CAPITAL REGIONAL DISTRICT

Report #EES 06-113

REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, 06 DECEMBER 2006

SUBJECT **CORE AREA LIQUID WASTE MANAGEMENT PLAN – DRAFT INTERIM PROGRESS REPORT TO MINISTER OF ENVIRONMENT ON THE PLAN AMENDMENT**

PURPOSE

To obtain committee approval of the interim progress report to be sent to the Minister of Environment, Barry Penner, regarding an amendment to the Core Area Liquid Waste Management Plan (LWMP), which provides a fixed schedule for the provision of sewage treatment.

BACKGROUND

On 21 July 2006, the Minister of Environment, Barry Penner, wrote to the Capital Regional District (CRD) indicating that:

> *in accordance with section 24(3)(b) [of the* Environmental Management Act*], I am requiring the CRD to provide to me no later than December 31, 2006 an interim progress report on this amendment. This report should outline options relating to the type, number and location of facilities, preliminary costs of treatment, as well as a proposed implementation schedule.*

A draft of the required interim progress report is attached for review, comment and approval.

ALTERNATIVES

1. That the interim progress report be approved and forwarded to the minister of environment; or

2. That the interim progress report be referred back to staff for amendments.

FINANCIAL AND OTHER IMPLICATIONS

It is expected that completing the required Core Area LWMP amendment will cost about $500,000 between November 2006 and June 2007. This work will be funded from 2006 and 2007 LWMP operating budgets.

SUMMARY

The minister of environment requires that an interim progress report be submitted to him regarding an amendment to the Core Area LWMP, which incorporates a fixed schedule for the provision of sewage treatment. A draft interim progress report is attached for review, comment and approval.

RECOMMENDATION

That the Core Area Liquid Waste Management committee review the attached interim progress report, amend as required and then submit to the Board for approval on 06 December 2006.

Seamus McDonnell, PEng
Senior Manager, Engineering Services

Dwayne Kalynchuk, PEng
General Manager, Environmental Services
Concurrence

Kelly Daniels
CAO Concurrence

COMMENTS

SBM:cl
Attachment: 1

November 2006

INTERIM PROGRESS REPORT ON AN AMENDMENT TO THE CAPITAL REGIONAL DISTRICT'S CORE AREA LIQUID WASTE MANAGEMENT PLAN

INTRODUCTION

On July 21, 2006, the Minister of Environment, Barry Penner, wrote to the Capital Regional District (CRD) indicating that:

> *...in accordance with section 24(3)(a) of the* Environmental Management Act, *I hereby direct the Capital Regional District Board to submit to me for approval no later than June 30, 2007, an amendment to the CRD Core Area Liquid Waste Management Plan detailing a fixed schedule for the provision of sewage treatment. Further, in accordance with section 24(3)(b), I am requiring the CRD to provide to me no later than December 31, 2006 an interim progress report on this amendment. This report should outline options relating to the type, number and location of facilities, preliminary costs of treatment, as well as a proposed implementation schedule. To ensure value for taxpayers, I encourage the CRD to consider new technologies and alternative financing and delivery options, including the potential for private sector involvement.*

The interim progress report referred to above is as follows.

ACTIVITY PLAN AND SCHEDULE

Attached in Figure A is the proposed activity plan and schedule for completing the Core Area Liquid Waste Management Plan (LWMP) amendment and submitting it to the Minister by June 30, 2007.

The Plan amendment process is currently on schedule.

PLAN AMENDMENT INITIATIVES

Figure A outlines five key Plan amendment initiatives as follows:

1. Interim Progress Report to the Minister, which is the subject of this report and is to be submitted to the Minister by December 31, 2006.

2. Decision Information Report, which is due to be completed by consultants Associated Engineering with CH2M Hill and Kerr Wood Leidal by mid-April 2007 (see attached terms of reference) and will provide the CRD Board with the required information to enable it to make informed decisions regarding the provision of sewage treatment. The consultants' project approach (see Figure 4-1) and the project schedule are attached.

3. Request for Expressions of Interest (REI) for sewage treatment technology (see attached terms of reference). REI responses are due by January 31, 2007. The responses are expected to provide extensive information from around the world on potentially suitable sewage treatment technology.

4. Establish a Technical and Community Advisory committee by November 2006 to review and advise on technical and public participation issues (see attached terms of reference). This advisory committee will provide a forum for stakeholder and community input into the sewage treatment decision-making process. In addition, a draft communication plan has been developed for the plan amendment process.

5. Amend some Plan programs as suggested by the Society of Environmental Toxicology and Chemistry (SETAC) Panel and SETAC's Plan audit.

In addition to the above, discussions have taken place between Partnership BC staff and CRD staff and consultants regarding alternatives for treatment plant procurement, including potential for private sector involvement.

OPTIONS UNDER CONSIDERATION

The following is an outline of options being considered relating to the type, number and location of facilities, including the preparation of cost estimates. These options will be described in the consultant's Decision Information Report, which is due at the end of March 2007.

1. Type of Treatment

(a) Design Criteria

Consultants are developing appropriate design criteria for year 2065 for trunk sewer and treatment plant design and for determination of land requirements for wastewater treatment facilities. Design criteria will also include, but not be limited to:

- reuse of water
- reuse of energy
- considerations for integration with other community and CRD facilities, such as the landfill
- odour standards
- sludge management standards / criteria
- other community values that may be appropriate

Both quantity and quality criteria will be established for design purposes. The impact of CRD plans and expectations for reduction of inflow and infiltration will be factored into the designs and costing provided. It is assumed that effluent quality will be in accordance with the provincial *Municipal Sewage Regulation.*

(b) Wastewater Treatment Technologies

Consultants are also reviewing and discussing the merits of established wastewater treatment technologies for the provision of treatment and for sludge treatment to achieve Class A biosolids and the options for beneficial use of the biosolids.

The relative merits of promising innovative technologies, compared to established technologies, in particular technologies which provide new opportunities for resource recovery, are also being assessed. The consultant will evaluate the responses to the REI regarding innovative sewage treatment and resource recovery technology when these are submitted in January 2007.

An assessment is being done of the viability of options for recovery of resources, such as energy, soil nutrients and irrigation or process water, appropriate for the types of residential, commercial and industrial and recreational land uses within the Liquid Waste Management Plan (LWMP) sewerage area and the availability of agricultural and forest land within and outside of the LWMP boundaries. The standards in the *Municipal Sewage Regulation* are being used to assess options for the production and use of reclaimed water.

(c) Sludge Management

Options for sludge management were reviewed by Dayton and Knight Ltd. and presented in a report entitled *Sludge Management Options Study*, dated June 2004. Arising from that study, a sludge management plan was prepared in March 2005. The plan envisages that sludge from treatment plants at Clover Point and Macaulay Point would be conveyed by truck to a separate site for stabilization and be beneficially used, primarily on forest land. Two locations have been identified as potential sites for sludge stabilization and as potential sludge composting sites in the future.

The consultant's report will contain a synopsis of options for sludge management to achieve Class A biosolids, including the reasons for using the various options, typical costs and opportunities for resource recovery and beneficial use. The synopsis will include a discussion about some of the promising innovative options, particularly if they provide new resource recovery opportunities. The consultant will review CRD plans for sludge management and make recommendations for alternative sludge management options that may be more appropriate for the treatment options being considered. The *Organic Matter Recycling Regulation* provides the provincial standards for the production and use of organic matter, including biosolids.

2. Number and Location of Facilities and Cost Estimate Development

Capital and life cycle cost estimates for the following options are being developed by consultants:

- The merits of siting compact, buried treatment plants at Clover Point and Macaulay Point with sludge processing at a separate facility are being examined. This is the option currently in the Core Area LWMP. The consultant is reviewing the information developed previously by Stantec Consulting Ltd. and presented in the report entitled *Conceptual Design of Sewage Treatment Plants for Macaulay Point and Clover Point*, dated January 2006, and will modify the concepts developed by Stantec, as the consultant considers appropriate, and update the cost information. The costs to provide additional outfall capacity at Macaulay Point in the future and to provide additional sewerage capacity to accommodate new flow projections for the West Shore communities will be included in the cost estimates. The consultant is also reviewing plans developed previously for sludge processing and beneficial use and will update costs.

- Another option is to site treatment plants at Clover Point and Macaulay Point and to site a third plant on the West Shore to accommodate wastewater from Colwood, Langford and possibly View Royal. For this option, it is assumed that sludge from plants at Clover Point and Macaulay Point will be stabilized at a separate sludge processing facility. Cost estimates are being prepared for two options for the West Shore plant: a compact, buried plant with minimal land requirements and a conventional above-ground plant with appropriate screening, landscaping and buffer. Cost estimates will include the cost of conveyance to divert flows from the West Shore to the new plant, the reduced cost of the plant at Macaulay, the impact on the need for additional outfall capacity at Macaulay and the cost of a new outfall at an appropriate location. It is not intended that sites for a treatment plant and outfall on the West Shore will be chosen as part of this exercise but, for the purpose of preparing cost estimates, locations will be assumed.

- A third option is to construct a single treatment plant on the West Shore to serve the entire LWMP sewerage area. Cost estimates are being prepared for two options for the West Shore plant: a compact, buried plant with minimal land requirements and a conventional above-ground plant with appropriate screening, landscaping and buffer. Costs developed for

this option will include the cost to convey sewage from Clover Point and Macaulay Point to the West Shore plant, the cost to divert sewage from the West Shore to the plant and the cost of a new outfall. The consultant is developing and comparing costs to convey sewage from Clover Point and Macaulay Point to the West Shore using land and marine pipelines. The consultant is also developing separate capital and operating cost estimates to include sludge stabilization at this facility to enable cost comparisons with provision of a separate facility for sludge stabilization.

- A fourth option is to provide a single treatment plant at an offshore location, situated on fill, a stable barge or on pilings. The intention of this option is to develop broad cost estimates to determine the relative cost of a land-based plant versus an offshore plant for the three scenarios above, in order that CRD directors will have a basis to decide whether they wish to give further consideration to this type of option. For the fill and piling options, assumptions are being made about water depth and bottom conditions based on typical conditions in suitable locations within the LWMP area.

- The merits of a small, decentralized treatment plant with recovery of high quality water and energy for a commercial or industrial use are also being assessed. The intention of this option is to develop broad cost estimates for a decentralized treatment example with resource recovery in order that CRD directors will have a basis to decide whether they wish to give further consideration to this type of option. The consultant is developing cost estimates for treatment to produce high quality water and will include the cost to intercept and convey sewage to the decentralized treatment plant and the cost to convey the treated water to the user. The reduction in cost to convey and treat the waste at a central facility and the cost saving resulting from the purchase of water by the user are to be included in the cost estimates. The scenario developed will be based on an actual potential user, or a hypothetical user, based on typical commercial or industrial developments that could use reclaimed water. The standards in the *Municipal Sewage Regulation* will be used to assess options for the production and use of reclaimed water.

- Options currently not envisioned here that may be determined as potentially viable as a result of the responses to the REI and input from the Technical and Community Advisory committee will also be considered.

3. Schedule for Provision of Sewage Treatment

The consultant has been asked to provide a realistic schedule for the design and construction of the required wastewater conveyance, treatment and disposal facilities envisaged herein, including pipelines, pumping stations, treatment plants, sludge processing facilities and outfalls. This schedule will include the time required to obtain approvals for outfall locations and rights-of-way. The consultant is comparing the time frame for various methods of procurement, including the time required for preparation of documents and selection of proponents.

Some time will be added to the consultant's procurement and construction schedule to provide an opportunity to obtain neighbourhood and stakeholder acceptance of the proposed facilities and to develop appropriate mitigative measures that will ensure that the facilities are neighbourhood friendly.

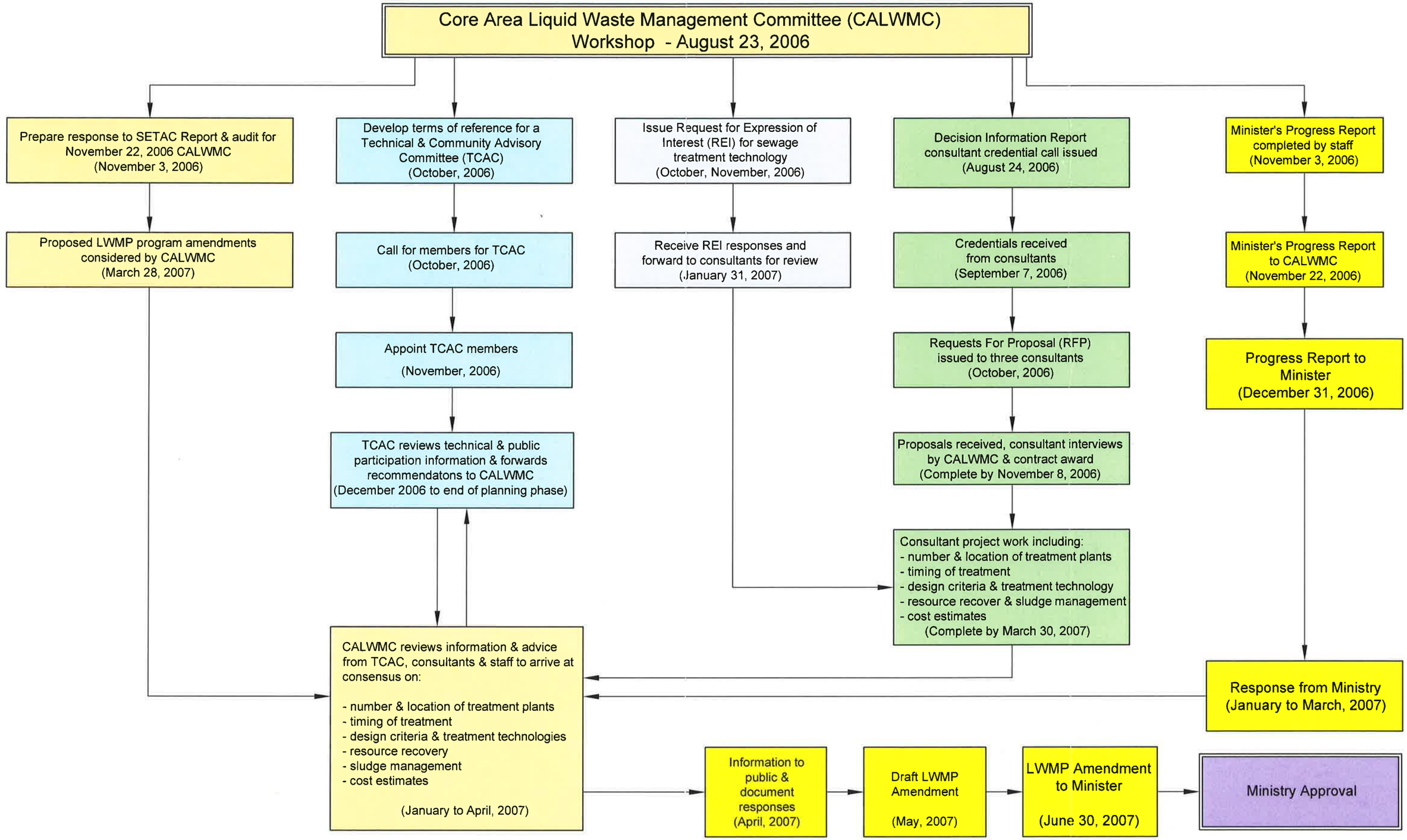
PROPOSED PLAN AMENDMENT

The Plan amendment to be submitted to the Minister in June 2007 will include the following:

1. a fixed schedule for the provision of sewage treatment;
2. a preliminary estimate of the cost of sewage treatment and related infrastructure;
3. information on the proposed type, number and location of treatment plants;
4. a description of procurement options to be considered, including public-private partnerships; and
5. an outline of the proposed public consultation process to be used during the balance of the project planning stage and the subsequent procurement stage.

SBM:cl
Attachments: 6

DWG. No. 13-S155-1 DATE: NOVEMBER 3, 2006



CAPITAL REGIONAL DISTRICT
Environmental Services

CORE AREA LIQUID WASTE MANAGEMENT PLAN AMENDMENT
ACTIVITY PLAN AND SCHEDULE

FIGURE A

CAPITAL REGIONAL DISTRICT
Environmental Services

INVITATION TO CONSULTANTS – REQUEST FOR PROPOSAL

CAPITAL REGIONAL DISTRICT CORE AREA AND WEST SHORE SEWAGE TREATMENT DECISION INFORMATION REPORT

Background and Purpose

On July 21, 2006, the Minister of Environment, Barry Penner, directed the Capital Regional District (CRD) to "submit to me for approval no later than June 30, 2007, an amendment to the CRD Core Area Liquid Waste Management Plan detailing a fixed schedule for the provision of sewage treatment." A copy of the Minister's letter is attached in Appendix 1.

We have a mission to be local government leaders in providing cost effective, innovative and environmentally responsible sewage treatment, committed to the triple bottom line, to the residents in the core communities (Esquimalt, Colwood, Langford, Oak Bay, View Royal, Saanich, Victoria). As a result, we are looking for an experienced and qualified engineering firm with a track record of broad-based thinking and innovative problem solving to work with the 13 member Steering committee, staff and an Advisory committee to provide the essential background information and analysis to enable informed, innovative and cost effective decisions on all facets of the sewage treatment solution.

To enable the CRD to move forward on this matter, decisions will need to be made in a number of areas, including the following:

- Plant design criteria and treatment technology including:
  - opportunities for resource recovery
  - sludge management
  - odour control
  - general plant design criteria
- Number and location of treatment plants
- Timing / scheduling of treatment

The purpose of this request for proposal (RFP) is to select a suitable consultant to prepare a report which will provide sufficient relevant and accurate information to adequately inform the Steering committee and the community about the areas listed above. The triple bottom line approach, which considers economic, social and environmental factors, shall be used to evaluate alternatives.

Terms of Reference

The work includes:

1. <u>Existing Sewerage Systems</u>

   As shown on Figure A, the core area sewerage is divided into two systems. The northwest system, which includes the West Shore system, discharges to the ocean through the Macaulay Point pump station and outfall. The northeast trunk and east coast interceptor system discharges to the ocean through the Clover Point pump station and outfall.

Review the configuration and capacity of the existing trunk sewer systems, wastewater flow and quality data, and CRD plans and expectations for reduction of inflow and infiltration in the core area to fully develop the options discussed in this RFP. The CRD will provide recent flow and population equivalent projections developed by the CRD and its consultant for trunk sewer design. The consultant may rely on these projections, except for the West Shore for which new information will need to be obtained from the West Shore municipalities.

2. Design Criteria

Develop appropriate design criteria for year 2065 for trunk sewer design and for determination of land requirements for wastewater treatment facilities. Design criteria should also include but not be limited to:

- reuse of water
- reuse of energy
- considerations for integration with other community and CRD facilities such as the landfill
- odour standards
- sludge management standards / criteria
- other community values that may be appropriate

Both quantity and quality criteria must be established for design purposes. The impact of CRD plans and expectations for reduction of inflow and infiltration must be factored into the designs and costing provided. Assume that effluent quality will be in accordance with the provincial *Municipal Sewage Regulation.*

3. Wastewater Treatment Technologies

Review and discuss the merits of established[1] wastewater treatment technologies for the provision of treatment and for sludge treatment to achieve Class A biosolids and the options for beneficial use of the biosolids.

Also review and discuss the relative merits of promising innovative[1] technologies, compared to established technologies, in particular technologies which provide new opportunities for resource recovery (to include proposals received in the International REI on Innovative and Emerging Technologies). As the level of effort required to review the submissions submitted in response to the REI cannot be determined at this time, proponents are directed to allow for 100 hours of effort.

Provide an assessment of the opportunity for and viability of options for recovery of resources such as energy, soil nutrients, and irrigation or process water, appropriate for the types of residential, commercial and industrial and recreational land uses within the Liquid Waste Management Plan (LWMP) sewerage area and the availability of agricultural and forest land within and outside of the LWMP boundaries. The standards in the *Municipal Sewage Regulation* should be used to assess options for the production and use of reclaimed water.

4. Timing of Treatment

Starting at the point when the locations for facilities have been determined, and without reference to specific dates, provide a realistic schedule for the design and construction of the wastewater conveyance, treatment and disposal facilities envisaged herein, including pipelines, pumping stations, treatment plants, sludge processing facilities and outfalls. Include the time required to obtain approvals for outfall locations and rights-of-way in the schedule. Compare the time frame for

[1] The terms *established* and *innovative* are used in the context of definitions developed by the Water Environment Research Foundation for the stages in the development of technology – embryonic, innovative and established. Embryonic processes are described as laboratory or bench scale, innovative as demonstration and limited use, and established as operating in several full-scale operations.

various methods of procurement including the time required for preparation of documents and selection of proponents.

5. Land Requirements

Determine the range of land requirements for the primary and secondary treatment options from the most compact technologies to the least compact technologies, sized for design criteria projected to 2065. Indicate which options can be grouped together with essentially the same land requirements. Determine minimum land requirements with nominal buffer areas and more desirable land requirements with reasonably-sized buffer areas. Assume that odour control facilities must be sized to eliminate odours at the property line, commensurate with the buffer areas assumed and the design criteria set by the Committee.

6. Number of Treatment Plants

Develop capital and life cycle cost estimates for the following options:

- Options currently not envisioned here that may be determined as potentially viable as a result of the REI on Innovative and Emerging Technologies and input from the Advisory Panel.

- Compact, buried treatment plants at Clover Point and Macaulay Point with sludge processing at a separate facility. This is the option currently in the Core Area LWMP. The consultant will need to review the information developed previously by Stantec Consulting Ltd. and presented in the report entitled *Conceptual Design of Sewage Treatment Plants for Macaulay Point and Clover Point*, dated January 2006, modify the concepts developed by Stantec as the consultant considers appropriate and update the cost information. The costs to provide additional outfall capacity at Macaulay Point in the future and to provide additional sewerage capacity to accommodate new flow projections for the West Shore communities will need to be included in the cost estimates. The consultant will also need to review plans developed previously for sludge processing and beneficial use and update costs. The requirements for a review of sludge management are outlined in a separate section.

- Treatment plants at Clover Point, Macaulay Point and on the West Shore, to accommodate wastewater from Colwood, Langford and possibly View Royal. For this option, assume that sludge from plants at Clover Point and Macaulay Point would be stabilized at a separate sludge processing facility. Cost estimates are required for two options for the West Shore plant: a compact, buried plant with minimal land requirements and a conventional above-ground plant with appropriate screening, landscaping and buffer. Cost estimates will include the cost of conveyance to divert flows from the West Shore to the new plant, the reduced cost of the plant at Macaulay, the impact on the need for additional outfall capacity at Macaulay, and the cost of a new outfall at an appropriate location. It is not intended that sites for a treatment plant and outfall on the West Shore will be chosen as part of this exercise but, for the purpose of preparing cost estimates, locations will have to be assumed.

- A single treatment plant on the West Shore to serve the entire LWMP sewerage area. Cost estimates are required for two options for the West Shore plant: a compact, buried plant with minimal land requirements and a conventional above-ground plant with appropriate screening, landscaping and buffer. Costs developed for this option will include the cost to convey sewage from Clover Point and Macaulay Point to the West Shore plant, the cost to divert sewage from the West Shore to the plant and the cost of a new outfall. The consultant is required to develop and compare costs to convey sewage from Clover Point and Macaulay Point to the West Shore using land and marine routes. Develop separate capital and operating cost estimates to include sludge stabilization at this facility to enable cost comparisons with provision of a separate facility for sludge stabilization.

- A single treatment plant at an offshore location, situated on fill, a stable barge, or on pilings. The intention of this option is to develop broad cost estimates to determine the relative cost of a

land-based plant vs. an offshore plant for the three scenarios above, in order that CRD directors will have a basis to decide whether they wish to give further consideration to this type of option. For the fill and piling options, make assumptions about water depth and bottom conditions based on typical conditions in suitable locations within the LWMP area, using neither the best nor worst case, and state those assumptions.

- A small, decentralized treatment plant with recovery of high quality water and energy for a commercial or industrial use. The intention of this option is to develop broad cost estimates for a decentralized treatment example with resource recovery in order that CRD directors will have a basis to decide whether they wish to give further consideration to this type of option. Based on options for resource recovery discussed under item 3, in particular the recovery of high quality water for beneficial use, the consultant should develop cost estimates for treatment to produce high quality water and include the cost to intercept and convey sewage to the decentralized treatment plant and the cost to convey the treated water to the user. The reduction in cost to convey and treat the waste at a central facility and the cost saving for the purchase of water by the user are to be included in the cost estimates. The scenario developed may be based on an actual potential user, or a hypothetical user, based on typical commercial or industrial developments that could use reclaimed water. In either case, no specific potential user should be identified; the scenario should be presented as a typical case. The standards in the *Municipal Sewage Regulation* should be used to assess options for the production and use of reclaimed water.

7. Sludge Management

Options for sludge management were reviewed by Dayton and Knight Ltd. and presented in a report entitled *Sludge Management Options Study*, dated June 2004. Arising from that study, a sludge management plan was prepared in March 2005. The plan envisages that sludge from treatment plants at Clover Point and Macaulay Point would be conveyed by truck to a separate site for stabilization and be beneficially used, primarily on forest land. Two locations have been identified as potential sites for sludge stabilization and as potential sludge composting sites in the future.

The final report shall contain a synopsis of options for sludge management to achieve class A biosolids designed for the lay reader, including the reasons for using the various options, typical costs and opportunities for resource recovery and beneficial use. The synopsis should include a discussion about some of the promising innovative options, particularly if they provide new resource recovery options. However, the discussion of innovative options should include information about their current stage of their development. The consultant is expected to review CRD plans for sludge management and make recommendations for alternative sludge management options that may be more appropriate for the treatment options discussed above. The *Organic Matter Recycling Regulation* provides the provincial standards for the production and use of organic matter, including biosolids.

8. Available Documentation

The consultant shall review relevant past reports, including the following:

- Capital Regional District, *Core Area Liquid Waste Management Plan*, July 2000 (Approved 2003)
- Capital Regional District, *Core Area LWMP Sludge Management Plan*, March 2005
- Dayton and Knight Ltd., *Capital Regional District, Core Area LWMP Sludge Management Options Study, "Final"*, June 2004
- Capital Regional District, *Core Area LWMP Progress Report on Land Acquisition for a Sludge Processing Facility*, March 2005
- Stantec Consulting Ltd., *Capital Regional District, Conceptual Design of Sewage Treatment Plants for Macaulay Point and Clover Point, Final Report*, January 2006

- Stantec Consulting Ltd., *Capital Regional District, Pilot Testing of Wastewater Treatment Technologies, Final Report*, February 2005

Additional reports that may be of interest include:

- CH2M Hill Engineering Ltd., *Liquid Waste Management Plan – Stage II, Sewage Treatment Options and Locations of Sites*, April 1991
- Stanley Associates Engineering Ltd., *Site Selection and Cost Estimates Colwood/Langford Regional Sewage Treatment Plant*, June 1990
- Dayton & Knight Ltd., *Capital Regional District, Core Area Decentralized Sewage Treatment*, January 2000
- Stubblefield, W.A., et al., members of Scientific and Technical Review Panel, *Scientific and Technical Review, Core Area Liquid Waste Management Plan*, July 2006
- El-Din, M.G., Smith, D.W. and Guest, R.K., *Review of New and Alternative Liquid Waste Management Systems*, Appendix H of *Scientific and Technical Review, Core Area Liquid Waste Management Plan*, July 2006

Submission of Proposals

Proposals shall be submitted in two envelopes in accordance with the *Policy and Procedure for Engaging Consultants*, attached as Appendix 2. Envelope #1 shall contain the **technical proposal**. Envelope #2 shall contain the **fee proposal**.

Budget

A budget breakdown for consulting time for different aspects of the work shall be provided as part of the fee proposal. The maximum budget available for this work is $200,000, plus GST. The fee proposal shall be submitted in a separate envelope from the technical proposal.

Information Required

The following information is required from firms submitting a proposal:

1. the proponent's vision of the project and understanding of the CRD's objectives

2. a clear statement of the roles and responsibilities of the various participants in the project

3. a discussion of opportunities for phasing the reporting of the results to facilitate early consideration of some of the options by CRD Directors

4. a discussion of unique aspects of the consulting team, or its approach to certain requirements of the terms of reference, which might enhance the outcome of the project and add value to the information required

5. in tabular form, an estimate of each team member's time allocation to each aspect of the project, based on the requirements indicated and the consultant's vision for the project

6. a project schedule indicating significant milestones and proposed meetings with the CRD

7. a statement of commitment that personnel named in the proposal will be available for the duration of the project, except where prevented by circumstances beyond the control of the consultant

8. the location of project personnel while working on this project

9. a budget for consulting services (envelope #2) described in the terms of reference, including budget breakdown with expenses and GST clearly identified

10. as part of the fee proposal (envelope #2), a schedule of charge-out rates for each team member that will apply for the duration of the project

Meetings

Proponents shall allow for the following meetings:

- an initial meeting with CRD staff to discuss the work
- an initial meeting with staff of the West Shore municipalities to discuss needs for increased capacity and to receive information relevant to those needs
- monthly progress meetings with staff
- monthly meetings with the Steering committee to present results
- monthly meetings with the Advisory committee to present results
- a final meeting with staff to discuss the draft report prior to completion of the final report
- presentation of the results at two meetings of the Core Area Liquid Waste Management committee

Schedule

The timeframe available to complete the required report is from approximately November 8, 2006 to March 30, 2007.

Confirmation of Qualifications and Experience

Proponents are requested to confirm that the proposed project team and its involvement in the project remains as indicated in the submission of qualifications. If any changes are proposed, this should be made clear in the proposal submission.

Evaluation of Proposals

Submissions will be evaluated on the basis of the information provided in accordance with the evaluation forms attached to the *Policy and Procedure for Engaging Consultants* (Appendix 2). Care should be taken to ensure that sufficient information is provided so that an informed evaluation can be carried out in each of the areas where points are to be assigned.

For this assignment, the technical evaluation will include an interview of each of the proponents by the Core Area Liquid Waste Management committee (the Steering committee). Each member of the Steering committee that is present for the interview will assign points in accordance with the evaluation forms attached to the *Policy and Procedure for Engaging Consultants*. The average of the points awarded by the committee members will be recorded as the consensus score of the Steering committee.

The written submissions will be evaluated by a staff evaluation panel in accordance with the evaluation forms attached to the *Policy and Procedure for Engaging Consultants*. The consensus score of the staff evaluation panel will be added to the consensus score of the Steering committee to obtain the technical evaluation score for each proponent.

Submission of Proposals

Proposals will be received up to noon local time on Wednesday, November 1, 2006. Three copies of all documents are requested. Responses to this RFP should be submitted to:

Sally McMurray
Capital Regional District
P.O. Box 1000, 625 Fisgard Street
Victoria, BC V8W 2S6
Telephone: (250) 360-3046

APPENDIX 2

SEPTEMBER 2006

CAPITAL REGIONAL DISTRICT

POLICY AND PROCEDURE FOR ENGAGING CONSULTANTS

Purpose

To obtain consulting services that represents the best value for money.

Policy

1) For projects under $35,000, consultants will be selected from the consultants list based on specific expertise and hourly rates.

2) Where the required level of effort is not clear, a budget will be set out in the Request for Proposals.

3) Since the value of consulting services is highly dependent on the qualifications, experience and knowledge of the consultant, for projects over $35,000 selection will be based 50% on expertise and 50% on quoted price. Points distribution should be specific to the project.

4) For assignments of $35,000 or more, each consultant proposal will be evaluated by a team of three or more people using selection criteria provided in the Request for Proposal, as set out in Appendix A and Appendix B of this policy. An overall merit ranking for each proposal will be produced.

5) A list of qualified consultants will be maintained by each Department. The list will be updated regularly after advertising locally.

6) Consultants will be selected in accordance with the following table:

	POLICY AND PROCEDURE FOR ENGAGING CONSULTANTS
0 - $35,000	Consultants will be selected from the consultant list based on hourly rates, and specific expertise for the assignment. Work will be shared between consultants as far as possible.
$35,000 - $100,000	For unusual assignments, written proposals will be solicited by advertising and for routine assignments by invitation to at least three consultants on the consultant list. Proposals will be evaluated as described in Appendix A and Appendix B. A copy of this policy, including a project specific evaluation form, will be provided as part of the proposal call information package.
$100,000 +	For unusual assignments, consultants will be invited by advertising to submit credentials for evaluation and short listing prior to a proposal call. For routine assignments, written proposals will be solicited by advertising (without a credential call). Proposals will be evaluated as described in Appendix A and Appendix B. A copy of this policy, including a project specific evaluation form will be provided as part of the proposal call information package.

7) In situations where only one consultant is identified for a consulting task, which is estimated to be in excess of $35,000 in total for all phases of the work, the approval for the appointment of the consultant will be obtained from the applicable committee/commission.

Approved by the CRD Board 10 November 1992
Amended by the CRD Board 10 June 1998
Amended by the CRD Board 14 October 1998
Amended by Administration for consistency and legal form 27 October 2005

APPENDIX A

EVALUATION PROCEDURES

Both technical merit and cost are awarded a maximum of 500 points each, for a total potential of 1,000 evaluation points. Technical proposals will be opened and marked out of a total score of 500 points against the evaluation grid, an example of which is in Appendix B, before any financial proposals are opened. Each technical presentation will be evaluated on the basis of the firm's experience, competence of its personnel and acceptability of the method proposed.

A firm's technical proposal shall be deemed qualified only if it complies with all requirements contained in the Request for Proposal.

Only proposals whose technical scores are within 15% of the proposal awarded the highest technical score will have their financial proposals opened and evaluated. All other financial proposals will be returned unopened upon appointment of the selected firm. The only exception to this policy is when the proposal of the second-ranked firm is more that 15% below the highest technical score and still technically qualified. In such a case, the second-ranked firm would have its financial proposal opened to avoid a non-competitive situation.

In all cases, the Capital Regional District reserves the right to cancel the competition and call for new proposals.

Financial proposals can be awarded a maximum of 500 points. The financial proposal with the lowest cost of fees will be awarded 500 points, which will be added to the technical score, resulting in the firm's total score. The percentage by which each of the remaining firms' proposed costs exceeds the cost of the lowest qualified proposal will be the percentage by which the 500 points is reduced, prior to adding it to the technical score resulting in each firm's total score.

For example, if the proposed cost of Firm A exceeds the lowest proposed cost (Firm B) by 10%, Firm A will add 500 minus (10% of 500), or 450 points to its technical score. The firm receiving the highest total score will be judged to have the best value to the Region.

COSTS INCLUDED IN PROPOSAL EVALUATION

All personnel fees, salaries, wages, reimbursable expenses and GST, will be taken into account in the proposal evaluation.

DEBRIEFING

Subsequent to final selection of a firm for contract award, all other proposing firms have the right to receive a debriefing on the strengths and weaknesses of their proposal. Points awarded by evaluation teams for both technical and financial proposals will remain confidential and may not be divulged to any proposing firm.

APPENDIX B

EVALUATION FORMS

TECHNICAL EVALUATION OF PROPOSALS
CORE AREA AND WEST SHORE SEWAGE TREATMENT DECISION INFORMATION REPORT

FORM 1 of 2: STEERING COMMITTEE EVALUATION FORM

Committee member: _____

Member's score out of 150 points:

Associated Engineering (BC) Ltd.
CH2M Hill
Kerr Wood Leidal Associates _____

Earth Tech (Canada) Inc.
Golder Associates
Focus Corporation _____

Stantec Consulting Ltd.
Brown and Caldwell Consultants _____

TECHNICAL EVALUATION OF PROPOSALS
CORE AREA AND WEST SHORE SEWAGE TREATMENT DECISION INFORMATION REPORT

FORM 2 of 2: STAFF PANEL EVALUATION FORM

PAGE 1 of 2: Qualifications, Experience and Local Knowledge

	POINTS	CONSULTANTS			
1. THE FIRM (35)					
1.1 Experience with similar projects*	30				
1.2 General related project experience	5				
TOTAL FIRM	35				
2. THE PERSONNEL (175)					
2.1 Project Manager/Director (55)					
(a) Experience with similar projects*	30				
(b) Qualifications of Project Manager/Director	15				
(c) Local knowledge	10				
2.2 Project Team (120)					
(a) Experience with similar projects*	60				
(b) Qualifications of team members	40				
(c) Local knowledge	20				
TOTAL PERSONNEL	175				
	210				

* Experience with similar projects refers to planning, siting, designing and cost estimating large sewage treatment plants, pump stations, outfalls and pipelines (including marine pipelines), with particular emphasis on a track record of innovation and experience with projects involving resource recovery.

TECHNICAL EVALUATION OF PROPOSALS
CORE AREA AND WEST SHORE SEWAGE TREATMENT DECISION INFORMATION REPORT

FORM 2 of 2: STAFF PANEL EVALUATION FORM

PAGE 2 of 2: The Method and Level of Effort

	POINTS	CONSULTANTS			
Brought forward					
3. THE METHOD AND LEVEL OF EFFORT (140)					
3.1 Project "vision" and understanding of the CRD's objectives	40				
3.2 Roles/responsibilities definition	20				
3.3 Proposals for briefing or involving the CRD during the project	15				
3.4 Quality and clarity of submission	15				
3.5 Proposed level of effort	35				
3.6 Value added	15				
TOTAL METHOD	140				
TOTAL STAFF EVALUATION	**350**				
STEERING COMMITTEE CONSENSUS SCORE	**150**				
TOTAL TECHNICAL COMPONENT	**500**				

TECHNICAL EVALUATION OF PROPOSALS TO PREPARE
A CORE AREA AND WEST SHORE SEWAGE TREATMENT DECISION INFORMATION REPORT

COMBINED TECHNICAL AND FINANCIAL EVALUATION

To be applied as described in Appendix A and only to those proposals with a technical merit rating within 15% of the highest rated technical proposal.

FIRMS	Consulting Fee	Percent above Lowest Fee	Financial Proposal Score	Technical Proposal Score	Total Score

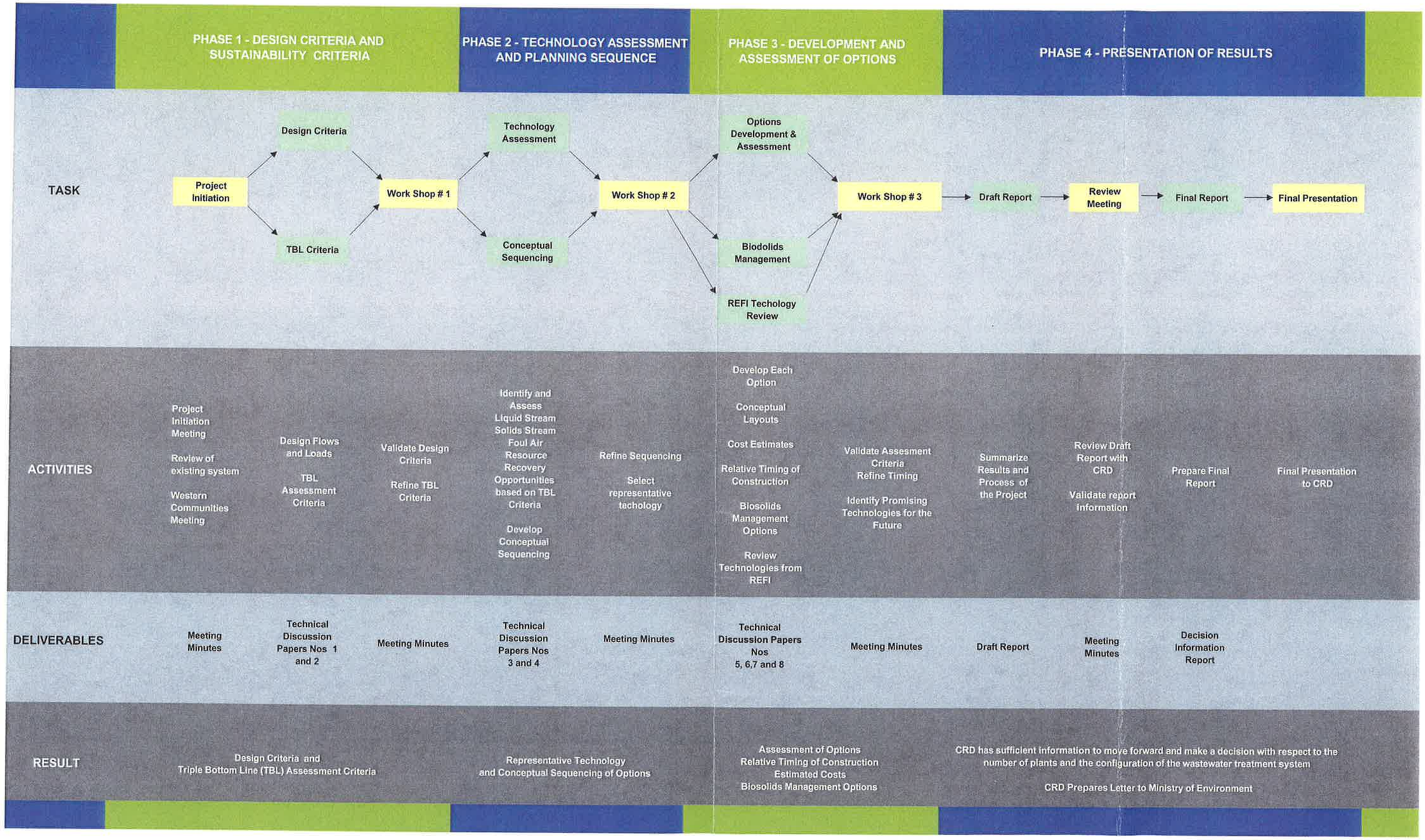
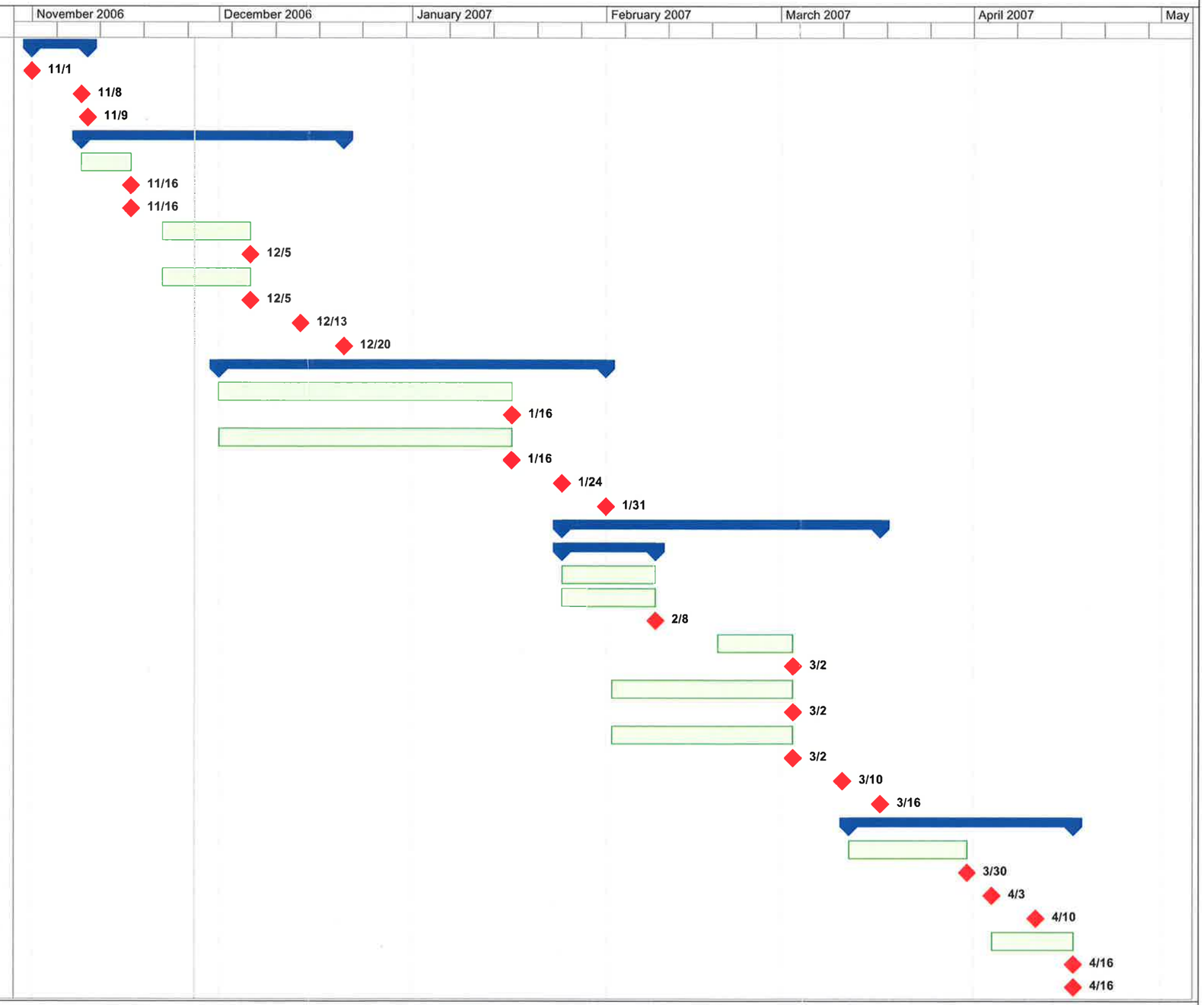


FIGURE 4-1 - PROJECT APPROACH

PROJECT SCHEDULE

ID	Task	Task Name
1		**Decision Information Report Proposal Call**
2		RFP Submission
3		Interviews
4		Notice of Award
5	**Phase 1**	**Design and Sustainability Assessment Criteria**
6	1-1	Task 1-1: Project Initiation
7		Project Initiation Meeting
8		Western Communities Meeting
9	1-2	Task 1-2: Design Criteria
10		Technical Discussion Paper Number 1
11	1-3	Task 1-3: Defining the Triple Bottom Line Criteria
12		Technical Discussion Paper Number 2
13	1-4	Task 1-4: Workshop # 1
14		Workshop # 1 Meeting Minutes
15	**Phase 2**	**Technology Assessment and Planning Sequence**
16	2-1	Task 2-1: Technology Assessment
17		Technical Discussion Paper Number 3
18	2-2	Task 2-2: Conceptual Sequencing
19		Technical Discussion Paper Number 4
20	2-3	Task 2-3: Workshop # 2
21		Workshop # 2 Meeting Minutes
22	**Phase 3**	**Development and Assessment of Options**
23	**3-1**	Task 3-1: Development of Options
24		Develop Capital and Life Cycle Cost Estimates for each Option
25		Develop Relative Timing of Construction for each Option
26		Technical Discussion Paper Number 5
27	3-2	Task 3-2: Assessment of Options
28		Technical Discussion Paper Number 6
29	3-3	Task 3-3 Biosolids Management
30		Technical Discussion Paper Number 7
31	3-4	Task 3-4: REFI Technology Review
32		Technical Discussion Paper Number 8
33	3-5	Task 3-5: Workshop # 3
34		Workshop # 3 Meeting Minutes
35	**Phase 4**	**Presentation of Results**
36	4-1	Task 4-1: Report Preparation
37		Draft Decision Information Report
38	4-2	Task 4-2: Review Meeting
39		Review Meeting Minutes
40	4-3	Task 4-3: Final Report
41		Decision Information Report
42	4-4	Task 4-4: Final Presentation



Project: Decision Information Report Schedule
Date: Nov 27 '06

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

CAPITAL REGIONAL DISTRICT

REQUEST FOR EXPRESSIONS OF INTEREST REGARDING INNOVATIVE SEWAGE TREATMENT AND RESOURCE RECOVERY TECHNOLOGY FOR VICTORIA, BRITISH COLUMBIA, CANADA

1. Purpose

The purpose of this request for expressions of interest (REI) is to solicit information regarding innovative sewage treatment and resource recovery technologies and strategies that may be suitable for effectively and sustainably treating and processing sewage generated by a predominately residential community of about 300,000 (initially) to 400,000 people.

2. Background

The Capital Regional District (CRD) is responsible for liquid waste management in the greater Victoria area of British Columbia, Canada, which is located on the southern tip of Vancouver Island.

Figure "A" (attached) shows the general layout of the existing wastewater infrastructure, which services seven municipalities (Victoria, Saanich, Oak Bay, Esquimalt, View Royal, Colwood and Langford). No treatment, other than fine screening, is provided at the two discharge outfalls at Clover Point and Macaulay Point. Figure "B" shows the urban containment and servicing policy area boundaries, which include the subject area.

On July 21, 2006 the BC Minister of Environment directed the CRD to: "submit to me for approval, no later than June 30, 2007, an amendment to the CRD Core Area Liquid Waste Management Plan detailing a fixed schedule for the provision of sewage treatment". A copy of the Minister's letter is attached in Appendix 1.

The CRD has a mission to be local government leaders in providing cost effective, innovative and environmentally responsible sewage treatment to its residents. As a result, we are now seeking information on sewage treatment and resource recovery technologies that will maximize environmental, social and economic benefits to the community.

The CRD is also retaining a consultant to prepare a decision information report to provide information to enable the CRD Board to make informed decisions regarding a number of issues including plant design criteria, the type of treatment technology to be considered and the number, location and timing of treatment plants. The triple bottom line approach, which considers economic, social and environmental factors, shall be used to evaluate alternatives.

3. Review of Responses

The CRD intends that expressions of interest (EOIs) received in response to this request will be made public and posted on the CRD's website (http://www.crd.bc.ca). In order to facilitate posting, electronic copies of all printed and written material submitted, in PDF format, are required as well.

It is part of the terms of reference of the consultant, referred to in section 2 above, to evaluate and rank the EOI submissions and recommend to the CRD those that appear to merit further investigation.

It is expected that a technical and community advisory committee will also review the responses and/or comment on the consultant's findings regarding the EOIs received.

Expression of Interest Instructions

4.01 Submission Deadline

Respondents are requested to submit both paper (five copies) and electronic versions (in either Microsoft Word or Adobe PDF format) of their complete EOIs to the location referred in subsection 4.02 below by noon on January 31, 2007. Submissions should be plainly marked: "EXPRESSION OF INTEREST – INNOVATIVE SEWAGE TREATMENT AND RESOURCE RECOVERY TECHNOLOGY" and should bear the name of the party submitting.

The CRD reserves the right to accept or reject any or all late EOIs or EOIs received at locations other than that set out below.

4.02 Inquiries

For further information specific to this REI, please contact:

Dwayne Kalynchuk
General Manager, Environmental Services
Capital Regional District
PO Box 1000, 625 Fisgard Street
Victoria, BC V8W 2S6
Telephone: (250) 360-3092
E-mail: dkalynchuk@crd.bc.ca

4.03 Review

EOIs will be reviewed in accordance with the procedure set out in section 3 above. The CRD reserves the right in its absolute and sole discretion, without liability to anyone, to modify, extend the deadline, suspend, postpone or cancel any part of this REI or any subsequent processes contemplated or suggested under this REI. The CRD also reserves the right to contact respondents during the REI process to clarify or confirm information provided and/or to invite any or all respondents to provide brief presentations, without any obligation to contact or invite any other respondent.

4.04 Ownership and of EOIs

Unless the CRD agrees in writing otherwise, the CRD shall be entitled to retain, copy and disseminate, without compensation to any respondent, the EOIs and any information submitted during the REI process. Respondents are therefore not asked to, nor are they expected to, submit proprietary information.

4.05 Respondent's Expenses

Each respondent is solely responsible for, and will have no recourse to the CRD for any and all costs and expenses incurred by the respondent in preparing and submitting its EOI, including any costs incurred by it after the deadline.

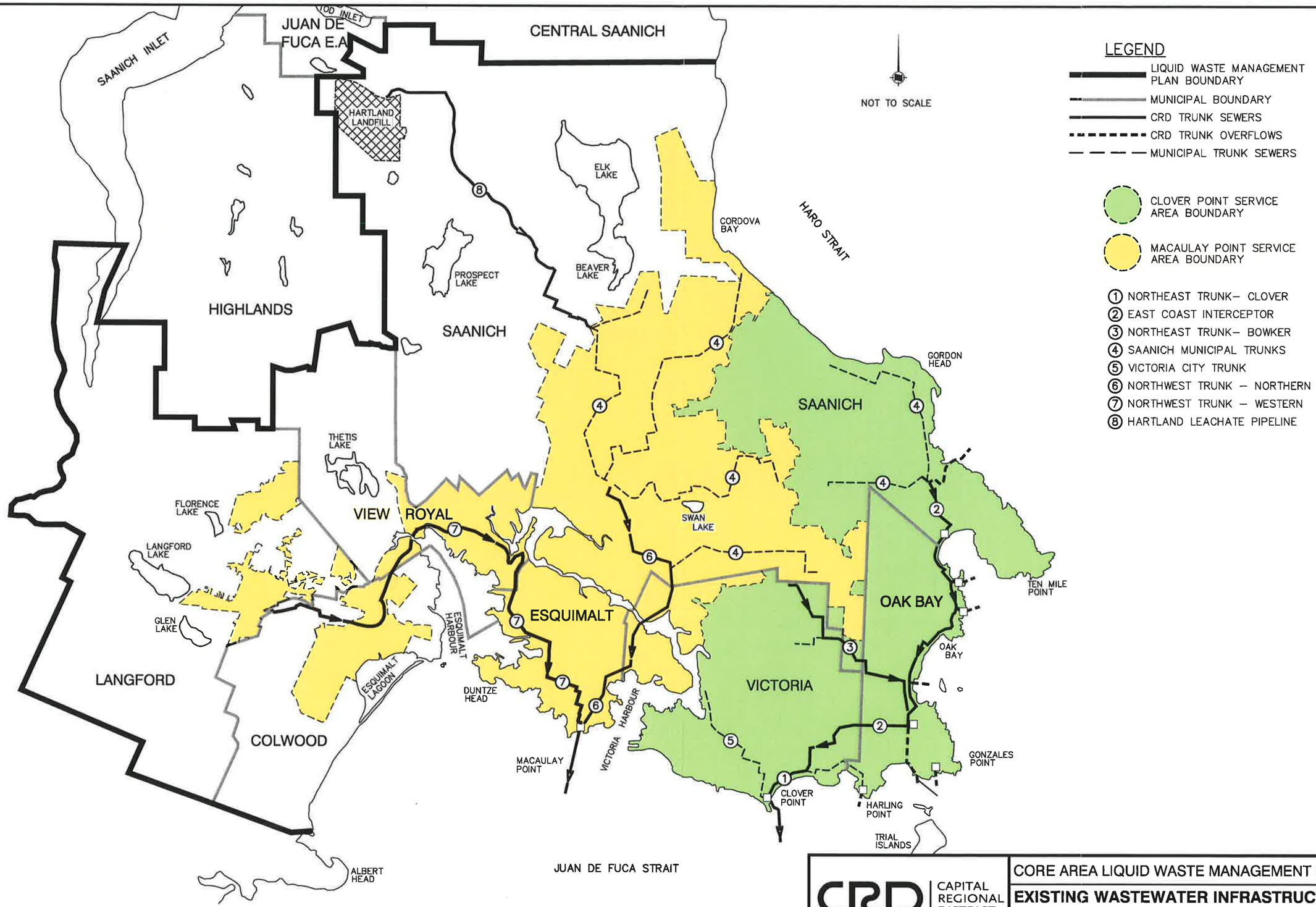
4.06 Accuracy of Information

The CRD does not represent or warrant the accuracy, completeness or relevance of any information set out herein or in the appendices or in any other background or reference information.

4.07 No Contract

This REI process is non-binding and no contract of any kind is formed under or arising from it. This REI is not an invitation to tender, a request for proposals or any variation thereof that would give rise to the creation of a bid contract or any other contract.

DWG. No. 13-S153-1 DATE: AUGUST 8, 2006

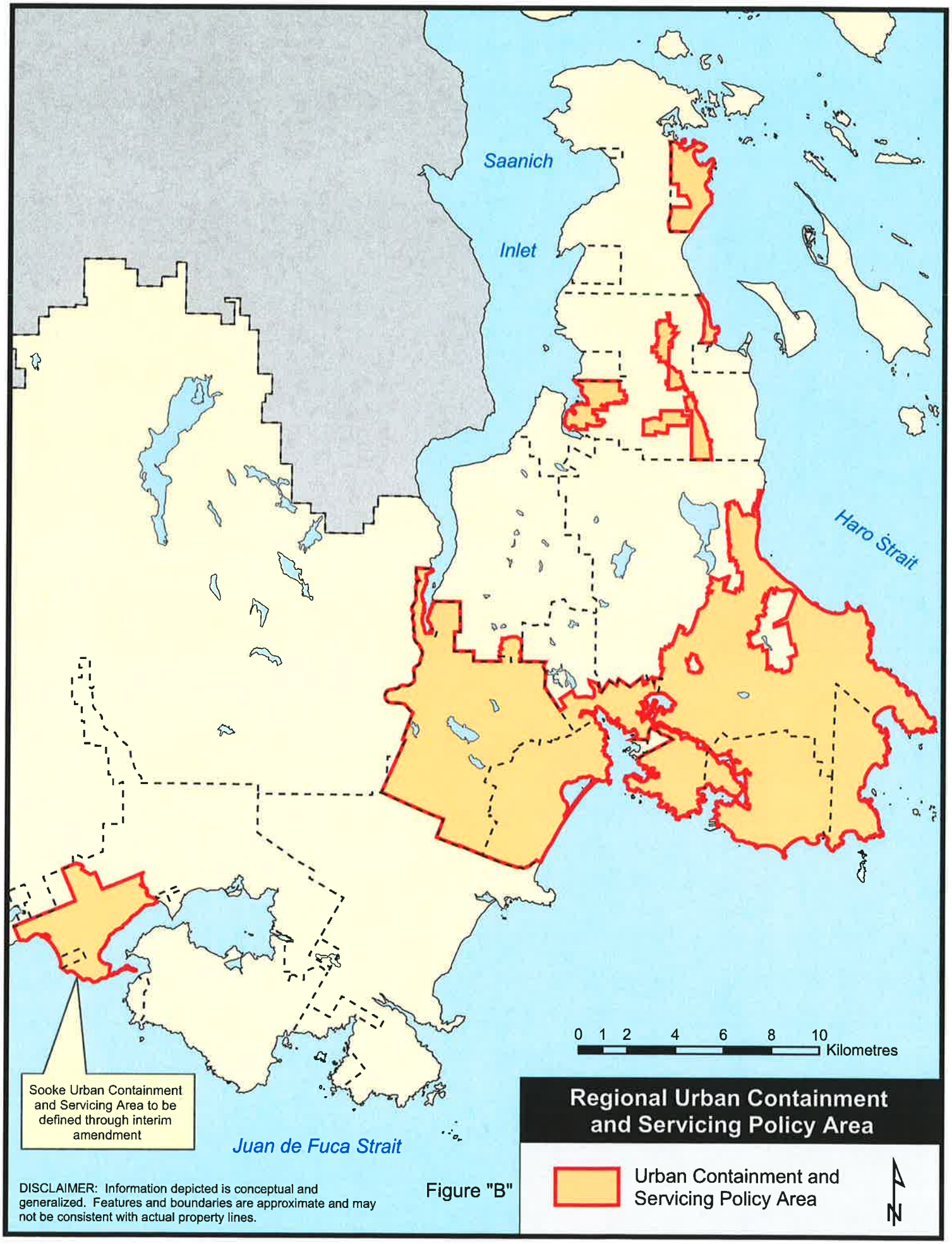


CAPITAL REGIONAL DISTRICT
Environmental Services

CORE AREA LIQUID WASTE MANAGEMENT PLAN

EXISTING WASTEWATER INFRASTRUCTURE & SEWER TRIBUTARY AREAS - REQUESTS FOR PROPOSALS

FIGURE 'A'



DISCLAIMER: Information depicted is conceptual and generalized. Features and boundaries are approximate and may not be consistent with actual property lines.

Figure "B"

TECHNICAL AND COMMUNITY ADVISORY COMMITTEE
CORE AREA AND WEST SHORE SEWAGE TREATMENT

TERMS OF REFERENCE

INTRODUCTION

On July 21, 2006, the Minister of Environment, Barry Penner, directed the Capital Regional District (CRD) to "submit to me for approval no later than June 30, 2007, an amendment to the CRD Core Area Liquid Waste Management Plan detailing a fixed schedule for the provision of sewage treatment." A copy of the Minister's letter is attached in Appendix 1.

The CRD has a mission to be local government leaders in providing cost effective, innovative and environmentally responsible sewage treatment to the residents in the core communities (Esquimalt, Colwood, Langford, Oak Bay, View Royal, Saanich, Victoria).

To enable the CRD to move forward on this matter, decisions will be needed in a number of areas, including the following:

- Plant design criteria and treatment technology, including:
  - opportunities for resource recovery
  - sludge management
  - odour control
  - general plant design criteria

- Number and location of treatment plants

- Timing/scheduling of treatment

A Technical and Community Advisory committee (TCAC) is required to assist the Core Area Liquid Waste Management committee (the steering committee) in making appropriate recommendations to the CRD Board in the areas outlined above.

ROLE AND RESPONSIBILITIES

The TCAC will respond to requests from the steering committee for technical and community consultation advice and input in order to facilitate informed decision-making in a variety of areas, including those outlined above.

MEMBERSHIP, SELECTION AND APPOINTMENT

Including the chair, there will be 16 members:

1 - member of the Core Area Liquid Waste Management committee – TCAC Chair
3 - municipal engineering or other technical representatives
4 - members at large via public advertisement
2 - members nominated by environmental groups
1 - member nominated by the Esquimalt and Songhees First Nations
1 - member nominated by the Department of National Defence
1 - member nominated by the Chamber of Commerce
1 - member from post secondary institute
1 - member from CRD Roundtable on the Environment
1 - member from the Victoria Labour Council

Members will be appointed by the CRD Board on the recommendation of the Core Area Liquid Waste Management committee. Members will serve without remuneration.

ADVISORY COMMITTEE RESOURCES

Staff representatives from the following organizations will be invited to attend TCAC meetings to provide information as required:

- Ministry of Environment
- Environment Canada
- Vancouver Island Health Authority

A consulting engineering expert in sewage treatment and related matters will also attend TCAC meetings to provide advice and information.

CRD staff will provide administrative and technical support to the advisory committee as required.

RULES OF ORDER

CRD Board rules of order will apply.

TERM

The term of the TCAC will be for the duration of the planning stage of the Core Area and West Shore sewage treatment project or as determined by the CALWMC.

Approved by CRD Core Area Liquid Waste Management Committee 11 October 2006

SBM/cl
Attachment: 1

APPENDIX 1

BRITISH COLUMBIA

Reference: 88918

JUL 2 1 2006

Mayor Alan Lowe, Chair,
and Directors
Capital Regional District
PO Box 1000
Victoria BC V8W 2S6

Dear Chair Lowe and Directors:

On March 26, 2003, former Minister, Honourable Joyce Murray approved the Capital Regional District Core Area Liquid Waste Management Plan (LWMP), which included a trigger process in lieu of a fixed schedule for treatment. The approved plan requires the implementation of two triggers, one for the seafloor ("seafloor trigger") and one for the water column ("seawater trigger").

On July 12, 2006, the Capital Regional District (CRD) Board received a report from an independent scientific panel, known as the Society of Environmental Toxicology and Chemistry (SETAC), detailing the results of the panel's review of the CRD's sewage practices. As you know, the panel reported that the risk factors, public values, and the regulatory climate argue for the CRD to improve the quality of its effluent.

In addition, I recently received and reviewed a report from an independent consultant, MacDonald Environmental Services Ltd. (MESL), retained by the Ministry of Environment to evaluate the CRD sediment quality data associated with the outfalls. This study found that, based on the available CRD monitoring data, contamination at the two outfalls is sufficient to warrant preliminary designation as contaminated sites under the Contaminated Sites Regulation. The study also showed that water quality guidelines are not being met outside of the initial dilution zone at Macaulay Point.

.../2

Ministry of Environment

Office of the Minister

Mailing Address:
Parliament Buildings
Victoria BC V8V 1X4

Telephone: 250 387-1187
Facsimile: 250 387-1356

Direct negotiations between Ministry and CRD staff regarding a seawater trigger have been ongoing for over 18 months, during which time the CRD requested and was granted two deadline extensions. I understand these negotiations have not resolved several key issues. This fact, when considered along with the findings of the SETAC report and the report obtained by the Ministry, leads me to the conclusion that agreement on an acceptable trigger process (one that is protective of the environment) is not achievable.

Therefore, in accordance with section 24 (3) (a) of the *Environmental Management Act*, I hereby direct the Capital Regional District Board to submit to me for approval no later than June 30, 2007, an amendment to the CRD Core Area Liquid Waste Management Plan detailing a fixed schedule for the provision of sewage treatment. Further, in accordance with section 24 (3) (b), I am requiring the CRD to provide to me no later than December 31, 2006 an interim progress report on this amendment. This report should outline options relating to the type, number and location of facilities, preliminary costs of treatment, as well as a proposed implementation schedule. To ensure value for taxpayers, I encourage the CRD to consider new technologies and alternative financing and delivery options, including the potential for private sector involvement. It is my understanding that some of this work may already be underway. It is also my expectation that the CRD will continue the current monitoring program.

I want to thank you for your continued efforts to implement the CRD plan and look forward to receiving your December 2006 report and plan amendment. Any questions with respect to developing the amendment should be directed to Randy Alexander, Regional Environmental Protection Manager, 2080-A Labieux Rd, Nanaimo, BC, V9T 6J9.

Sincerely,

Barry Penner
Minister

pc: Honourable Ida Chong, MLA (Oak Bay-Gordon Head)
Honourable Murray Coell, MLA (Saanich North and the Islands)
Kelly Daniels, Chief Administrative Officer, Capital Regional District
Dwayne Kalnychuck, General Manager, Environmental Services, Capital Regional District
Randy Alexander, Regional Environmental Protection Manager, Ministry of Environment