There was support for on-site thermal reduction of wastewater biosolids.*



All 3 scenarios use combustion to extract and recover energy. Energy is recovered from wastewater solids differently in each build scenario. Do you have a preference?

***Kinds of Investments** – respondents during the real-time survey indicated support for a mix of public and private sector investment over either all public or all private investments in order to achieve higher levels of environmental benefits.*



To achieve higher levels of environmental benefit, such as reduced GHG emissions, or the use of reclaimed water by industry, what kinds of investment would you support?

***Costs** – Questions about costs were raised by a number of participants, both from the perspective of wanting more information to more accurately assess trade-offs and general concerns about cost allocation and the resulting impact on taxes.*

Feedback on posterboard panels for Scenarios A, B and C

The following summarizes the feedback received from the "dotmocracy"-style boards:

***Scenario A** – What is your impression of using excess space for land development?*

- *Negative: 53%*
- *Positive: 46%*

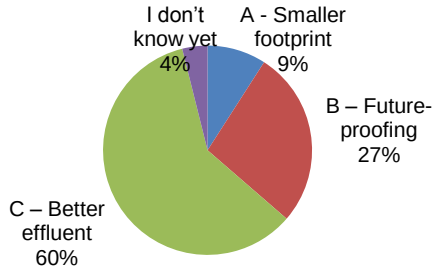
***Scenario B** – If other social uses were to be developed, which would most benefit the community (small or large scale commercial, open air recreation, education or all)*

- *"All" was the most popular answer at 58% with the remainder relatively evenly split between all other options.*

***Scenario C** – Which of the following best summarizes your views on rehabilitating estuaries with highly polished wastewater?*

- *A large majority, 81% of respondents, saw this as potentially positive or positive with just 12% indicating potential or definitely negative.*

Each scenario uses a different treatment technology: Scenario A is the smallest footprint; Scenario B has greater flexibility for future changes; Scenario C has the best effluent quality. What's your preference?



1. Opening Remarks

Marie Griggs, Public Involvement Division Manager, called the meeting to order at 7:00 p.m. and thanked participants for attending. Ms. Griggs introduced Director Darrell Mussatto, Mayor, City of North Vancouver, and Chair, Metro Vancouver Utilities Committee.

Mayor Mussatto welcomed participants, introduced Robin Hicks, Councillor, District of North Vancouver, and acknowledged the traditional lands on which the public meeting was being held. Mayor Mussatto noted that:

- The existing Lions Gate Wastewater Treatment Plant has been operational for over fifty years
- The plant needs to be upgraded in keeping with Metro Vancouver's commitment to manage liquid waste in a safe and affordable manner
- The new secondary treatment plant will be constructed at the foot of Pemberton Street
- Feedback was welcome on the elements underpinning each of the build scenarios displayed on poster boards at the meeting room
- The final wastewater treatment plant design may incorporate components of one or more scenarios presented

2. Agenda Overview

Ms. Griggs led the meeting in a review of the agenda and objectives for the meeting. Metro Vancouver representatives present were acknowledged. Participants were informed that portions of the meeting may be videotaped.

3. Engagement and Consultation Process

Ms. Griggs referred to an overhead presentation titled "Engagement and Consultation Process" and acknowledged:

- Meetings held with the public and senior staff representatives of the North Shore municipalities
- Ongoing efforts to inform political representatives of the secondary wastewater treatment plant process
- Efforts to engage First Nations throughout the project's consultation process
- Representatives from the Lions Gate Advisory Committee present
- Elements of the build scenarios developed and presented for consideration at the meeting

4. Project Definition / Build Scenarios Overview

Fred Nenninger, Project Manager, Wastewater Secondary Treatment Upgrades, Metro Vancouver provided an overhead presentation and discussed:

- Background information related to the wastewater treatment plant and reasons for upgrading the wastewater treatment plant to a secondary treatment level
- The location selected for the new Lions Gate Wastewater Treatment Plant
- Key objectives of the project
- Aspects of the three potential build scenarios presented:
  - Resource Build (Scenario A)
  - Community Build (Scenario B)
  - Natural Build (Scenario C)

- Procurement options for design and/or construction of the project
- Public/private partnership options available for consideration

5. Question and Answer

Ms. Griggs welcomed participants to ask questions and invited Metro Vancouver representatives to respond. Comments and questions raised by participants throughout the meeting are documented with the corresponding response under Item 9 in this document.

6. Public Input on Keypads

Participants were provided with electronic input keypads. Questions and multiple choice responses related to the project were presented. Participants were asked to select their preferred response to each of the questions displayed.

Below are the questions and responses considered, followed (in brackets) by the percentage of participants that selected each response:

1. **Each scenario has some space not needed for wastewater treatment processes. Should this space be used for:**
   A) Economic Benefit (14%)
   B) Community Benefit (31%)
   C) Environmental Benefit (55%)

2. **All three scenarios use combustion to extract and recover energy. Energy is recovered from wastewater solids differently in each build scenario. Do you have a preference?**
   A) Wastewater solids are sent to an off-site energy centre (20%)
   B) Food waste is brought on-site and mixed with wastewater solids to generate energy (24%)
   C) On-site thermal combustion of only the waste water solids (45%)
   D) I don't know yet (11%)

3. **Each scenario uses a different treatment technology. Which is your preference?**
   - **Scenario A is the smallest footprint**
   - **Scenario B has greater flexibility for future changes**
   - **Scenario C has the best effluent quality**

   A) Scenario A – Smaller Footprint (9%)
   B) Scenario B – Future Proofing (27%)
   C) Scenario C – Better Effluent (60%)
   D) I don't know yet (4%)

4. **Which operational issue is most top of mind for you?**
   A) Odour (67%)
   B) Noise (3%)
   C) Truck Traffic (8%)
   D) Visual / Aesthetic (15%)
   E) Other (7%)

5. **To achieve higher levels of environmental benefit, such as reduced greenhouse gas emissions, or the use of reclaimed water by industry, would you support:**
   A) A public sector investment (22%)
   B) Private sector investment only (7%)
   C) Cost shared between public and private (54%)
   D) I don't know yet (17%)

7. Closing Remarks

Ms. Griggs thanked participants for their feedback at the meeting. Jaspal Marwah, Policy Coordinator, Public Involvement Division, reminded participants to indicate with coloured stickers provided, their preferred responses to questions posted on display boards around the meeting room.

Mayor Mussatto extended thanks to participants for their comments and questions, and encouraged them to continue to participate in the process. He noted that feedback forms provided at the meeting could be completed and submitted prior to leaving or feedback could be submitted online. He confirmed that a summary of the meeting would be posted on the Metro Vancouver website, to which additional comments could be submitted.

The presentation and Q&A portion of the meeting concluded at approximately 8:35 p.m.

8. Interactive Open House

Participants were invited to participate in an Interactive Open House, immediately following the Q&A portion of the meeting until approximately 9:00pm.

9. Issues, Comments, Questions

The following table summarizes Metro Vancouver's responses to questions and concerns provided by attendees, throughout the meeting organized by topic:

ISSUE, COMMENT, QUESTION	MV RESPONSE
Community Support	
What if there is community opposition to the new plant?	Opposition would create a challenge. Metro Vancouver (MV) is obliged to treat wastewater to a higher quality and is working to identify and address the concerns of the community.
Energy Recovery	
Incineration	
Do all three scenarios involve incineration? Does Scenario C have a more thorough incineration process, and will that create additional pollution?	The process for each of the scenarios will combust something. A digestion process combusts biogas directly. A thermal process combust solids with emission controls to prevent air pollution.

ISSUE, COMMENT, QUESTION	MV RESPONSE
Nutrients	
Would you capture phosphorous and/or green crystals for fertilizer?	Phosphorous recovery is being considered as a resource for recovery.
Solid Waste	
What is meant by "trucking away solid waste"?	Under the resource scenario we would truck solids off site.
What would the volume of waste from Scenario B be (in terms of trucks per week), compared to Scenario A?	The volume of waste under Scenario B would be similar to Scenario A, in terms of trucks per week.
I understand that bacteria may look after effluent. Can you comment please?	Bacteria will not look after all the effluent. Regardless of discharge, all municipalities in Canada must now meet minimum secondary treatment standards.
Under Scenario C, will solid waste generated by the facility be burned? Is the other scenario to truck solid waste away?	Only food waste and yard waste are considered, not garbage. Under Scenario C there will be a direct combustion of biosolid materials. The other two scenarios will utilize the n biogas.
Where will the products being trucked off-site be taken?	In Scenario A, the idea is to bring the materials to an energy centre at a location yet to be determined.
Operational Impacts	
Air Emissions	
Will there be any pollutants or chemicals in the air released from the plant?	The air will be scrubbed and treated before being discharged.
Is chlorine used in the plant's treatment processes?	None of the three scenarios use chlorine for the disinfection of effluent. They use ultraviolet to disinfect.
Could an ambient air monitoring station be installed in Norgate? Will air quality be studied before, during and after construction of the plant?	We are planning to set up noise and air quality monitoring prior to design to establish base level readings.
Noise Impacts	
Will the height of the building buffer the sounds of the adjacent railway? Could fences be built for sound control?	The plant will be built against the railway, on one lot only. The District of North Vancouver is working with the Port and industry towards the construction of an overpass, which may reduce the noise from the trains at the foot of Pemberton.
What will the noise be like during construction?	During construction residents can anticipate noise typical to constructing a concrete building.
Do all three scenarios create the same level of noise?	With all three scenarios, the processes are enclosed inside there won't be a noise nuisance.

ISSUE, COMMENT, QUESTION	MV RESPONSE
What do you anticipate the noise levels of plant operations will be?	. All processes are contained inside the plant and will meet the District of North Vancouver's noise by-law..
The current noise levels in the area exceed allowed decibel levels.	Comment noted.
Odour Control	
Will the new plant smell?	All three scenarios pay attention to odour management. The plant will be covered, and gases will be collected and put through gas purifying processes before the air is discharged.
Will odour be detectable on site? Will atmospheric pressure or wind affect odour?	With covered plants and odour control systems there won't be an odour nuisance.
How will this plant be different than the solid waste facility in Richmond? Will there be recourse if there is odour? How will general odours be contained?	With Scenario A, solids will be taken off site. With the community scenario, the process would be fully contained. The third scenario there would be direct combustion and emissions control on site. The plant will be designed for full odour control. Any air released will be treated and scrubbed, using control technologies.
Will there be odour associated with trucking solid waste away from the plant?	The process of removing solid waste from the plant will be handled in an enclosed facility by tanker or covered truck.
Source Control Programs for Metals	
Will there be heavy metal content in the resulting emissions?	Metals content will be controlled through source control programs. Metals must be below the limits set by emissions standards.
Visual Impacts	
Local businesses are concerned about the visual and odour impacts of the plant.	The MV Utilities Committee is looking at arranging an on-site tour of similar facilities in Washington State so they can see for themselves how modern plants can look and if they smell.
Partnership Opportunities	
Have partnership opportunities with a local First Nations or a private funding source been considered?	Partnership opportunities are being considered. Discussions have occurred with Squamish First Nations.
Have there been P3 funding arrangements for wastewater treatment plants previously?	There haven't been as many P3 wastewater treatment plants in Canada, as there have been hospitals or other infrastructure.

ISSUE, COMMENT, QUESTION	MV RESPONSE
What will the tax impacts of the new plant be for the community?	Provincial and federal government involvement in the project is critical. While the design of the project will determine the final cost, MV is anticipating to carry up to 1/3 of the project cost. North Shore councils are trying to keep the number as low as possible.
Is the Squamish First Nation considering a business opportunity?	Discussions with Squamish Nation would identify opportunities.
Plant Design / Construction	
Additional On-Site Development	
Would a residential structure be added to the secondary treatment plant?	No. There will not be any residential structures.
What kinds of structures would be sustainable above the plant?	On the community scenario there is potential to use aerial space over the plant, such as a greenhouse operation.
Consideration of Sea Levels	
Has the impact of rising ocean levels on the plant's location been considered?	The design of the plant takes into consideration sea level rise for the century, wave effects during winter storms, as well as freeboard and tsunami allowance.
Have contingency plans been envisioned should sea level predictions change?	Provincial guidelines project sea levels over one hundred years.
Design Flexibility for Population Growth	
Does plant design consider potential expansion on First Nations lands and the potential increase to population density in the British Properties?	The development of the plant may be staged to keep pace with population growth.
The understanding is that the plant will be scalable based on population growth in the North Shore.	Comment noted.
Design Selection	
How will the scenario for the plant design be selected?	It's unlikely that one specific scenario will be selected as presented. Features will be compared and components may be combined into a single design.
How will Metro Vancouver decide which components of the scenarios will be part of the final plant design? Who will make that decision?	Components will be selected based on costs, energy availability and other qualities. The MV Utilities Committee will review the scenarios. Public input received will be conveyed to the Utilities Committee and to the Board.
What will the height of the plant project be?	The height of the facilities as currently imagined is between 13 and 17.5 metres above grade. On the north side, the height will be lower.
During construction, will pile driving or cement core technology be used?	The construction methodology will be determined at a later date.

ISSUE, COMMENT, QUESTION	MV RESPONSE
Which scenario will generate more energy?	Scenario A would likely produce the most energy, followed by Scenario B and then Scenario C.
Is there a significant cost difference between the scenarios?	None of the scenarios exceeds a 30% cost difference.
Has the technology selected been proven? Can technology be incorporated into the plant design to improve air quality? Are there any leading best practices being incorporated into the design?	The scenarios all include proven technologies.
What safety measures for potential spills and back-ups have been considered? How will safety measures affect those who live near the plant?	Sewer back-ups will be treated as they are today including an emergency outfall and a relief system.
Use of Effluent Outfalls	
Can you elaborate on the location of the outfall for the new plant?	The effluent outfall is in the narrows by the Lions Gate Bridge. The North Shore has an emergency overflow location at McKay Creek, used in extreme wet weather storm emergencies. The natural scenario looks at more advanced treatment that could be discharged at new local outfall could provide potential estuary enhancement.
How much fluid will be pumped to the outfall? How big will the pipe need to be and where will the pump be located?	With the secondary discharges suggested in Scenarios A and B, the existing outfall will be used. The average current daily flow is 100 million litres a day from the North Shore.
Wastewater Treatment Plant Site Selection	
What other sites were considered? How was the new sight selected?	Site availability lead to the purchase of the new site by the Board.
Was consideration given to building the new plant on the existing site?	There is an obligation to return the treatment plant lands to the Squamish Nation under the Cut-Off-Lands Act.

Information Items Provided at the Meeting

The following printed items were provided at the meeting for information:

- Questions considered during the “Public Input on Keypads” portion of the meeting
- Brochure titled “Lions Gate Secondary Wastewater Treatment Plant”
- Lions Gate Secondary Wastewater Treatment Plant Feedback Form

Attendance

Guests: Councillor Robin Hicks (District of North Vancouver)

Metro Vancouver Resources: Director Darrell Mussatto, Marie Griggs, Fred Nenninger

Additional Representatives: Raman Bhangu (MV), Rick Bitcon (AECOM), Alanna Clark (MV), Jeff Cutler (Space2Place), Paul Dufault (MV), Laurie Ford (MV), Robin Mills (MV), Ingrid Tymm (MV), Joy William (MV), Scott Wolf (Miller Hull Partnership), Marni Robinson (Context), Jaspal Marwah (MV)

Recording Secretary: Carrie Peacock, Raincoast Ventures Ltd.