



TO: Solid Waste Management Select Committee **MEETING:** July 7, 2020

FROM: Jane Hamilton
Superintendent Disposal
Operations, Solid Waste Services **FILE:** 5365-02

SUBJECT: Request to Proceed with Procurement for Solid Waste Engineering Services.docx

RECOMMENDATION

That the Board approve release of a *Request for Proposal* for engineering services for landfill capping, landfill development review and updating of the Design and Operations Plan.

SUMMARY

The 2020-2024 Financial Plan has approximately \$4.5 million projected to be spent on capital works associated with landfill capping activities in 2021 and 2022. Engineering services for this work consists of detailed design of the landfill cap system, construction tendering and construction oversight. Integral components of this design work include landfill regulatory conformance and development reviews, and update of the landfill Design and Operation (D&O) Plan. Engineering services commonly makes up 10 to 15 percent of project costs and, therefore, the engineering services for this work will be in the order of \$450,000 to \$650,000.

A Request for Proposals can be undertaken for the above engineering services. Award of the work to the successful proponent is subject to Board approval. Award of this engineering work will allow the RDN to maintain schedules and regulatory commitments and prepare shovel ready projects for potential infrastructure grant programs.

BACKGROUND

Significant capital expenditure and engineering services are required over the next few years at the regional landfill. The following provides details of these tasks and timelines for completion.

Landfill Capping

It is landfill operation best practice, as well as a regulatory requirement, to progressively cap and close finished areas of landfills. Landfill caps are designed to minimize precipitation getting into the landfill, as well as control leachate, run off, and landfill gas. To achieve this, landfill caps are typically multi-layer systems of both high and low permeable soils separated by synthetic liner systems.

There are currently two areas of the landfill projected for closure. The first is a \$2.3 million project slated for 2021; the second is a \$2.1 million project slated for 2022. The engineering

work involves completing detailed design of the landfill cap, preparing construction tender documents and construction oversight.

Landfill Regulatory Conformance Review

The Ministry of Environment and Climate Change Strategy has established criteria for the design and operation of landfills; the most recent criteria were released in 2016. In approving the Regional District of Nanaimo's (RDN) Solid Waste Management Plan, a condition stipulated by the Minister is to complete a conformance review of the landfill with respect to the most recent criteria by August 31, 2021. The outcome of the conformance review will inform the engineering tender packages as well as future design and operation of the landfill.

Landfill Phase Development Review

In 2009 the D&O Plan was completed and approved by the Ministry of Environment. Since then the landfill has been substantially developed. The purpose of the Landfill Phase Development review is to revisit the overall design strategy to ensure it aligns with the current Landfill Criteria, current technologies, as well as identifying potential opportunities to expand the life of the landfill. The Landfill Phase Development Review will inform the design engineering work as well as how the 2021/22 closure activities will be carried out.

Design and Operation Plan

A D&O Plan is a regulatory requirement which establishes landfill infrastructure and the timing of development including landfill cell construction, surface water controls, leachate capture and landfill gas controls. The Plan also sets out requirements for day to day operations and facility monitoring. The D&O Plan is due for updating and will inform facility operations for the next decade. The updated D&O Plan will be prepared in consideration of both the Landfill Regulatory Conformance Review and the Landfill Phase Development Review.

Landfill Capping, Landfill Regulatory Conformance Review, Landfill Phase Development Review and the Design and Operation Plan are interdependent tasks. In order to efficiently complete each task, it is recommended the tasks are carried out concurrently by a single engineering company. A finalized contract will establish spending approvals for each individual task of the engineering work consistent with RDN purchasing policy.

ALTERNATIVES

1. That the Board approve release of a Request of Proposal for engineering services for landfill capping, landfill development review and updating of the Design and Operations Plan.
2. That the Board provide alternative direction.

FINANCIAL IMPLICATIONS

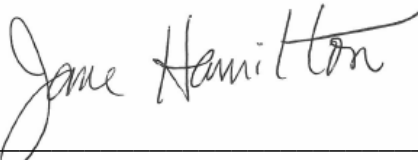
The total engineering work to be covered by the Request for Proposal is expected to be in the order of \$450,000 to \$650,000 and includes detail design and tendering of 2021 and 2022 capping projects, construction oversight of the projects, the Landfill Phased Development Review, Conformance Review and Design and Operations plan. Releasing a Request for

Proposal for engineering services at this time allows for completion of a detailed landfill cap design for 2021 work, initial work on the Landfill Phased Development and Conformance review, and preparation of tender documents for 2021 capital works. Funds for this work are identified in the approved RDN Financial Plan, having a tender package ready to be released at year end provides the best opportunity to take advantage of anticipated Federal infrastructure funding. Furthermore, completing this advance work gives the best opportunity to take advantage of any timelines that are set out in funding criteria and/or the potential for combining 2021/2022 closure projects to realize best cost efficiency and value to the RDN.

STRATEGIC PLAN IMPLICATIONS

Environmental Stewardship - Protect and enhance the natural environment, including land, water, and air quality for future generations.

The Request for Proposal for engineering services will assist Solid Waste Services in maintaining the landfill asset through sound operations and effective infrastructure development. The result is environmental protection, minimizing environmental impact and meeting regulatory compliance



J. Hamilton
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June 19, 2020

Reviewed by:

- L. Gardner, Manager, Solid Waste
- R. Alexander, General Manager, Regional & Community Utilities
- K. Felker, Manager, Purchasing
- P. Carlyle, Chief Administrative Officer