

**DATE:** November 12, 2013

**FILE:** 5340-20

**TO:** Chair and Directors  
Comox Valley Sewage Commission

**FROM:** Debra Oakman, CMA  
Chief Administrative Officer

**RE:** Odour issues - Comox Valley water pollution control centre

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### **Purpose**

To provide information related to historical odour issues at the Comox Valley water pollution control centre (CVWPCC) and to review equipment and operating practices in place to control odour.

### **Policy analysis**

By supplementary letters patent dated January 11, 1979 and amended January 14, 1982 the regional district was empowered to provide sewer interception, treatment and disposal of sewage primarily for the benefit of the City of Courtenay, the Town of Comox and on a contract basis to the Department of National Defence (DND), and the K'ómoks First Nation (KFN) Indian Reserve No. 1 (KFN).

Bylaw No. 2541, being the "Comox Valley Sewerage Service Establishment Bylaw No. 2451, 2003" was adopted to convert the function to a service as defined in the bylaw.

Policy 5340-00 being the "Expenditure of funds for odour control – Comox Valley Water Pollution Control Centre" policy (2006), establishes how the regional district will consider the expenditure of additional funds to control odours at the CVWPCC or the biosolids composing site.

### **Executive summary**

The CVWPCC is a secondary level wastewater treatment plant commissioned in 1984 to provide improved wastewater treatment to the City of Courtenay and the Town of Comox. The plant is located east of the Town of Comox in a rural area adjacent to the Strait of Georgia (see Appendix A). The closest neighbors to the plant are located along Curtis Road between the plant site and the ocean. Soon after startup in 1984 the regional district began to receive odour complaints related to plant operation. These complaints tended to be from residents along Curtis Road where odours are more frequent, especially on evenings in the late summer or early fall when certain weather conditions (off-shore wind) prevail. It was determined at the time that the greatest contribution towards odours at the CVWPCC was the long wastewater residence time in the pressurized pumping system from the Courtenay pump station, along with the on-site composing of biosolids at the treatment plant. The regional district worked hard to reduce odours and improve the situation however the odours persisted and in 1985 the Curtis Road residents committee filed legal action against the regional district.

The legal action was resolved in 1992 when the regional district negotiated an out of court settlement with the Curtis Road residents committee which required that the regional district pay compensation to residents, relocate the compost facility to a remote off-site location and install additional odour treatment at the CVWPCC to capture and treat the most odourous gases from

process equipment. These works took considerable time to investigate and implement, but by 1997 a new chemical wet chemical scrubber system (\$2,000,000) had been installed at the CVWPCC and by 2002 a new biosolids composting facility (\$5,000,000) had been constructed at the Comox Valley waste management centre (CVWMC).

In 2006 the regional district implemented policy 5340-00 being the “expenditure of funds for odour control” policy (see Appendix B). In consideration of the significant investment previously made to control odours, the policy set guidelines for the expenditure of future funds for odour control. The policy states that the regional district will not spend further public funds in relation to odour control at the CVWPCC unless:

- a) staff become aware of new technology or enhancements to current technology that would result in a reduction in odours for a reasonable cost;
- b) staff become aware of new operating procedures that could result in a reduction in odours for a reasonable cost;
- c) the level of odour emission is increasing beyond current levels to an extent that creates a materially increased odour level; or
- d) there are modifications to the odour control system required as a result of an amendments to a statute or other enactment.

The above policy requires that when the CVRD becomes aware, it consider improvements in odour control technology and/or operating procedures that could be implemented at a reasonable cost, or when the level of odour is increasing beyond current levels. One possible way to monitor odour levels is to track odour related complaints. Currently the CVRD logs complaints but does not necessarily respond in a consistent manner. It is recommended that the odour complaint process be improved to provide consistent follow-up and to better understand trends in odour related issues and complaints.

Although the CVRD does an excellent job of operating and maintaining odour control equipment at the CVWPCC, a monitoring system to periodically evaluate odour control equipment performance has not be implemented. Such a system would help to ensure that the installed equipment continuously meets its performance objectives, and it is recommended that the CVRD implement such a system.

The wet chemical scrubber system at the CVWPCC has been operational for 16 years and has helped to improve odour related issues both at the plant and in the surrounding community. In addition, operational and maintenance best practices used at the plant consider the effects of odour and attempt to minimize odour both within the plant and the surrounding community.

**Recommendations from the chief administrative officer:**

THAT the Comox Valley Regional District complete an evaluation of the existing odour control equipment and practices at the CVWPCC including performance testing of the odour control system, an odour audit of operational and maintenance practices, a review of odour control technologies or enhancements to current technology and the development of a monitoring system to ensure odour control performance;

AND FURTHER THAT a complaint tracking system be designed and implemented that addresses odour complaints in a consistent manner and provides statistical information related odour complaint frequency.

AND FINALLY THAT funding for the above evaluation, in the amount of \$50,000 be included in the 2014-2018 Comox Valley sewerage service financial plan.

Respectfully:

***D. Oakman***

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Debra Oakman, CMA  
Chief Administrative Officer

### **History/background factors**

The CVWPCC is a secondary level, activated sludge wastewater treatment plant. The plant was constructed in the early 1980's and commissioned in the spring of 1984 to provide improved wastewater treatment to the City of Courtenay and the Town of Comox and by contract to the DND and to KFN.

### **Summary of treatment process:**

Domestic wastewater is transported to the treatment plant through a network of gravity sewers, pump stations and force mains. Wastewater first enters the plant through a head works fine screen and then flows through aerated channels to grit tanks where heavy solids and grit are removed by gravity. Following grit removal, wastewater flows to primary clarifiers where additional organic solids are allowed to settle and floating material, grease and scum are skimmed from the top and removed. The settled solids are collected and referred to as primary sludge. Wastewater from the primary clarifiers then flows to aeration tanks where a culture of microorganisms is maintained to further treat the wastewater. Air is diffused into these tanks to maintain aerobic conditions and to support the growth of the microorganisms. Wastewater from the aeration tanks flows to secondary clarifiers where the microorganisms settle and the treated effluent flows to the outfall to be discharged into the Strait of Georgia. A portion of the settled solids (sludge) from the secondary clarifiers is returned to the aeration basins while the remaining sludge is pumped to dissolved air floatation (DAF) thickeners for additional dewatering. Primary clarifier sludge is pumped to gravity thickeners where additional dewatering takes place. The primary and secondary sludge is combined and further thickened using dewatering centrifuges. This final dewatered sludge is termed biosolids and is amended with wood and composted into a nutrient rich Class A compost marketed under the brand name SkyRocket.

### **Plant location:**

The CVWPCC is located east of the Town of Comox adjacent to the Strait of Georgia. The plant is located approximately 250 metres from Balmoral Beach between Point Holmes and Goose Spit. The plant site is surrounded on three sides by forested dunes that rise above the elevation of the plant. These dunes are well covered with trees and other vegetation and form a significant buffer around the site. The fourth side is a lower lying marsh area also covered with trees and vegetation that provides a large buffer on that side. The nearest neighbours to the plant are located along Curtis Road between the plant and the Strait of Georgia. The plant is roughly seven metres higher in elevation than Curtis road.

### **Site meteorology:**

Subject to prevailing wind patterns associated with weather fronts moving across the area, the location of the CVWPCC near the Strait of Georgia can exhibit a condition where during the day, warming of the land by the sun causes air to rise and be replaced with cooler air from above the ocean, creating a sea breeze, or on-shore breeze. At night when the air above the land cools, the air flow pattern can be reversed creating a land breeze or off-shore breeze. During these later periods air tends to move across the CVWPCC and down the forested dune towards Curtis Road and the

Strait of Georgia. Off-shore breezes are generally more prevalent in the late summer and early fall when evening land temperatures tend to be lower than surface water temperatures.

### **Odour issues:**

The following sections provide a description of both historical and current odour issues at the CVWPCC. Each section includes a description of the key odour related activities at the time including a summary of the efforts taken by the regional district to control and improve plant odours. These sections are generally listed in chronological order from when the plant was first commissioned through to present day. Also included is a summary of the odour lawsuit between the regional district and the Curtis Road residents committee as well as a summary of the lawsuit between the regional district and Canadian Northern Shield insurance company.

#### Start-up and commissioning (1984-1986 approx):

The first odour complaints were received soon after the plant was commissioned in April 1984. At this time, odours were thought to be the result of commissioning and not having all of the plant components operating at their normal condition. However even after commissioning was complete and the plant was running as intended, odour complaints persisted. During the period of September 1984 through to April 1985, several residents were asked by the regional district to maintain “odour logs”. These logs helped to show that odour was more detectable when air flow was toward the ocean and that the majority of odour events occurred in the evening, although some odours were also detected in the early morning. At the time, the engineering consultants responsible for the design of the CVWPCC identified the main odour sources as:

- the headworks;
- sludge thickeners;
- aerated sludge holding tanks; and
- the composting system.

In order to mitigate and reduce odours the regional district began to address the odour issues by either installing new equipment or implementing new operating practices aimed at reducing odour. The following actions were taken:

- Chlorine was added to the wastewater to oxidize some of the odourous compounds. Chlorine addition was located at the Courtenay pump station and was designed and installed as part of the original plant installation in order to provide some odour control. Chlorine was also added just upstream of the sludge thickener feed to help control odours at these locations.
- Covers were installed over the influent channels in an attempt to further reduce odours. The odourous air collected from under the channel covers was directed to a bio-filter for treatment.
- A temporary cover was installed on the aerated sludge holding tank which was later replaced with a permanent concrete cover. The odourous air from the air space in the tanks was collected and treated in a second bio-filter.
- In addition to the covers on the sludge holding tank, the regional district started adding potassium permanganate to the sludge in the tank before it was sent to dewatering. Potassium permanganate performs more effectively at controlling odour in sludge applications than chlorine.
- Blowers were arranged to pull air through the compost pile and the odourous air was treated in a bio-filter. However, the bio-filter only operated for six months before it became saturated with moisture and had to be decommissioned.

- The regional district retained the services of Dr. Elliot Epstein of E&A Environmental Consultants, Inc. to review the CVRD's composting operations and make recommendations to improve it and also reduce the odours. Dr. Epstein's recommendations were to:
  - a) Use new wood chips for the base pile material;
  - b) Apply more selective positioning of the perforations in the aeration piping;
  - c) Provide more frequent blower cycling;
  - d) Make the compost piles higher;
  - e) Provide a thicker cover of unscreened compost;
  - f) Conduct a materials balance for each pile;
  - g) Use a more porous mix;
  - h) Perform the active composting with a roof overhead;
  - i) Improve the process monitoring of the piles;
  - j) Improve the dewatering capabilities to reduce biosolids moisture content;
  - k) Try using dry sawdust to reduce the moisture content.

All of the above recommendations were implemented, including at considerable expense the installation of a permanent roof over the active composting operation.

In addition to the above, plant operations can also aid in reducing odours released by treatment plant equipment. Some of the operating measures implemented at the time included:

- Providing continuous sludge removal from the primary clarifiers.
- Ensuring that sludge dewatering is performed during mid-day, when the meteorological conditions are most favourable to the dissipation of potentially strong odours.
- Wash down dewatering belt filter presses and the surrounding floors and walls each day after they are used.
- Ensuring out of service tanks are drained and cleaned of all residual solids.

The above equipment installation and operational changes had a positive impact on odour generation and control however odours continued to persist.

#### Curtis Road resident's committee lawsuit (1985-1991):

Odour issues from the CVWPCC had the greatest impact on properties located along Curtis Road, southeast of the plant. As early as 1984 these residents organized themselves into the Curtis Road residents committee and on December 17, 1985 filed a lawsuit against the regional district claiming, amongst other things, that:

- The sewerage system discharges noxious and offensive odour, air contaminants and harmful or potentially harmful material or substances into the air interfering with the health and wellbeing...;
- The construction and operation of the sewerage system was unlawful...;
- The regional district is in violation of the *Waste Management Act*;
- The regional district has breached its duty of care and is negligent in:
  - a) Failing to exercise reasonable care in the design of the sewerage system, by;
    - i. Failing to use the best available technology, and
    - ii. Incorrectly and negligently estimating the flow in the system;
  - b) Failing to exercise reasonable care in the construction of the sewerage system;
  - c) Failing to take proper steps to ameliorate or correct design and construction faults in the sewerage system;
  - d) Failing to exercise reasonable care in the operation of the sewerage system to prevent damage to the plaintiffs;

- e) Failing to exercise reasonable care in selecting the location of the treatment plant and sludge digestion facilities.

The Curtis Road residents committee requested an injunction prohibiting the regional district from operating the sewerage system in such a manner as to cause a nuisance.

The regional district referred the legal action to its insurer, Canadian Northern Shield. The insurance company began the process of defending the regional district against the litigation. However, by 1989 very few steps had been taken towards obtaining a legal resolution because it was felt that the remedial steps taken by the regional district to resolve the odour issues may have satisfactorily abated the problems. In 1989 the Curtis Road residents committee advised the CVRD that they intended to pursue the matter through to the courts.

At this time, Canadian Northern Shield informed the regional district that it would no longer be able to defend the regional district in this legal action and that in fact many of the claims made by the Curtis Road residents committee were not covered by the regional districts insurance. In order to complete the preparations for its defence, the regional district retained Singleton Urquhart MacDonald, barristers and solicitors to take over the case.

#### Odour assessment study report (1991):

In 1991 the environmental engineering firm Malcolm Pirnie, Inc. was retained by Singleton, Urquhart MacDonald, representing the regional district, to conduct an independent review of the odour situation at the CVWPCC and the surrounding community focusing on the Curtis Road neighbourhood. The scope of the study work generally included the following objectives:

- Assess the existing plant odour potential;
- Assess the methods of odour control originally chosen for the plant;
- Identify all potential unit process odour sources;
- Evaluate any non-plant related odour sources; and
- Assess the community odour impact of the plant.

The study approach included a review of historical data, a comprehensive onsite and offsite odour survey, smoke testing to assess air movement patterns in the ambient air and identification and ranking of odour sources in order to establish priority for any odour control mitigation that might be required. The study provided the following ranking of odour generating equipment<sup>1</sup>. The list begins with the most significant odour potential and progresses through to the least significant.

- |   |                              |
|---|------------------------------|
| a) Sludge compost facility;               | g) Aeration tanks;           |
| b) Sludge holding tank;                   | h) Screenings bin area;      |
| c) Primary clarifiers;                    | i) Grit processing building; |
| d) Sludge dewatering building;            | j) Secondary clarifiers;     |
| e) Plant headworks and pre-aeration grit; | k) Plant outfall; and        |
| f) Gravity thickening tanks;              | l) Sludge pump building.     |

The study commented that “it is not surprising that these processes are odour sources as they act as such in most similar wastewater treatment plants that Pirnie has inspected.”

Following the above odour assessment study, in October 1991 Malcolm Pirnie also completed a study recommending additional odour control equipment, including a wet chemical scrubber system that could be considered by the regional district to further mitigate odours at the plant.

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<sup>1</sup> Malcolm Pirnie, September 1991

Settlement with Curtis Road Residents committee (1992)

Following the above study work, Singleton, Urquhart MacDonald continued to prepare the regional district defence against the Curtis Road residents committee. However, within one month of the court date, set in 1992, officials from the Ministry of Environment (MOE) waste management branch intervened and stated that regardless of the outcome of the lawsuit, it was MOE's intention to see that the composting operation was closed down and additional odour control works were installed. In view of the position of MOE, the regional district considered whether or not to defend itself in a costly court battle, only to be required in the end, regardless of the outcome, to modify the operation. In early 1992 an out of court settlement was reached between the regional district and the Curtis Road residents committee. As part of the settlement it was agreed that:

- a) The regional district will cease composting at the CVWPCC and to this end agrees that it will cooperate with MOE and will avail itself of all reasonable means at its disposal to:
  - a. expedite approval by MOE of a plan to permanently remove composting from the plant; and
  - b. fund and construct the facilities thereby approved;
- b) The regional district will install additional odour control systems at the plant on all influent channels, headworks, pre-aeration grit tanks, primary clarifier effluent weirs, aerated sludge holding tanks and the dewatering building, consisting of an odour control system which is at least as effective as a bio-filter and a packed tower wet chemical scrubber using sodium hypochlorite and sodium hydroxide, and of a design and capacity consistent with good engineering practice...

The settlement also included compensation to residents totaling more than \$600,000.

Regional district lawsuit against Canadian Northern Shield (1994):

Following the settlement in 1992 with the Curtis Road residents, the regional district filed legal action against Canadian Northern Shield (insurance company) for its failure to represent the regional district in the case against the Curtis Road residents. The regional district claimed the following in their case against Canadian Northern Shield<sup>2</sup>:

- Had the regional district been informed in 1984 that there was no insurance coverage for this lawsuit they would have retained counsel and would not have been exposed to a claim for eight years of damages for loss of use, bodily injury and diminution in value of property.
- If the regional district had been told that it did not have insurance coverage they would have dealt directly with the Curtis Road residents and may have been able to possibly rectify the situation.
- Between 1984 and 1986 the regional district would have had provincial funding available to assist in dealing with odour issues at the plant. This same funding was not available later.
- The law relating to the defence of statutory authority changed significantly in the summer of 1989. Had the matter been fully defended in 1984 such a defence would have been available at trial or during settlement negotiations.
- The possibility of expropriating the Curtis Road properties was only fully discussed in 1991 after the regional district had retained their own defence counsel. At that time such a move was perceived to be extremely unpopular in the community.
- The value of the Curtis Road properties had increased significantly from 1984 to 1991. Thus the diminution in value claims were proportionally higher, as were expropriation costs.
- The regional district received no opinion as to what their potential liability was in this lawsuit until they retained their own counsel in 1991.

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<sup>2</sup> Letter, Singleton Urquhart Macdonald to Guild Yule & Co. – January 20, 1994

In early March 1994 the regional district agreed to an out of court settlement with Canadian Northern Shield for \$915,000. These funds were used by the regional district to offset the payment made to the Curtis Road residents committee and to cover legal costs.

Odour easement (1992 – 1996):

As part of the out of court settlement between the regional district and the Curtis Road residents committee, the committee agreed to provide the regional district time to resolve the odour issues at the plant. In order to facilitate this an “odour right of way” in favour of the regional district was registered against each property that participated in the lawsuit. The easement expired at the end of 1996 and is no longer registered at the Land Title Office. Based on the CVRDs archived records it is believed that the easement generally contained the following provisions:

- The grantor will suffer and permit on, in or over the lands or its passage any odours, gases, vapours or fumes that may issue, emanate, exude or be emitted by the regional districts sewage treatment plant;
- The grantor hereby grants to the regional district, its agents, employees, licensees, workmen, contractors and all other persons acting on its or their behalf, the right to operate and maintain the undertaking and grants to the regional district a statutory right-of-way over the lands for the passage of the undertaking, whether or not such passage constitutes a nuisance for or on the lands, or causes damage to persons or property of the grantor, their agents, servants, licensees, or any other person acting on their behalf, or to the lands, its soil, water, fixtures, appurtenances, vegetation, crops, trees, grasses or livestock.

Relocation of biosolids composting and installation of additional odour control at CVWPCC (1992):

Almost immediately following the out of court settlement the regional district relocated the biosolids composting operation from the CVWPCC to the CVWMC. From 1992 until 2002 biosolids were either composted in windrows or landfilled. In 2002 the regional district constructed the current permanent enclosed bay static composting (SkyRocket) facility at an approximate cost of \$5,000,000<sup>3</sup>. The relocation of biosolids composting in 1992 from the CVWPCC to a remote location removed the “highest ranked – most significant odour source” (based on the Malcolm Pirnie report) from the CVWPCC.

In 1992 the regional district also began work on investigating and testing technology available to further improve odours at the CVWPCC. For the next three years the regional district pilot tested the effectiveness of various bio-filter technologies in order to determine the most cost effective system that would achieve the goals of the settlement. In 1996 the regional district retained consulting engineers, Reid Crowther & Partners Ltd., to recommend the final odour control technology that the regional district should install. In July 1996, Reid Crowther recommended that a two-stage, chemical gas scrubber/stack discharge system be installed to treat odourous air from the following sources:

- Headworks;
- Aerated grit removal;
- Grit dewatering building;
- Gravity thickeners;
- Aerated sludge holding tanks; and
- Sludge dewatering building.

The report also recommended that the regional district proceed with the following additional odour reducing steps:

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<sup>3</sup> CVRD accounting cost centre report 2001 – 2004



- Implement changes to the primary and secondary scum collection systems;
- Submerge the primary clarifier effluent weir; and
- Replace the jet aeration blowers in the aerated sludge holding tanks with mixers.

Following the recommendations by Reid Crowther, the regional district completed detailed design engineering for the recommended system and in October 1996 awarded the construction of the new odour control system at an installed cost of approximately \$2,000,000<sup>4</sup>. As part of project commissioning the wet scrubber was performance tested and found to be over 99.3<sup>5</sup> per cent efficient at removing hydrogen sulphide compounds from the treated air.

Of the odour generating equipment listed by Malcolm and Pirnie above, the sludge holding tank, sludge dewatering building, headwork's, gravity thickeners, aeration tanks, grit processing building and sludge pump building were all included in the odour control system.

With the relocation of the biosolids composting facility to a remote location and the installation of a chemical wet-scrubber odour control system at the CVWPCC, odour issues at the plant were significantly improved and the regional district had satisfied all of the settlement terms with the Curtis Road residents committee.

#### Expenditure of funds for odour control – policy 5340-00:

From when the CVWPCC was first commissioned in 1984 through to 2005 when the new compost facility was completed, the regional district spent a considerable amount of money reducing odourous emissions from the plant. The two most significant projects (the new compost facility and the odour control system) totaled over \$7 million. In recognition of the funds spent to date and in an effort to control any additional spending related to reducing odour, the regional district board adopted policy 5340-00 on June 26, 2006. This policy states that:

- 1) The regional district will not spend any further public funds in relation to odour control at the CVWPCC or the Comox Valley biosolids composting facility unless:
  - a) Staff become aware of new technology or enhancements to current technology that would result in a reduction in odours for a reasonable cost;
  - b) Staff become aware of new operating procedures that could result in a reduction in odours for a reasonable cost;
  - c) The level of odour emission is increasing beyond current levels to an extent that creates a materially increased odour level; or
  - d) There are modifications to the odour control system required as a result of an amendment to a statute or other enactment.

#### Current issues (2006-present):

Over the past seven years, and at present, the regional district continues to receive some complaints related to odour from residents adjacent to the CVWPCC. These complaints are normally received verbally (over the phone) or in writing by email or letter and tend to be received in the late summer or early fall but can be at any time. The volume of complaints is typically less than 10 per year.

In general, but not necessarily on a consistent basis, the CVRD responds to odour complaints by determining whether or not the odour issue is related to operational or maintenance issues at the plant. From time to time, changes in plant operation can contribute to increased levels of odour when certain process equipment is taken out of service for maintenance. If the odour issue does not correspond to specific plant related operation or maintenance then staff work closely with

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<sup>4</sup> CVRD accounting system owner supplied direct purchase and contract award

<sup>5</sup> Odour Control Scrubber System Performance Test – US Filter – September 1997

complainants to ensure that they understand the history of plant odours and the extensive effort and expense that the CVRD had undertaken in an effort to improve odours both at the plant and in areas adjacent to the plant. CVRD staff routinely invite complainants to the plant to review the operation and odour control equipment that is in place.

### **Options**

The commission has the following options:

1. Complete an evaluation of the existing odour control equipment and practices at the CVWPCC including performance testing of the wet chemical scrubber system, an odour audit of operational and maintenance practices and a review of new odour control technologies or enhancements to current technology.
2. Design and implement a complaint tracking system that addresses odour complaints in a consistent manner and provides statistical information related odour complaint frequency.
3. To not complete any additional evaluation of odour control performance at this time.

In 2006 the regional district implemented policy 5340-00 being the “expenditure of funds for odour control” policy. The policy states that the regional district will not spend further public funds in relation to odour control at the CVWPCC unless:

- a) staff become aware of new technology or enhancements to current technology that would result in a reduction in odours for a reasonable cost;
- b) staff become aware of new operating procedures that could result in a reduction in odours for a reasonable cost;
- c) the level of odour emission is increasing beyond current levels to an extent that creates a materially increased odour level; or
- d) there are modifications to the odour control system required as a result of an amendments to a statute or other enactment.

The above policy requires that when it becomes aware, the CVRD consider improvements in odour control technology and/or operating procedures that could be implemented at a reasonable cost, or when the level of odour is increasing beyond current levels. One possible way to monitor odour levels is to track odour related complaints. Currently the CVRD logs complaints but does not necessarily respond in a consistent manner. It is recommended that the odour complaint process be improved to provide consistent follow-up and to better understand trends in odour related issues and complaints.

The odour control system at the CVWPCC was installed in 1997 and is now some 16 years old. A formal performance evaluation would ensure that this equipment is still meeting all of its originally intended performance requirements. As such, both option 1 and 2 above are recommended.

### **Financial factors**

It is expected that a performance evaluation study, as described above in the options section will cost approximately \$50,000 to complete. The outcome of this study will inform the next steps.

### **Legal factors**

The CVWPCC complies with all aspects of its operating permit issued by the MOE. However, if odour issues become a significant factor within the community, the Ministry does have the ability to require additional works to be put in place to mitigate odour.

The regional district has previously negotiated a settlement related to odour issues within the Curtis Road residents committee, and has met all of its requirements under the settlement agreement.

**Sustainability implications**

The Comox Valley sustainability strategy contains several targets applicable to the installation, operation and upgrade of the Comox Valley sewerage service. This includes reducing energy consumption and greenhouse gas emissions and considering waste flows as a resource. These targets will be incorporated into future operation and improvements of the Comox Valley sewerage service.

**Intergovernmental factors**

The Comox Valley sewerage system is governed by the sewage commission whose membership includes representatives from the Town of Comox, the City of Courtenay and the DND.

**Interdepartmental involvement**

The property services branch has taken a lead role in the preparation of this report with support from legislative services.

**Citizen/public relations**

The CVRD has received and continues to receive some complaints related to odour from the CVWPCC.

Prepared by:

***M. Rutten***

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Marc Rutten, P. Eng.  
Senior Manager of Engineering Services

Concurrence:

***K. Lorette***

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Kevin Lorette, P. Eng., MBA  
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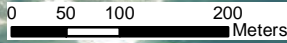
Attachments: Appendix A – “Map of subject area”  
Appendix B – “Expenditure of funds for odour control – CVWPCC”

# Appendix A- Treatment plant parcel and Area Map



**Legend**

- Comox Valley Water Pollution Control Centre
- Electoral Boundary



This map was prepared by the CVRD for planning purposes only and is not a legal document. This map is a composite of different data sets that were developed from different methods and dates. This map should be used with caution. The CVRD is not responsible for any damages resulting from any consistency, omissions or errors.

<b>Subject:</b> Expenditure of funds for odour control – Comox Valley Water Pollution Control Centre	
<b>Category:</b> Property services	<b>Policy Reference:</b> 5340-00

**Purpose:** To establish a policy to address expenditures to deal with the control of odours at the Comox Valley water pollution control centre and the Comox Valley biosolids composting facility.

### Policy

1. (1) The regional district will not spend any further public funds in relation to odour control at the Comox Valley water pollution control centre or the Comox Valley biosolids composting facility unless:
  - (a) staff become aware of new technology or enhancements to current technology that would result in a reduction in odours for a reasonable cost;
  - (b) staff become aware of new operating procedures that could result in a reduction in odours for a reasonable cost;
  - (c) the level of odour emission is increasing beyond current levels to an extent that creates a materially increased odour level; or
  - (d) there are modifications to the odour control system required as a result of an amendment to a statute or other enactment.

### Background

2. (1) The regional district has complied with the terms and conditions of the settlement agreement with the residents of Curtis Road and with all the conditions of Permit PE-5856 issued by the Ministry of Water, Land and Air Protection. The regional district did obtain a statutory right of way from the property owners involved in the lawsuit that gave rise to the action in connection with Courtenay Registry Action No. S0008 commenced by the Curtis Road residents committee and a number of individual property owners. This statutory right of way does give the regional district some protection from the creation of odours. However, the protection is only available to the extent that the plant is properly operated.
- (2) At the present time, although some complaints and concerns about odours remain, the estimated cost of addressing these concerns through the installation of fixed covers and related appurtenances at the secondary clarifiers, aeration basins, primary clarifiers and effluent discharge chamber is approximately \$1,460,000. This amount is considered to be disproportionate to the benefit that is likely to be achieved.
- (3) The regional district does monitor situations such as this, with a view to determining whether the problem becomes more acute or whether new technology might permit the regional district to take measures to further address the problem at a cost that is considered reasonable within the overall budget of the facilities.

- (4) The regional district through the sewage commission will continue to raise sufficient revenue through the services so that the existing odour control systems of the Comox Valley pollution control centre, the sewage pumping stations of the Comox Valley sewerage system and the Comox Valley biosolids composting facility may operate properly.

**Approval History**

Policy adopted:	June 26, 2006
Policy amended:	