

DATE: October 30, 2014 **FILE:** 5360

TO: Chair and Directors
Comox Valley Regional District (Comox Strathcona waste management) board

FROM: Debra Oakman, CMA
Chief Administrative Officer

RE: Comox Valley waste management centre engineered landfill leachate treatment system design contract and new engineered landfill contract scope change

Purpose

To request Comox Strathcona Waste Management (CSWM) board approval for changes to existing Tetra Tech EBA contract for design of the engineered new landfill including:

1. Change order for scope changes to the new engineered landfill design contract; and
2. Award of a contract to Tetra Tech EBA for design of Comox Valley leachate treatment facility to be a part of the new engineered landfill;

Policy analysis

The 2012 solid waste management plan (SWMP) approved by the Ministry of Environment (MoE) on May 23, 2013 and the CSWM strategic plan and objectives support the design and closure work included in this report.

Bylaw No. 284, being the “Comox Valley Regional District Delegation of Purchasing Authority, Bylaw No. 284, 2013” delegates authority for all regional district purchases and requires that the board approve all contracts in excess of \$100,000.

Executive summary

The Comox Valley (CV) new engineered landfill project is a part of the SWMP capital projects and has been a part of the CSWM strategic plan since 2012. Tetra Tech EBA was competitively selected as the consultant for this long term complex design project and awarded the contract by the board in 2013.

The overall schedule of the new engineered landfill project is driven as a result of the shrinking amount of permitted capacity in our current regional landfills which is projected to be exhausted in late 2017. To meet the SWMP criteria for Municipal Solid Waste (MSW) disposal, design of the new leachate treatment facility needs to begin in 2015 to be ready for the opening of the new landfill scheduled for construction in 2017.

The scope of work for the next phase of the new engineered landfill includes the design by Tetra Tech EBA of the preferred option leachate treatment facility. Tetra Tech EBA has performed well to this point, added project value and reduced risk to the CSWM service by assessing project alternatives and strengthening the CSWM applications to the Minister of Environment (MoE) by their work.

The two proposed scope changes from Tetra Tech EBA for work on the CV new engineered landfill project include:

1. Request for change order for scope changes to the new engineered landfill design work contract and
2. Contract for detailed design of Comox Valley new engineered landfill leachate treatment facility.

Board approval of both the change order and the contract for the CV leachate facility detailed design is requested. In the consideration of this contract award, the potential loss of momentum, knowledge and project expertise should be considered in light of the critical project timelines, financial and legal risks.

Recommendations from the chief administrative officer:

1. THAT a change order to the new Comox Valley engineered landfill design contract be approved for Tetra Tech EBA at a cost of \$69,410.76 excluding GST;

AND FURTHER THAT the corporate legislative officer and chair be authorized to sign the contract documents.

2. THAT a contract for the detailed design of the leachate treatment facility for the new Comox Valley engineered landfill be direct awarded to Tetra Tech EBA in the amount of \$495,003.00 excluding GST

AND FURTHER THAT the corporate legislative officer and chair be authorized to sign the contract documents.

Respectfully:

D. Oakman

Debra Oakman, CMA
Chief Administrative Officer

History/background factors

Tetra Tech EBA request for change order

Work was initiated in 2011 on the three major SWMP capital projects including:

1. Campbell River landfill closure;
2. Comox Valley landfill closure; and
3. Comox Valley new landfill expansion.

CSWM projects listed above are referenced in the solid waste strategic plan from 2012 through 2014.

CSWM staff manage these large complex projects using principals of management and technical programs including:

1. Quality based selection (QBS) – consultant selection and management;
2. Budget guidelines for consulting engineers – project estimates and consultant fees; and
3. Project management institute – project management framework for oversight.

Starting in 2011, the CSWM service approached the selection of consultants for the SWMP capital projects with the use of QBS process. For these complicated, complex and long term projects consultants with proven experience on in depth environmental landfill closures, construction as well as provincial approval abilities were needed. To provide for qualified consultants the CSWM selected two sequential competitive processes including:

1. Request for qualifications (RFQu) – evaluation of seven submissions resulted in shortlist of top three qualified consultants, completed in 2011; and
2. Request for proposals (RFP) – top three RFQu consultants competed for each project resulting in three contracts awarded between 2012 and 2013.

The QBS best practice methodology when applied to large complex and long term projects is a transparent process that encourages viewing of consultants as “trusted advisors” who share their objectives and who are evaluated throughout the project by their performance including risk reduction and value added factors. For acceptably performing consultants, contract extensions for phased construction tender documents and contract oversight is planned and makes sense as the tender documents are between thirty and fifty per cent completed for all phases of the projects within the first months of contract award.

The three high value SWMP projects described above have been unfolding over a long term with relatively complex scopes. The scope of these projects were not readily definable when the RFQu was issued in 2011 and has continued to provide challenges to staff and the CSWM board as the projects have evolved. Project scopes have been adjusted over time through option assessment and selection. From the beginning, the major constraint with managing these projects has been the compressed project timeline as a result of limited system capacity. Capacity is the permitted landfill airspace available for municipal solid waste. For all three projects, the financial and legal risks are proportional to the existing landfill capacity. In other words, the closer we are to running out of landfill space the larger the risks on not completing scheduled work and the fewer the disposal options for MSW exist.

Current estimated capacity, or landfill space available in terms of time includes:

1. Campbell River landfill – January 2018
2. Comox Valley landfill – October 2017

At this time there appears to be enough airspace available to not have to amend the SWMP to provide for alternative disposal of regional municipal solid waste (MSW) before completion of the new expanded landfill scheduled for construction in 2017.

Board approval of the Tetra Tech EBA request for change order for a total of \$69,410.76 including direct costs and without GST is requested and includes:

1. Operations Plan Update - \$19,746.74: To include MoE changes to Landfill Criteria, November 2013 which occurred after the award of the contract; and
2. Additional Work - \$49,664.02 – for work items authorized as the contract has progressed. The majority of the additional work includes:
 - a. Additional work outside the original contract scope for the assessment of leachate strategy options including presentations to the Village of Cumberland and the CSWM board;

- b. Additional work to provide expanded landfill excavation depth options (3m, 5m, 8m) and presentations of those options to the CSWM board; and
- c. To present preliminary initial alternative gas use options to the CSWM board at the June board meeting.

The new engineered landfill contract design work is scheduled to be completed in the summer of 2016 and construction is scheduled for 2017. The scope of work in the original contract allows for a contract extension for detailed design of the leachate treatment facility.

Contract award – CV engineered landfill - leachate facility design

Tetra Tech EBA was awarded the contract for the design of the new engineered landfill at the CV facility in September 2012. The CV facility operational certificate requires a leachate treatment system to be in operation when the new landfill cell construction is completed.

As a part of their work, Tetra Tech EBA completed the assessment of six leachate options and at the June 19, 2014 CSWM board meeting, approval was received for the recommended leachate treatment option of an on-site biological based leachate treatment facility. In addition, board authorization was received at the June meeting for Tetra Tech EBA to prepare reports and seek MoE approval for the recommended leachate treatment facility which is a part of the landfill operational certificate.

The new engineered landfill plans and operations manual are now at fifty per cent completion and are under review by the MoE. Design for construction of the leachate facility should begin early in 2015 to be able to meet the 2017 construction completion schedule for the new landfill.

The scope of work in the original contract allowed for a contract to be extended to the same consultant for the detailed design phases. Tetra Tech EBA has submitted a proposal to complete the detailed design of the selected leachate treatment facility at a total cost of \$495,002 excluding GST that includes:

- Preferred option facility design that meets MoE criteria; and
- Completes tender documents by October 2016 and allows for MoE review before construction scheduled for tender in the fall of 2017;

The leachate facility estimated construction cost in 2017 is a part of, not in addition to the 2017 financial plan construction budget estimate of \$20,700,000 for the Comox Valley new engineered landfill.

The scope and the fee for the proposed contract work is a realistic representation of project. Included in the proposal are meetings and presentations to the MoE, the Village of Cumberland and the CSWM board which will occur as the leachate facility design progresses. The existing engineered landfill design contract requires some of the preliminary leachate facility design to be completed by Tetra Tech EBA and that should reduce the cost of the contract scope.

The major consideration in awarding the contract for the leachate facility design is the timeline related to the limited amount of capacity available in our regional landfills, projected to be exhausted in late 2017. In the evaluation of this contract award, the potential loss of momentum, knowledge and project expertise should be considered in light of the critical project timelines, financial and legal risks.

Options

Recommendation 1:

1. Approval of Tetra Tech EBA scope change to the existing contract for the design of the engineered landfill at the CV facility; or
2. The board may choose not to approve the change order

Staff recommends option 1, approval of the change order 3 to ensure operations plan and landfill design are updated to SWMP requirements and MoE criteria and additional contract work is included in the design contract.

Recommendation 2:

1. Approval of a contract to Tetra Tech EBA for the design of the leachate treatment facility; or
2. The board may choose not to approve the contract to Tetra Tech EBA and direct staff to issue an RFP to the other top ranked RFQu short listed solid waste engineering firms.

Staff recommends option 1, approval of the contract award in order to reduce the risk of not completing the leachate treatment facility design and construction on time. Failure to provide leachate treatment to service the new engineered landfill when opened would result in significant operational costs to dispose of leachate by trucking and leachate disposal charges. Also, the scope of the original contract allowed for the detailed design phases of the project to be awarded to the same consultant.

Financial factors

The value of the change order to the Tetra Tech EBA contract for the CV landfill expansion and leachate treatment design is \$69,410.76 excluding GST. The cost for this change order is within the 2014 capital budget, function 391, CSWM solid waste services.

The value of the contract award to the Tetra Tech EBA for detailed leachate facility treatment design would be \$495,002.00 excluding GST. The value of this contract is included in the preliminary 2015 capital budget, function 391, CSWM solid waste services.

Table 1. Summary of Tetra Tech EBA contract for CV engineered landfill and leachate system design.

Contract Description¹	Cost
Original contract landfill design and leachate system options w/o GST	\$643,675.65
Sum of change orders to date	\$116,630.00
Requested change order this report	\$69,410.76
Proposed contract for leachate facility detailed design	\$495,002.00
Total	\$1,324,718.41

Note 1 – Comox Valley landfill expansion and leachate treatment system design contract dated August 16th, 2013.

Increased financial risks of not proceeding with project recommendations include possible increases to MSW tipping fees as well as increases to operational costs if project is not completed as scheduled.

Funding for this project is budgeted to be provided by long term debt through the Municipal Finance Authority.

Legal factors

There are no legal actions necessary that would be specific to proceeding with the recommendations. This project and the recommended contract extension with Tetra Tech EBA are supported by the SWMP and are in accord with the service establishment bylaw 1822.

Legal risks of not proceeding with the recommendations could include a possible SWMP amendment which requires at least two years to complete, Minister of Environment approval and, includes significant public outreach assent requirements.

Sustainability implications

The new engineered landfill is a part of the capital projects included in the SWMP. The new landfill represents a major improvement in MSW disposal in the region reducing environmental impacts and providing major sustainability improvements. The SWMP supports the Comox Valley Sustainability Strategy including the following goals:

Goal 3.2: Establish a diverse network of clean and renewable local energy supply systems; energy is harnessed from the waste sources in the community;

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Goal 3.3: Waste diversion and recycling programs approach “zero-waste” targets including: Objective 3.3.1. Develop a regional “zero-waste” strategy, including promotion of recycling that is aimed at waste reduction and diversion from landfill disposal;

Goal 3.4: The waste stream associated with construction, demolition and land clearing waste is reduced; Objective 3.4.1. Develop and implement a regional waste management program.

Interdepartmental involvement

A number of CVRD branches will support the work recommended in this report including but not limited to engineering services, financial services, public affairs and information systems and legislative services. Most of the work will be undertaken by the CSWM staff of the engineering services branch at the CVRD.

Citizen/public relations

The public affairs and information systems branch is consulted regularly as to communications plans for the CSWM services and this work could include all updates to the SWMP communication plan. However, no additional public communication is planned at this time for this project.

Prepared by:

Concurrence:

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