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June 13, 2001

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Village of Cumberland
2673 Dunsmuir Avenue
P.O. Box 340
Cumberland BC V0R 1S0

ATTENTION: Mac Fraser, Manager of Operations

Dear Mac Fraser:

Re: Village of Cumberland Liquid Waste Management Plan (LWMP) – Stage 1

Thank you for your letter of February 26, 2001 and the attached report entitled "Village of Cumberland Liquid Waste Management Plan, Stage 1, Volume 1, Final Report, February 2001". We also have a copy of "Volume 2, Supplementary Documents", which was submitted previously and is dated June 2000.

Stage 1 of a LWMP should present a number of options in conceptual form to deal with the liquid waste from a community and should advance a set of options for further study. The Village of Cumberland Stage 1 report identifies several options, all of which are being advanced to Stage 2. Some of these options will be ruled out early on in Stage 2 and only the most feasible options investigated in more detail. If options are ruled out this must be justified technically, economically and socially.

The 1997 permit amendment outlines the important issues to address in the Cumberland LWMP. These are the combined sewage and stormwater flows to the lagoon, and the phosphorus and fecal coliform loadings to Maple Lake Creek and the Trent River. Any option chosen in Stage 2 must deal with these issues and provide justification if the permit conditions are not met. Also, while an approved LWMP provides an exemption from meeting all the requirements of the *Municipal Sewage Regulation* (MSR), the MSR will be used as a guidance document for setting the discharge conditions and any deviation from the requirements of the MSR will also have to be justified.

I hereby approve the Stage 1 report and authorise the Village of Cumberland to proceed with Stage 2 of the LWMP. A number of issues, as outlined below, merit additional consideration in Stage 2.

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1. Discharge/Reclaimed Water Use

Continued discharge to Maple Lake Creek (MLC) is being considered. In order to meet the requirements of the MSR for discharge to water bodies (Schedule 3), there must be some dilution of the effluent. If the dilution ratio is less than that specified in the MSR, this would have to be justified by an Environmental Impact Study (EIS). If there is not adequate dilution provided in MLC, then the potential use of the effluent as stream flow augmentation could be considered and the Reclaimed Water Standards (Schedule 2) would have to be met.

In general, the report does not discuss the standards for the use of reclaimed water in the MSR and these should be reviewed in Stage 2.

Another potential use of reclaimed water is enhancement of the existing natural wetland. This wetland is identified in the Comox-Strathcona Sensitive Habitat Atlas and the ministry's Sensitive Ecosystems Inventory. The Village would have to demonstrate that the treated effluent would be a benefit to the natural wetland, which would not be considered part of the treatment works. Downstream impacts on Maple Lake Creek and the Trent River would still have to be considered.

Discharge to the ocean would be by connecting to the Regional District of Comox-Strathcona Cape Lazo plant. This should be further evaluated as the capacity may be available and the plant is still under the control of the Regional District.

2. Environmental Impact Study (EIS)

Page 54 of the report indicates that the existing technical reports from this ministry are accepted "as valid and appropriate assessments of the assimilative capacity of Maple Lake Creek and the technical foundation on which to base the effluent standards of municipal liquid waste management in the municipality." Additional information is likely going to be required under the LWMP, especially if Cumberland is proposing different discharge standards from those specified in the permit and a number of alternative discharge scenarios are being considered. The scope of the EIS should reflect the need to obtain additional information to assess the most feasible discharge alternatives.

On page 57 the report indicates that "Except for fecal coliform, downstream human use...is not considered the controlling influence..." Water use is always considered in setting discharge standards and nutrients may be an issue from the perspective of human use, as algae growth can become an aesthetic problem. The "British Columbia Water Quality Guidelines (Criteria): 1998 Edition" should be consulted and the goal of any treatment system should be to protect the environment and not cause Water Quality Guidelines to be exceeded.

The issue of the amount of phosphorus that can be discharged to the Trent River may be difficult to determine without several years of data. The EIS for the Stage 2 plan could provide an estimate which would be used to set the discharge standards from the sewage treatment plant. The phosphorus removal system should have some flexibility to adjust as additional information is obtained from the receiving environment monitoring program.

If reclaimed water use in the natural wetland is being considered, the EIS will have to adequately deal with issues such as flooding, erosion, potential alteration of habitat, etc. as a result of the extra water.

3. Constructed Wetland

Various information sources indicate that the ability of constructed wetlands to remove significant amounts of phosphorus is not proven.

The report by C.K.Ventures Ltd., et. al. (1998) proposes that the phosphorus levels specified on the permit can be achieved by dilution with retained stormwater, if needed in the summer months. This would not reduce the overall phosphorus loading to the Trent River and may not solve the problem; also, dilution is not accepted as a treatment method. Any phosphorus removal strategy would have to be justified through an EIS.

The natural wetland would have to be modified for a constructed wetland to be part of the treatment works. Because the natural wetland is identified as a sensitive ecosystem, alteration should be conducted with caution and in consultation with wetland ecosystem experts.

4. Combined Sewer System

Ministry policy, in general, is that combined sewer systems are to be separated over the long term. The LMWP proposes to treat the existing combined flows as an alternative to sewer separation. This can be considered in the case of Cumberland because the combined flows are all routed to the sewage treatment plant; therefore, there are no Combined Sewer Overflows (CSOs), as defined in the MSR. The combined sewers can be considered as Inflow and the conditions of Schedule 1, 17 of the MSR could apply. The ministry may still require long-term sewer separation, as per Schedule 1, 14(3), to be done at the time of repair. This can be further discussed and investigated in Stage 2.

5. Stormwater

The Terms of Reference for Stage 1 indicate that the recommendations of the Storm Water Management Plan (May 2000) should be implemented. We have concerns about some of these recommendations, in particular #9, and #12. Recommendation #9 seems to indicate that additional combined sewers may be constructed. This contradicts ministry policy and the MSR Schedule 1(14)(2). Recommendation #12 would only apply if a constructed wetland is chosen as part of the treatment works.

Recommendations #13 and #14 indicate that Cumberland is interested in taking a proactive approach to stormwater management by preparing bylaws and guidelines and by revising municipal design and development standards. The Ministry supports this approach which considers the impact of changes in land use on stormwater hydrology and water quality and seeks to minimise these impacts.

Regarding BMPs, a lot of good information sources exist. Please let us know if you would like some references.

6. Source Control

A source control program should include education of public and industry as well as bylaw development. Pre-treatment of industrial and commercial discharges to the sanitary system may be required. We could provide you with some source control information from other jurisdictions.

The letter dated September 30, 1997 regarding the discharge from the Cumberland Regional Hospital Laundry Society in the Appendix indicates that the laundry has the capacity to recycle although it is not at the present time. Also, the letter indicates that a risk assessment report has been done on the laundry effluent's impact on the Cumberland treatment system. If this report is available, the information should be discussed in Stage 2. The impact of the laundry flow should be considered in more detail, particularly in terms of loadings of nutrients and BOD. Recycling should be considered as a method of reducing loadings to the sewage treatment plant.

7. Consultation with First Nations

A response from the First Nations dated April 10, 2000 indicates that they would like to meet to discuss the LWMP. We recommend that you follow up on this and arrange a meeting to present the information and discuss any of their concerns.

8. Recommended Course of Action for Stage 2

In light of the issues discussed in this letter, we have the following comments on the Recommended Course of Action for Stage 2, dated February 2001.

1. Discharge to Maple Lake Creek is not the only option. The scope of the EIS may need to be modified or expanded, depending upon which discharge option or reclaimed water use is considered for further study.
2. These flow estimates will be important for determining costs and sizing of treatment options, particularly because what is being proposed is to maintain the combined sewer system and treat the entire flow.
3. This is important for determining the cost-effectiveness of treating the combined flow. This estimate could be based on a long-term plan for sewer separation.

4. Any treatment options not considered for further study must be ruled out with adequate justification on a technical, environmental and social basis.
5. Once the goals for the discharge are established, as determined by and EIS, the options which are technically feasible and which can meet those goals should be considered for more detailed analysis, including a more detailed cost estimate. This may include upgrading of the existing system to treat the combined flow.
6. Only the most feasible options should be considered for more detailed cost estimates.
7. A more detailed cost estimate for the constructed wetland should only be undertaken if it is considered a feasible option.
8. The MSR has requirements for the use of reclaimed water which should be reviewed. Other agencies such as Fisheries and Oceans Canada may also have requirements. Consideration of this option should be part of the EIS. A more detailed cost estimate should only be done if this option is considered feasible.
9. This option should be chosen after all options have been considered and the goals for protecting the receiving environment have been established through an EIS.
10. We have concerns about some of the recommendations of the stormwater report, as discussed in the Stormwater section of this letter.
11. Please consult the "Guidelines for Developing a LWMP" and the MSR and if you have any questions, contact our office.

In addition to the items discussed above, we would like you to consider the following action items:

12. Arrange a meeting with the First Nations, as they requested in their letter of April 10, 2000, to discuss the Cumberland LWMP.
13. Establish a time frame for connecting areas with on-site systems to the sewage treatment plant.
14. Review the impact of the loading on the sewage treatment plant from the laundry facility and consider recycling.

Public input is considered to be one of the most important aspects of the waste management planning process. The plan should be flexible enough to change and adapt to public input and new information obtained during the technical assessment. Please continue to involve the public in the process and provide them opportunities to comment, as done in Stage 1.

We look forward to working with you and your consultants in during Stage 2 of the process. H  l  ne Roberge, Pollution Prevention Officer, will continue to be the primary contact for the ministry.

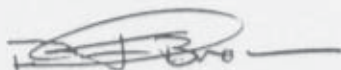
Mac Fraser, Manager of Operations
Village of Cumberland

- 6 -

June 13, 2001

I recognise the effort which has gone into the Stage 1 report. I congratulate the Village of Cumberland on its innovative watershed-based approach to dealing with liquid waste issues and its comprehensive approach to stormwater management, incorporating both the hydrology and water quality aspects.

Yours truly,

A handwritten signature in black ink, appearing to read 'D.F. Brown', with a horizontal line extending to the right.

D.F. Brown
Regional Waste Manager
Vancouver Island Region

cc: Douglas Anderson, P.Eng., Anderson Civil Engineering, fax: 250 754-4375