



District of North Saanich
**Deep Cove, Patricia Bay, McDonald Park
(DC/PB/MP)**

Sewer Project Review





District of North Saanich - Deep Cove, Patricia Bay, McDonald Park (DC/PB/MP) Sewer Project Review

Prepared By



Justin Sabourin

Opus International Consultants (Canada)
Limited
Victoria Office
401-707 Fort Street, Victoria
British Columbia
Canada V8W 3G3

Reviewed By



Bernadette O'Connor

Telephone: +1 250 952-5640
Facsimile: +1 250 920-5620

Approved for
Release By



Martin Gordon

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1 Executive Summary

Opus International Consultants (Canada) Ltd. was retained to conduct an independent review of the Deep Cove, Patricia Bay and McDonald Park (DC/PB/MP) Sewer Project, hereafter referred to as the “Project”. The overall purpose of this review is to identify Project issues and challenges, highlight areas for improvement, and respond to specific questions given in the Request for Proposal (RFP).

1.1 Major Challenges

The main concerns expressed in the RFP were primarily related to three factors:

- Project cost;
- Decision making; and
- Communication with the public.

Each of these points are discussed below in summary and in detail in the report.

1.1.1 Cost

The primary cause for the increase in cost was an unexpected and substantial increase in construction costs at the time the project went to tender. This significant change was due to economic forces affecting the construction market and beyond the control of the Council.

Timing of Grant Approval

The amount of time it took to receive the Canada/BC Infrastructure Grant unintentionally contributed to the adverse financial outcome. The delay in receiving Grant approval changed the timeline for constructing the project. As a result, the Project was constructed during a time of substantial inflation within the industry, resulting in increased cost for material, labour and construction work.

Construction inflation prior to calling tenders for the Project had been relatively flat by comparison. The impact that the delay would have on Project cost would not therefore have reasonably been foreseen at that time.

The reason for the time delay in receiving the grant, appears to be related to the amount of follow up required to satisfy the Grant Administrator on the ‘1 hectare rule’ requirements. More than two years lapsed from the time the District was informed that the Project would not be exempt from the ‘1 hectare rule’ to the time when the Grant Administrator was satisfied that the District had an equivalent requirement in place for the ‘1 hectare rule’. In the documentation reviewed, we noted a gap in the project history between July 2001 and March 2003. This is the period from when the District was informed that the Project would not be exempt from the ‘1 hectare rule’, and the date the first proposal to satisfy the rule was submitted. The specific reason for this delay in the application process is not clear and could have had many contributing factors on both the part of the Ministry as well as the District.

Construction Inflation Impact

To quantify the extent of the impact of construction inflation on the Project, we compared final costs to the original 2001 baseline cost estimate. It was evident from this comparison that roughly 70-80% of the cost increases could reasonably be attributed to construction inflation. The remaining 20-30% of cost increases were the result of unforeseen extras. These extras were primarily archaeological costs and the Mills Road realignment.

Based on an analysis of available construction market data, it is reasonable to conclude that it would have been very difficult for Staff to accurately predict the increases in construction costs due to construction inflation prior to letting the tenders. The construction index had been relatively flat from 2000 to 2004, with only a small increase of roughly 4%. Whereas the increase occurring between 2004 and 2006 was an additional 40%. The project estimates prior to tendering included sufficient contingency to have accommodated the 4% trend noted in the earlier 2000 to 2004 market data.

Regardless of Staff predictions or awareness, once the tender costs were known, it was Council who had the final authority to decide whether or not to go ahead with the Project based on the costs identified. The rationale for continuing with the Project despite the increase costs is discussed in Section 1.1.2 below.

1.1.2 Decision Making

Rationale for Project

At the time of Grant Application, in 2001 and shortly after, there appeared to be a strong business case and rationale to proceed with the Project. The documentation reviewed indicated that due to inherent soil conditions, onsite treatment of a significant number of developed lots in the area of concern could not be sustained long term. Further investigation of onsite issues and wastewater treatment alternatives was completed in 2001 by Giles Environmental Engineering and McCrae Engineering, respectively. These investigations provided further information in support of proceeding with the Project.

Key Decision Point

As of the July 11, 2005 Council meeting, Council was aware that the project would cost roughly \$4 million dollars more than anticipated. At this point in time, Council faced the decision to either continue with construction, knowing that the cost had escalated, or cancel the Project and attempt to further investigate alternatives. Either decision would have significant implications.

A decision to proceed would indicate that cost escalations were accepted and considered manageable and that sufficient public benefit would be derived from completing the project to justify the increased cost.

A decision to not complete the Project might have resulted in the District being non compliant with commitments made under the Saanich Peninsula Liquid Waste Management Plan (SPLWMP) which had been approved by the Minister. Residents would also continue to be faced with the repair of failing onsite septic systems until an alternative long term

solution was in place. The potential risk to residents and the wider community regarding adverse environmental and health impacts from failing systems would also remain.

Another consideration could have been that construction costs would continue to increase with further delays and that investigations had already indicated the proposed project was the best long term solution.

Not completing the project at this stage would also have resulted in the potential forfeiture of the approved grant monies (roughly \$4 million), subject to reapplying for a new grant. In addition, the benefit of funds invested in the project up to that point (roughly \$130,000) may have been lost or reduced.

Considering the options available, continuing with the Project appears to have been the better of the two decisions for the community, based on a balance of consequences.

Referendum

It appears there was some intent during the early phases of the Project to hold a referendum related to the Project. However it was not clear, based on the information reviewed, whether or not a specific commitment to hold a referendum was announced to the public. It is also not clear what the intention was for that referendum to decide.

Council was not legally required to conduct a referendum based on the Environmental Management Act (or its predecessor, the Waste Management Act), The Community Charter or the Municipal Government Act. It is also evident that even if a referendum were held, it would have been non binding since the Project was to implement part of a Liquid Waste Management Plan that had been approved by the Minister following previous public consultation.

The Project was also exempt from a public referendum on borrowing above the Approval Free Liability Zone. This is because the Municipal Liabilities Regulation allows for exemption of Projects that are being implemented to satisfy all or part of an approved Liquid Waste Management Plan.

There was also no evidence to support that sustainable alternative systems could have been successfully and efficiently implemented in a timely manner to meet the commitments made under the Plan. Therefore a referendum on alternative options was not required.

Also, by adopting a resolution in May of 2001, to discontinue local treatment and disposal options, Council effectively limited the treatment alternatives for the Project, to one option - connection to the Regional System. Based on the technical and legal information available at the time as well as District requirements under the SPLWMP, it appears that the decision to proceed with the Project without a referendum was justified.

1.1.3 Public Relations and Communications

Referendum

It was clear from the documentation we reviewed, that a major public relation issue encountered during the course of the Project was related to the referendum. The level of

communication that the Council relayed to the public explaining the commitments under the SPLWMP, the options available and the rationale for not conducting a referendum appeared to be insufficient to appease public inquiry. There was, and possibly still is today, a perception amongst some members of the public that a referendum was required, or that sufficient alternatives had not been considered. Without adequate and appropriate explanation as to the rationale for why decisions were made, the public may have perceived that the democratic process had in some way been short-circuited, even if that was not the intent.

The level of public communication that was advisable on the referendum was explained in a May 23, 2001 Staff Report. The Council should therefore have been clear on this matter and the related issues and options. However, the importance of detailed explanation to the public appears to have been underestimated.

Other Challenges

Project correspondence to the public was also noted as a challenge. At times, information was conveyed that showed a high level of certainty for items such as project costs which would later change.

Based on records of Council minutes, there appeared to be concern raised that one or other contributor to the Project may have had more favourable contribution terms than residents. Based on a review of all available contribution information and Agreements, this does not appear to be case.

There also appeared to be concern that the property owners in the Project Area may have benefited from unwarranted subsidies due to the improper use of community based municipal taxation funds. A legal review of bylaw compliance was not conducted as this is out of the scope of this Project. However to put the matter into perspective, financial records show that less than 5% of total Project costs were obtained from community based municipal taxation funds. Based on perceived benefits to the community as a whole, from completing the Project, this appears both reasonable and justified.

The public relations and communication challenges discussed above could have been predominately avoided or mitigated through improved explanation to the public.

1.2 Summary of RFP Questions and Answers

Below are a series of specific questions that were asked as part of the Request for Proposals. Summarized responses are provided below, additional context is provided in the report.

No.	Question	Summarized Response	Section
1	<i>Determine what internal controls were in place to prevent significant budget variances during the Project life cycle and to ensure financial conditions of contract and agreements including related to funding sources were met.</i>	The controls in place are generally considered to be satisfactory; however, some improvement could be made to the cost tracking process used to ensure compliance with funding source agreements.	3
2	<i>Determine the source and use of funds pertaining to the Project including any unspent monies relevant to the Project set aside in reserves including the reserve accounts and how these funds may be used in the future.</i>	<p>The Project is substantially complete. According to a May, 2011 Project ledger summary, \$14,510,106 of the project budget has been spent. The current available balance between revenue and expenditure on the Project is approximately \$167,000. These funds are being held in a reserve account to fund associated necessary works such as odour control and aesthetic requirements.</p> <p>In regard to future costs, we understand that the BC Ferries contribution received after the Project was substantially constructed, is being held in reserve for future capital and asset renewal needs of the project. This is an appropriate use of these funds.</p>	3
3	<i>Determine the impact of long term financing for the Project on the Districts capacity to borrow within the “Approval Free Liability Zone” and future constraints on long term borrowing to 2032.</i>	<p>Based on a forecast of current and predicted debt servicing liabilities, it is expected that the Project has had a <i>minor</i> impact on the long term borrowing capacity of the District and a <i>moderate</i> impact in regard to borrowing within the Approval Free Liability Zone (AFLZ) within the next 9 to 11 years.</p> <p>Regardless of the DC/PB/MP Project, the District had already exceeded the AFLZ from 2004 to 2008 due to the SEQ project debt.</p>	3
4	<i>Review the use of Grant monies received to determine to determine whether funds have been spent in accordance with the purpose(s) set out by the terms of the Grant Agreement;</i>	All documentation reviewed indicates that the District is in compliance with the terms of the Canada/BC Infrastructure Grant and Community Works Grant Agreements and that any monies spent on the respective portions of the Project appear to have been spent in accordance with the Agreements.	4
5	<i>Determine whether there is any potential District liability as to repayment of Grant funding received for the Project</i>	Sufficient eligible expenditures are available under the Project to qualify for the entire amount of the approved Grants. Repayment of these funds is not expected.	4

No.	Question	Summarized Response	Section
6	<i>Review the project costs to determine what procedures were in place to effectively manage the Project including contract management to ensure the project was built on time and within the agreed upon cost</i>	Contract, budget management and procedures in place to manage the Project included a District Lead and Project Manager from the engineering department, a private consultant to supervise construction and Council for decision-making. This Project organization model is very typical for municipal capital works of this type. There were no major issues noted with this model of organization that resulted in any significant cost overruns or complications for the Project.	5
7	<i>Determine what costs were paid by each funding source up to the date the Project was declared completed, and then since that date.</i>	Contributions to the Project include: long term debt (53%), Canada BC Infrastructure Grant (27%), Specified Area Charge (12%), DNS (4%), VAA (2.5%), Community Works Grant (1.5%). Project contributions (revenue) are detailed in Section 3.4, and Project costs (expenditures) are detailed in Section 5.4.	5
8	<i>The reason for additional costs being incurred after the initial borrowing Bylaw 1073 was adopted in November 2004 and amended by Bylaw 1099 in September 2005 to authorize increased borrowing for the Project.</i>	Approximately 85% of the increase observed at the time of amending the borrowing bylaw was attributable to a substantial increase in construction index. The other 15% of that cost increase was related to the sewer route modification. There are other additional costs included in the final project total, however these were not identified at this time and not included in the September 2005 bylaw and budget assessment.	5
9	<i>The final cost for each of the four major contracts, the amount of actual cost over or under the contracted amount and the budget variance of each, if applicable.</i>	The allocated budgets, and subsequent amounts spent are comparable to the original tender amounts that were approved for each contract. As of May 2011, Contract #1 indicates a budget deficit of \$26,148 and Contracts Nos. 2, 3 and 4 indicate surplus budgets of \$39,285, \$53,018 and \$79,134 respectively. A detailed summary of this information is provided in Section 5.4.3. The differences noted between tender, budget and actual costs are minimal and considered reasonable given the total value of each contract. Any differences noted are likely the result of minor construction savings or increases that can commonly occur during construction.	5
10	<i>Identify the ongoing operating, maintenance and capital costs associated with the Project and the funding source(s) from completion of the project to 2014.</i>	The average estimated O&M costs to 2014 is \$84,500 per year. The O&M funds will be sourced from the sewer operating fund. See Table 7, Section 5.4.7 for a yearly breakdown.	5

No.	Question	Summarized Response	Section
11	<i>Determine whether the Victoria Airport Authority (VAA) contribution releases any businesses in their business park from having to pay connection, capacity, operation or maintenance charges and if so, how these are calculated.</i>	Staff Reports and detailed calculation Worksheets for the VAA capital contribution indicate that this was calculated on the basis of expected flow levels for a developed land area of up to 5.7ha. The contribution received therefore includes pre-payment for some future connections . Additional capital contributions will only be required when the allowance of 5.7ha of developed area has been exceeded. The cost of construction of all connections however, will be borne by the VAA or its developers. All sewer users including any and all connections on VAA land are required to pay the applicable sewer O&M charges.	5
12	<i>Compare the Project to the Southeast Quadrant Sewer Project</i>	<p>The primary factor that led to higher costs on the DC/PB/MP Project versus the SEQ Project can be attributed to the significant increase in construction index that occurred after the SEQ Project, from the second quarter of 2004 onwards. The debt/cost ratio for the SEQ project was 0.40, compared to 0.53 for the DC/PB/MP Project.</p> <p>Caution should be used in making direct comparisons between these two Projects because of the issues related to timing and construction rates.</p>	5

No.	Question	Summarized Response	Section
13	<p><i>Determine the rationale for the decision made as to the extent of public consultation and whether a citizen referendum was required by legislation.</i></p>	<p>Based on available information, it appears that sufficient technical information and legal rationale was available to justify proceeding with the Project.</p> <p>The decision to complete the Project was based on meeting commitments outlined under the SPLWMP that was approved by the Minister under the Environmental Management Act (formerly Waste Management Act). According to two previous legal opinions, there was no requirement for the District to obtain further approval of the electorate on the Project or to hold a referendum. Although the District had likely exceeded the Approval Free Liability Zone (AFLZ) at the time of borrowing for the Project, it appears that the Project would be exempt from a referendum since the Community Charter and the Municipal Liabilities Regulation, allows for exemption of Projects that are being implemented to satisfy all or part of an approved Liquid Waste Management Plan.</p> <p>In addition to the above, it appears that any requirements related to an approved Waste Management Plans under the Environmental Management Act would supersede any requirements under the Community Charter or Local Government Act including the need to hold a referendum related to the AFLZ borrowing.</p> <p>Council investigations on alternatives determined that installation of a reticulated public sewer system was the only viable long term option by which the Council could comply with the Ministers requirement in the SPLWMP. A review of the “Referendum question” identified that improvements could be made regarding how the decision making process was communicated to the public.</p>	6

1.3 Recommendations

Summary of recommendations:

No.	Issue	Recommendation	Section
1	<i>Delay in Grant funding process</i>	<p>Consideration for potential delays should be accounted for during the planning of capital projects that heavily depend on grant funding.</p> <p>A formal process of tracking and reporting on the progress of grant applications as well as consideration of the potential impacts of delays should be put in place at the beginning of any major project.</p> <p>Contingency allocations in project budgets should consider the level of uncertainty that will exist at various stages of a project. The amount of contingency should be reassessed and adjusted at each stage from initial assessments to detailed design.</p>	3
2	<i>Stakeholder Communications during planning</i>	<p>For future capital projects, the District should set up a communication plan at the beginning of the project. The plan should include requirement to maintain regular Stakeholder consultation and/or communication, during the planning phase of projects to keep apprised of any potential issues as project detail develops.</p>	3
3	<i>Future Capital Contributions</i>	<p>The District should formally document current practice relating to capital contributions in a District policy. This policy should cover the general basis of agreement and method of calculation. It should also outline how capital contribution funds should be allocated and used, particularly those received after substantial completion of a project.</p> <p>It is recommended that the District consider cost sharing agreements that include a clause to account for construction inflation. This will enable the District to equitably spread construction inflation risk across all users.</p> <p>The policy should also include requirements for periodic review of how related O&M contributions are calculated. This will ensure the revenue from these sources remains relative to actual costs incurred over time.</p>	3
4	<i>Use of community based municipal taxation funds</i>	<p>There exists opportunity to more clearly and formally establish the definitions, intent of use, bylaws and policies that govern some of the municipal funds. It is recommended that District Staff and Council work on reviewing and clarifying the policies and bylaws related to the use of municipal funds.</p>	3
5	<i>Long term finance</i>	<p>The District should increase current efforts on financial forecasting and assessments of reserve fund contributions relative to debt funding required for future asset renewals.</p>	3

No.	Issue	Recommendation	Section
6	<i>Future Grant funds</i>	The District should review the financial tracking process to ensure that it can be adapted to capital projects where specific cost tracking is required due to funding Agreements.	4
7	<i>Historical resources</i>	It is recommended that all major capital projects include a separate historical resources assessment during the planning and design phase. Historical resources studies tend to give a better understanding of the likelihood of encountering any historical artefacts and will mitigate the potential impact of unforeseen costs.	5
8	<i>Cost estimating</i>	Estimates for major capital construction should be routinely re-calculated. This becomes increasingly important if there is a significant delay between design and construction. This should be done on a maximum time interval regardless of whether the construction index is increasing, decreasing, or static. It should also be done at any point where new information affecting costs becomes known.	5
9	<i>Project Management</i>	It is recommended that all major capital projects would benefit from inclusion of the following requirements: <ul style="list-style-type: none"> • Maintain a single master project file (set of files); • Provision of an as-constructed report; • Project Steering Team or Committee; • Use of a dedicated project website to provide convenient public access to project information. 	5
10	<i>Business case</i>	All major capital projects should have a District prepared business case, citing justification, rationale, and the cost benefit of a project. Our recommendation is to develop a standard Business Case template that can be used to evaluate all projects against the District corporate/operational goals.	5
11	<i>Public relations and communications</i>	The public must be promptly apprised of all major decisions and project changes and must be aware of how and why decisions are made. Public communications should accurately reflect the level of cost estimate information available (conceptual design preliminary design, detailed design) and the level of risk associated with those estimates.	6

2 Introduction

2.1 Background

Between 2004 and 2007, The District of North Saanich undertook physical works for a sanitary storm sewer upgrade project that would connect properties in Deep Cove, Patricia Bay and McDonald Park to the Saanich Peninsula Wastewater Treatment Plant (SPWWTP). This work and all the necessary pre and post construction work is referred to in the report as the “Project”. Funding application for the Project commenced in 2001 and during the course of the Project, from 2001 to 2010, the cost rose considerably requiring greater financial contribution from users and the District.

To better understand issues relating to this project, the District of North Saanich has retained Opus International Consultants (Canada) Ltd. to lead an independent review of the project history, costs and decision making processes. The overall purpose of this review is to identify project issues, highlight areas for improvement, and respond to specific questions given in the RFP.

2.2 Scope of Services

The scope of consulting services is to provide an independent and objective review of the Deep Cove, Patricia Bay and McDonald Park Sewer Project (the Project) for the District of North Saanich (District).

The vision is to provide the District with a comprehensive, independent assessment on completed project work and to provide advice regarding informed decision making and effective project management practices that can be used to manage future Infrastructure projects. The review has been crafted to be fact-finding, not fault-finding.

As stated in the Proposal, the goals of the project are as follows:

- Conduct a thorough review of the Project to evaluate the adequacy of the decision making process used to implement the Project.
- Review the District's internal control procedures used for the Project to ascertain their effectiveness in managing the project and monitoring issues such as quality, costs, performance and scope.
- Analyze the Project to determine if it is in compliance with the Community Charter, the terms and conditions of the Project contract and the requirements stipulated for grant funding.
- Provide guidance on methods to measure and report performance of future projects
- Provide advice on any other improvement tasks that will increase the quality of project management and accuracy of project funding projections.
- Provide a written report that covers the following points:

- The challenges that have occurred to date;
- The causes, factors and responsibilities relating to those challenges;
- The current and longer term consequences resulting from those challenges;
- Recommended strategy and specific actions to eliminate, mitigate or manage both challenges and consequences going forward;
- Any other improvement opportunities to reduce project risk (time, cost, quality), enhance municipal processes for increased efficiency, improve confidence in the control and management of future projects, and;
- Present findings to Council.

2.3 Limitations

Opus has relied upon the completeness, accuracy and fair presentation of all information, data, advice, opinions or representations obtained from public sources and the District of North Saanich (collectively, the “Information”). The findings in the Report are conditional upon such completeness, accuracy and fair presentation of the Information. The scope of this study does not include for Opus to independently verify the completeness, accuracy and fair presentation of the Information. Therefore Opus cannot provide opinion, attestation or other form of assurance with respect to outcomes from the information, and we note that in some cases assumptions were made and included in this report where required information was not available. Recommendations have been made for additional studies where applicable to gain information that may validate these assumptions. In this context, the reader should place the appropriate credence to the derived findings. Opus reserves the right at its discretion to withdraw or make revisions to the Report should Opus be made aware of facts existing at the date of the Report that were not known to Opus when it prepared the Report. The conclusions and recommendations are given as of the date hereof and Opus is under no obligation to advise any person of any change or matter brought to its attention after such date.

Legal advice was specifically excluded from the RFP for this study. Any conclusions or opinions presented in the report are therefore not intended to and do not constitute legal advice.

3 Financial

3.1 Scope and Summary of RFP questions

The purpose of this section is to provide detailed responses to specific questions from the RFP relating to financial issues. A summary of these questions and answers is provided directly below. Additional information and discussion on each issue is provided in sections 3.2 to 3.5 of this report.

- a. *Determine what internal controls were in place to prevent significant budget variances during the Project life cycle and to ensure financial conditions of contract and agreements including related to funding sources were met.*

The controls in place are generally considered to be satisfactory; however, some improvement could be made to the cost tracking process used to ensure compliance with funding source agreements.

The financial controls used on the Project included reporting and oversight by District Staff, approval by Council, and reporting and management by a private construction management firm. Decision making (particularly with regard to contract cost variances) was delegated to the authority of Council. However, the Council was reliant on timely and accurate advice from relevant sources, delivered through District Staff reports. The cost controls and project organisation that was in place is considered to be common practice for municipal projects. The method of control and the reporting by staff throughout the Project, appear generally satisfactory. However, some improvement could be made to:

- Cost tracking processes for verifying compliance with funding source agreements; and
- Regular reviews of cost estimates during planning phases of projects.

- b. *Determine the source and use of funds pertaining to the Project including any unspent monies relevant to the Project set aside in reserves including the reserve accounts and how these funds may be used in the future.*

The Project is substantially complete. According to a May, 2011 Project ledger summary, \$14,510,106 has been spent, with \$184,646 of the project budget showing as unspent. However the actual available balance, being the comparison of funds spent to actual revenue received, is slightly less at approx. \$167,000.

The amount of unspent project funds represents a difference of roughly 1% between Contract expenditure and Contract budget allocations. This is a good outcome for a Project of this size and value. However this comparison relates only to the construction phase and does not apply to the variance between original 2001 Project estimate versus 2010 final Project cost. This variance is discussed in section 5 (refer section 5.7 in particular). The current actual project balance of approx.

\$167,000 has been set aside in a reserve account (refer to *Table 10-3 Schedule of Unspent Funds* for details). It is understood from engineering staff that some of these funds are required for necessary works such as odour control and aesthetic requirements.

The project budgets did not include the capital contribution from BC Ferries as this was received after the project was substantially constructed. The amount received has been set aside in reserve funds. District engineering staff indicate that these funds will be used for future capital and asset renewal costs as they arise. This is an appropriate use of these funds.

Financial staff advise that reserve funds are considered annually during the budget process for use on project related expenditure.

- c. *Determine the impact of long term financing for the Project on the Districts capacity to borrow within the “Approval Free Liability Zone” and future constraints on long term borrowing to 2032.*

Based on a forecast of current and predicted debt servicing liabilities, it is expected that the Project has had a minor impact on the long term borrowing capacity of the District and a moderate impact in regard to borrowing within the Approval Free Liability Zone (AFLZ) within the next 9 to 11 years. Regardless of the DC/PB/MP Project, the District had already exceeded the AFLZ from 2004 to 2008 due to the SEQ project debt.

3.2 Internal Controls

Prior to letting the physical works contracts, the budget control on the project was managed through Staff Officer Reports to Council and resolution by Council for moving from one phase to another (i.e. to proceed with design after approval of Grant application). Project estimates were completed and advised to Council on several occasions during this period.

The internal controls in place to prevent significant budget variations and to ensure compliance with Agreements consisted of regular monitoring and reporting by staff to Council meetings. The minutes of Council meetings indicate this was generally satisfactory. However, during the pre-tendering phase, the Project may have benefitted from a more formal approach to regular cost estimate updates. Progressively more detailed estimates could have been provided during the preliminary design phase to bridge the gap in understanding between original rough order estimates and construction contract estimates. Notwithstanding this, the most significant increase in cost was identified at the time of evaluating tenders for the initial contracts prior to letting any works. At this time, the records show the Council of the day had both full knowledge of likely cost and power to proceed with or halt the Project. The cost increase at this point was reported as being largely due to market conditions beyond the control of the Council. Our review concurs with this. The Council subsequently approved the letting of those contracts and therefore to proceed with the Project and acceptance of the higher project cost.

Project construction management was delegated to third party construction management firms that were used as a cost control for construction works.

Summary

The following graph shows the calculated and revised project estimates that were advised to Council throughout the project life cycle. As time goes on, the estimates converge into actual project cost.

Details on the substantial increase in Project cost are discussed in section 5 and in particular sections:

- 5.5 Updated Cost Estimates and Decision Point;
- 5.6 Impact of Construction Inflation; and
- 5.7 Timing and Awareness.

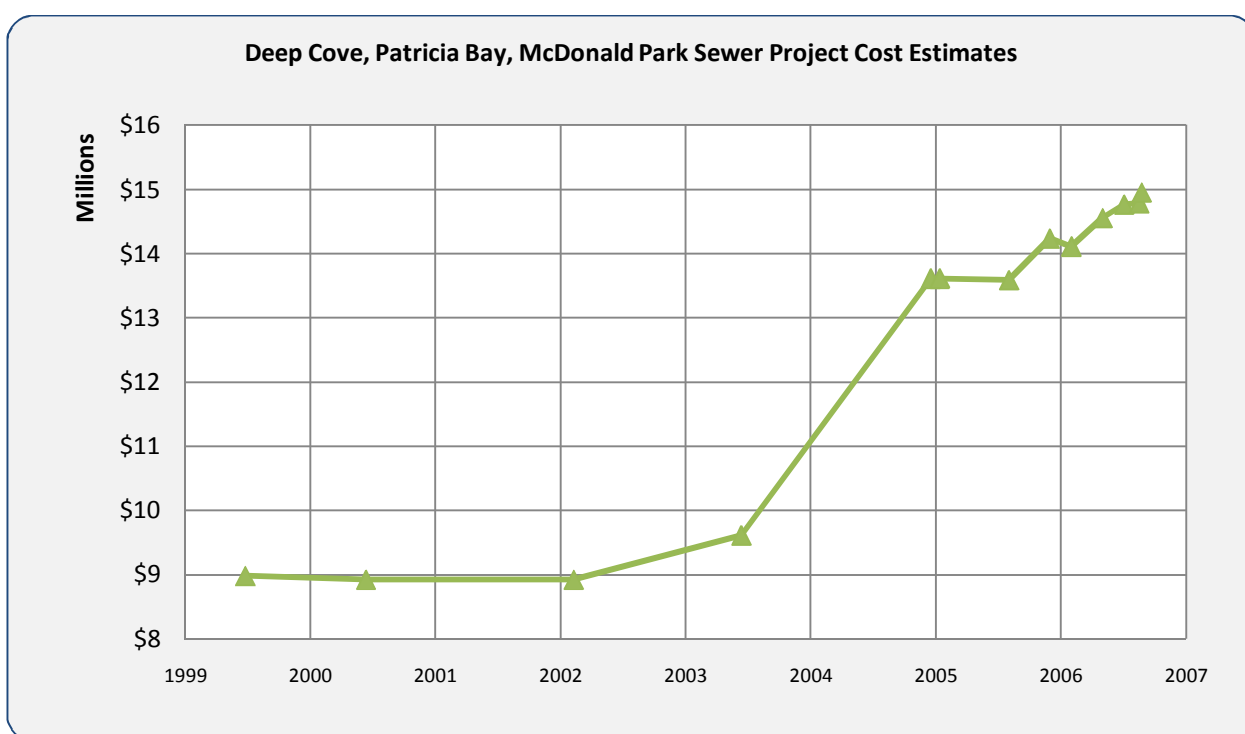


Figure 1 – Sewer Project Cost Estimates

Recommendations

Improvement could be made to internal cost tracking procedures for Grant Agreements to ensure the District remains in compliance with any requirement of these funding sources. These improvements are discussed in greater detail in Section 4.0 which deals with compliance related to the grant funds received.

Improvements could also be made to procedures for regular review of cost estimates on major projects, particularly where planning, approvals, grant application and/or preliminary design phases extend over more than six months.

3.3 Unspent Project Funds

According to a May, 2011 Project ledger summary, \$14,510,106 of the project budget has been spent, with an approximate balance of \$184,646 showing as unspent. However the actual available project balance, based on comparison of actual revenue received less actual funds spent, is slightly less at approx. \$167,000.

The amount of unspent project funds represents a difference of roughly 1% compared to the total budgeted amount (\$14,510,106), which is a good outcome for a Project of this value.

The unspent funds should not necessarily be considered as surplus until it is determined that all spending on the Project is complete. We understand from staff that some of the unspent funds are required for odour control and aesthetic works. In addition to this, the current available balance is only approx. \$167,000. This is the difference between spending and revenue received and not \$184,646 which is the difference between spending and budget.

The capital contribution from BC Ferries was received after Project budgets were set and not therefore included in the above summary or in the project revenue summary below. These funds have been set aside in a reserve account and Engineering staff advise that they are for future asset renewal and capital work associated to the project. This is an appropriate use of these funds.

3.4 Project Revenues

The revenue/contribution amounts for the project are summarized below. The District portion is further broken down in Section 3.4.6. The total Project revenues were \$14,676,829, which is roughly \$167,000 more than the Project expenses.

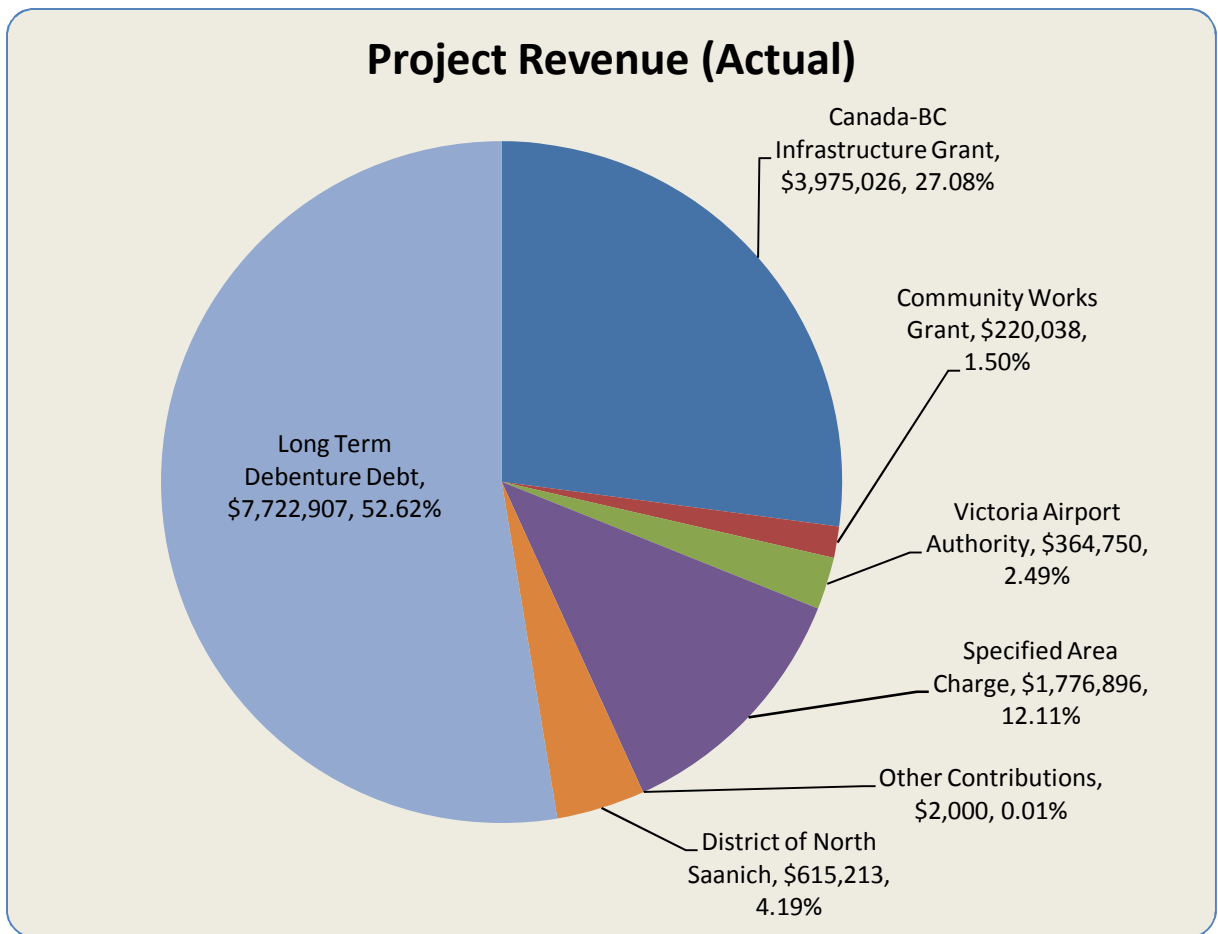


Figure 2 – Summary of Actual Project Revenues (~\$14,676,829)

3.4.1 Canada/BC Infrastructure Grant

Grant funding request resulted in a final approved amount of \$3,975,026. This amount remained constant through the project, and did not include provisions for increases due to inflation. The Grant was originally anticipated to provide 2/3 of the total Project funding. By the time the Project was complete, this share was closer to 1/3 of the total cost.

A major issue that contributed to the cost inflation was the amount of time it took to award the Grant. The Grant timeline is highlighted below. The delay in Grant funding resulted in the project being constructed at a time of much higher construction index. The reason for the time delay appears to be related to the amount of follow up time required to satisfy the Grant Administrator on the ‘1 hectare rule’, which required that a bylaw be in place to ensure that sewer service is provided to all lots less than 1 hectare in size.

The table below highlights the major events in the Grant funding process. Detailed discussion related to the use of this Grant is included in Section 4.

Table 3-1 – Summary of Grant Funding Process

Date	Action	Comments
2001-03-05	Council adopts Resolution 114	Resolution 114 indicates support of the Deep Cove, Patricia Bay, and McDonald Park Sewer Project and endorses the submission of a Canada/BC Infrastructure Grant Application for the Project.
2001-03-10	Application for Canada/BC Infrastructure Grant	Submitted
2001-07-17	Letter from the Grant Program requesting confirmation that a bylaw is in place that requires service to all lots less than 1ha in size.	The Program advised that the exemption granted for the Southeast Quadrant Project would not be applicable to the Deep Cove / Patricia Bay Project.
2003-03-06	Proposal submitted	District prepared and submitted a proposal for an alternative to the "1ha" rule.
2003-03-25	Letter from Minister regarding the Grant application process and the request of the District to waive the "1ha rule".	The Ministry noted that the requirement would only be one of many factors considered for granting of funds under the program, and would not preclude the District from receiving funds. The letter also provides insight into the demand for the Program, noting that 700 applications worth \$2.2 billion had been received for \$800 million in available funding.
2003-05-02	Letter from Grant Program	Indicating that the Districts proposal (March 06, 2003) for an alternative to the "1ha" rule was not acceptable. The District was encouraged to develop alternate approaches that would be acceptable.
2003-07-17	Letter from Grant Program	The letter indicated that the District's adoption of the new Vancouver Island Health Authority Subdivision Standards would remove a major obstacle to the District's application
2003-08-18	Council adopts Resolution No. 506	Approved the adoption of the Vancouver Island Health Authority Subdivision Standards.
2003-10-23	Letter from Grant Program	The Program advised that action taken by the District (referring to Resolution No. 506) to satisfy an equivalency to the "1ha rule" would now make the District eligible for funding. The letter also advised that Program funding was running out.
2004-05-15	Conditional Grant funding approved	Announcement of the conditional approval of a Grant up to a maximum of \$3,975,026 towards the project.
2004-05-21	A draft of the Grant Contract received	The draft outlines project completion timelines, but not a list of eligible/ineligible items.
2004-10-01	Project Newsletter #1 Released to Public	Public newsletter to advise the public of project background, progress and scheduling. The grant was confirmed at \$3,975,036.

Recommendation

Consideration for potential delays should be accounted for during the planning of capital projects that heavily depend on grant funding. An appropriate contingency amount should

be in place relative to the risk that approved grant funding does not account for construction market factors. Ideally however, where approval of a grant application is delayed for more than 12 months, the Project estimate should be reviewed. If costs have increased due to market conditions, a request to increase the amount of the grant to account for increased costs resulting from the delay in approval should be submitted.

3.4.2 Community Works Fund Grant

A sum of \$220,000 was spent on the Project from the District's Community Works Grant. Detailed discussion related to the use of this Grant is included in Section 4.

3.4.3 Victoria Airport Authority

The 2001 application for the Canada/BC Infrastructure Grant showed a proposed Willingdon Road route alignment which traversed land owned by the Victoria Airport Authority (VAA). The VAA subsequently did not approve this proposed route, requiring the Sewer to be rerouted through Mills Road. It appears that at least one factor for the VAA decision not to accept the original alignment was a desire to be able to service business development near Mills Road. The impact of this route change was assessed at that time, to increase the cost of the Project by \$690,000 for additional pipe length and lift station requirements. This additional Project cost appears to have been partially included in calculating the capital contribution amount for VAA. The works required for rerouting the sewer in the section to be installed upstream of the Mill Road Pump Station do not appear to be included in the VAA cost contribution calculations.

The Victoria Airport (VAA) capital contribution to the Sewer Project was \$364,650ⁱ. This amount is believed to have been accepted as a full payment for any capital contribution to the Project required by the Airport, or any future connections on its property within two designated areas. This assumption is based on reviewed worksheets and Staff Reports; however, a formal Agreement between the District and the VAA was not provided for review for this report.

The May 25, 2005 Staff Worksheet shows the cost contribution as a percentage of the VAA peak use of the total system. The VAA share was calculated based on two areas, Area A – Mills Road (3.3ha), and Area B – McDonald Park Road (2.4ha). The worksheet used standard design flow rates for commercial development, based on land area. Therefore the VAA has paid contributions for the right to develop up to 5.7 ha.

In general, the calculations appear to be a fair method of apportioning costs, and reflect the user pay concept of the System. The following notes are provided for additional perspective:

- The cost share with VAA was based on cost estimates in 2004 prior to knowledge of tender amounts for the work. The contribution therefore does not reflect *actual* construction costs. An Agreement drafted to account for construction inflation, could have mitigated some of the risks associated with the increased project costs, however, it is not known if the VAA would have been agreeable to these terms;

- The VAA cost share was based only on proportional use of works downstream of the VAA connection to the system. The \$690,000 estimated cost of rerouting the pipe along Mill Road was therefore only partially included in the VAA cost;
- The capital contribution was to account for properties within Area A and Area B only. Therefore should any development occur on Airport land outside of these areas, and require connection to the sewer, new connection fees may apply, except that the contribution received does allow development of up to 5.7 ha;
- In addition to the capital contribution VAA was also required to pay for CRD treatment plant capacity to account for future development within the Areas;
- All tenants, current and future are required to pay sewer O&M fees;
- It is expected that any future servicing costs (connecting to the sewer) for the VAA development will be borne by the VAA or its developers;
- Routing through the VAA land resulted in five easements being provided to the District and Sewer Project at no charge;ⁱⁱ
- Even though the scope change to reroute the pipeline along Mill Road was required by the VAA this does not necessarily imply that they should be expected or required to pay for the entire cost of the scope change. It was likely within the rights of the Authority to request the preferred sewer route through their property, and furthermore, if this route had been identified earlier in stakeholder discussions, and incorporated into the original project scope, then the requested change would not have been viewed as a “scope change” but instead as the status quo.

Summary

The VAA contribution was reviewed on the basis of relevant Staff Reports and Worksheets provided. It appears from these documents, and from the amount of monies received, that the VAA capital contribution accounts for all current and future connections for development of up to a maximum area of 5.7 ha. Additional capital and treatment plant capacity would only be required if connections are established in excess of this allowance. However, it is understood that although the report and worksheet clearly show the basis of calculation and the amount received from VAA agrees with these calculations, a formal document of agreement does not exist.

The documentation review also indicates that any costs for construction of future connections are to be borne by the VAA or its developers, and that properties would be required to pay O&M charges similar to any other commercial user.

Recommendations

- For future capital projects, the District should consider cost sharing agreements that include a clause to account for construction inflation. This will enable the District to equitably spread construction inflation risk across all users.

- The District should maintain regular Stakeholder consultation and/or communication, especially during the planning phases of the project, to keep apprised of any possible changes that could impact the Project such as the need to change the pipe route.
- A formal document of agreement should be filed for all capital contributions. To simplify this process, it is recommended that the District consider a standard policy for general terms and method of calculation of capital contributions so that this document can be cited in agreements. The policy should allow flexibility to vary agreements relative to different circumstances but provide standard terms for the most common type of agreement.

3.4.4 Specified Area Charge

The Specified Area charge is the amount charged to residents within the specified Areas that were created for the Sewer Project, regardless of whether or not they actually connect to the Sewer. The total amount contributed to the Project from the Specified Area Charges was \$1,776,896. These charges were collected 'up-front' from those choosing this option, rather than the option of paying an annual parcel tax associated with the long term debt.

3.4.5 BC Ferries

In June of 2009, the District signed an Agreement with BC Ferries that would allow for the conveyance of wastewater from the Swartz Bay Ferry terminal to the SPWWTP via the McDonald Park lift station and associated trunk mains. This agreement occurred after the Project was substantially complete and therefore with knowledge of actual construction costs.

The wastewater to be conveyed and treated comprises of flows from ferries and the terminal building.

The Agreement specifies that BC Ferries will provide no further payments for treatment capacity requirements at the SPWWTP; however, BC Ferries have agreed to share with other users in any future costs related to capital replacement and upgrade works required on the CRD Sewer Facilities or North Saanich Sewer System.

BC Ferries have agreed to assume all costs and responsibilities associated with the operations, maintenance and replacement of the BC Ferries Force Main Sewer System that connects to the District Sewer System.

In general, the terms of the Agreement appear to be reasonable for both BC Ferries and the District.

Compensation paid to the District by BC Ferries includes Capital Contributions of \$802,717, consisting of the following sub payments:

- \$611,192 - one time capital contribution;
- \$141,525 - one time capital treatment plant contribution;
- \$50,000 - one time future capital treatment plant contribution;

An appendix to a 2008 Staff Report provides the following insight regarding the use of BC Ferries contributions:

“The operating and maintenance charges will be used in the annual operating budget in the same manner as the sewer maintenance charges from other sewer users.

The ‘Treatment Plant Capacity Contribution’ will be used to repay General Revenue which was used to pay to reserve capacity at the Saanich Peninsula Wastewater Treatment Plant.

The ‘McDonald Park Sewer System Capital Cost Contribution’ charge would be put in a reserve account at this time. Council could decide at a future date how to allocate the reserve.

The ‘Future Plant Capacity Contribution’ would be put in a reserve account to be used in future for purchasing additional treatment plant capacity.ⁱⁱⁱ”

The capital cost contributions from BC Ferries are not included in the Project contribution charts shown on previous pages. This is due to the funds having been received after Project completion. The full funds have been set aside in a reserve account. Engineering staff advise these reserve funds will be used for future asset renewal and capital work associated to the project.

Capital cost contribution calculation

The capital cost contribution paid by BC Ferries was calculated using the as-constructed cost of the system. The apportionment was then based on the BC Ferries share of flow in the system.^{iv} The details of these calculations are provided in Appendix A of the Agreement. It is expected that the cost apportionment method used should provide an equitable balance for both parties and is therefore a reasonable approach to the cost sharing.

Operations and Maintenance (O&M)

The BC Ferries O&M annual contribution is calculated by multiplying the contribution rate set by District, currently set at \$389/m³ (2008) by the average flow calculated over 12 months. The District may update the contribution from time to time as required.

The maximum combined discharge from BC Ferries (vessels and terminal) will be 255m³/day. This flow rate was used to predict an annual O&M contribution of roughly \$90,000; however, the actual contributions received in any given year are based on actual measured flows.

Impact to sewer system capacity

The impact to the District’s wastewater infrastructure was addressed in a 2008 Staff Report, and is provided below:

“The impact of the BC Ferries flows was analyzed by an engineering consultant, Delcan, who designed the McDonald Park Road (McDPR) sewer system for the District. Their report provides confirmation that with on-site storage and off-peak pumping the system will handle the proposed flows. Delcan used projections to the year 2020 and their calculations are based on these future flows of 105 m³/day for the terminal and 150 m³/day for vessel. Also, Delcan has projected flows due to future development within the McDPR system catchment area and they confirm that such flows can be handled including the BC Ferries flows. There are currently proposals for multifamily development in the McDPR catchment which request densities greater than allowed by the District’s Official Community Plan. Delcan has also evaluated the impact of such development and they confirm that flows from such increased densities can be handled by the system conditional on the provision of increased storage at the existing McDPR pump station which would be at the expense of the developers.”

According to the above, the impact to the Sewer System for the short or near term from the BC Ferries addition appears to be limited and managed.

Summary

The existence of an agreement provides clarity and certainty of the fees, terms, rights and obligations of each party.

Our review of the Agreement, concluded that the contribution by BC Ferries appears to be both equitable and reasonable for both parties.

Recommendations

It is highly recommended that the District defines and documents a policy for capital contributions and agreements. It is possible that there will be other commercial and non-commercial connections to this system and to other systems in the future. Having a policy and documented agreements such as the District has undertaken with BC Ferries, provides clarity and transparency to the process and ensures consistency of approach over time. We recommend that the policy should document the general basis and method of calculation for Capital Contributions as well as how such capital contributions should be used, particularly those received after substantial completion of a project.

It is also recommended that the District consider cost sharing agreements that include a clause to account for construction inflation. This will enable the District to equitably spread construction inflation risk across all users.

We understand that the District Engineering staff periodically review O&M contributions, to ensure the revenue from these sources remains relative and adequate to actual costs incurred. It is recommended that any policy document for Capital Contributions include requirements for this review process.

3.4.6 Long term Debenture Debt

The main funding source for the Project consisted of a long term debenture debt that was used to finance the “user pay” portion of the project. This amount, roughly \$7,723,000 was to be repaid by the contributions of each connected property. Each user would pay a onetime fee of \$17,593^{vi}, either as a lump sum or amortized over 25 years as a land parcel

tax. The District explored several options for financing the debt, with various interest rate schemes.

3.4.7 District of North Saanich

Project contributions were also sourced from a number of internal funds. These contributions are highlighted in Figure 3 and discussed in detail below.

Operations and maintenance costs for the Project is to be funded by a sewer debt parcel tax and annual user fees.

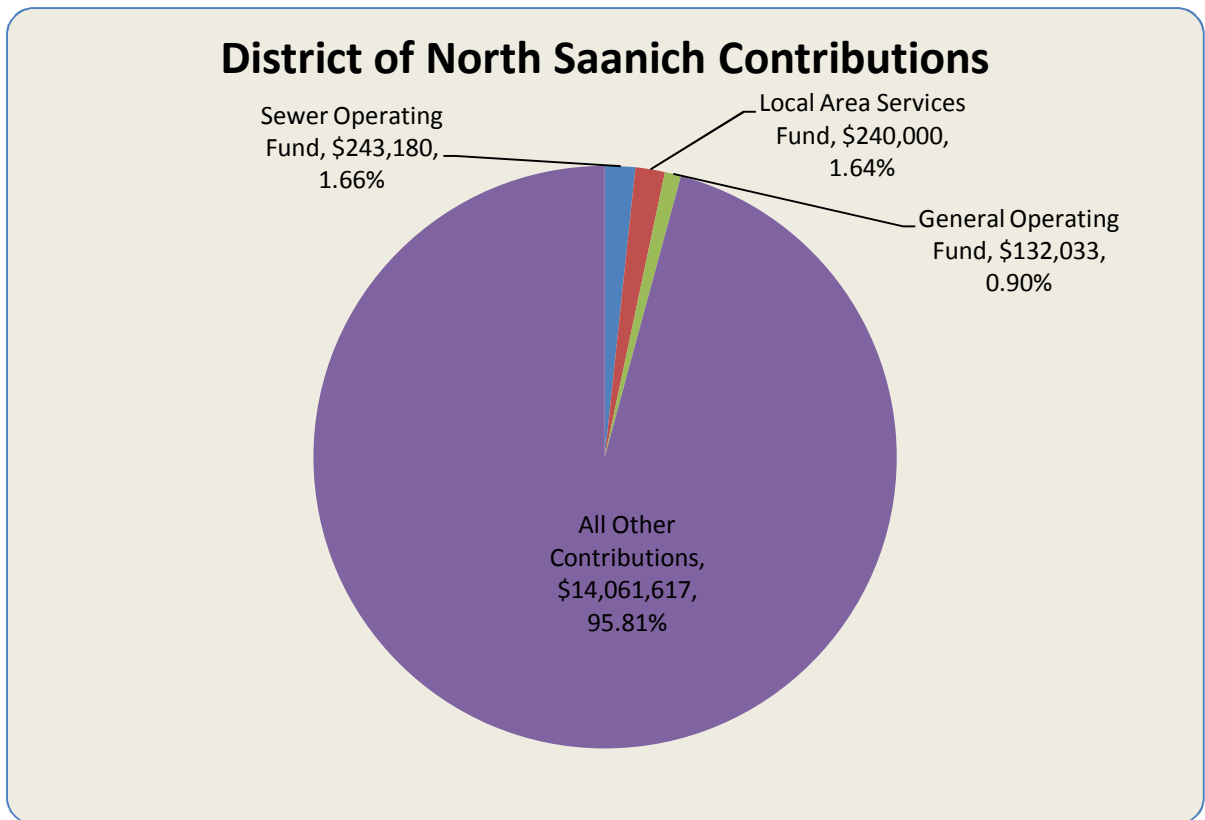


Figure 3 - Summary of District of North Saanich Project Contributions. Total contribution ~ \$615,213

General Operating Fund

Contributions from the General Operation Fund would typically come from general taxation. \$240,000 was budgeted for use from the General Operating Fund; however it appears that only \$132,033 was transferred and spent.

Local Area Services Fund

Provision to establish the Local Area Services Fund (LAS) and transfer monies from the Local Improvement Reserve Fund to the Local Area Services Fund to finance the construction of works payable by special charges under Part 7, Division 5 of the Community Chart was authorized under By-Law No. 1070. The funds allocated to the Project appear to

originate from a Local Improvement Statutory Reserve Fund that was set up to fund water and road projects for the community, and as such, the fund contributions are cost shared by all residents. Roughly \$240,000 of these funds was approved by Council for use towards the Project.

According to a Staff Reports at the time, it was felt that most roads and water infrastructure were up to community standards, therefore transferring LIP Funds for the Sewer Project was considered justifiable as the Project was expected to bring some level of environmental benefit to the entire community.^{vii}

There were allegations relating to the legality of the use of this fund by members of the public. A formal legal assessment of this issue is outside the scope of this report. However it is noted that the documentation quoted and referred to above, indicates that there was an acceptable basis for using these funds. Also for context it is noted that this fund makes up less than 2% of total contributions to the Project.

Based a review of the applicable Bylaw and Community Charter, it appears that the spending of these funds from the LIP was appropriate.

According to the Community Charter, Part 7 - Division 5:

“Nothing in this Division restricts a municipality from recovering part of the costs of a local area service by means of any other source of municipal revenue.”

Sewer Operating Fund

Contributions to the Sewer Operating Fund would typically come from user charges and fees for all sewer systems within the District.

The contribution for this Project from the Sewer Operating Fund refers to expenditures from the Reserved for Future Expenditure (RFFE) Equity Capital – Engineering Structures account which is under the Sewer Operating Fund.

Reserved for Future Expenditure (RFFE) or reserve accounts contain funds set aside for the purpose described by the account name. The funds in these accounts are derived from surpluses in the relevant fund from a prior year, in this case the Sewer Operating Fund.

The total amount contributed from the Sewer Operations Fund was \$243,180.

Total District Contributions - Summary

Traditionally the District required that all Specified Areas projects be funded on a “user pay” basis, by those benefiting from service. However, there appears to be no statutory requirements that would exclude funding from other municipal sources if it was deemed appropriate.^{viii}

In total, \$372,033 was spent on the Project from District funds that originated from a combination of property taxes and user fees.

To put the amount of community funds contributed into context, it is only 4.2% of the total cost of the Project.

Table 3-2: Summary of Contributions Originating from District Funds

Fund Name	Source	Amount Contributed	% of Project Total
General Operating Fund	Taxation	\$132,033	0.9%
Local Area Services Fund	Taxation	\$240,000	1.6%
Sewer Operating Fund	User Charges	\$243,180	1.7%
<i>Total</i>		\$615,213	4.2%

It is difficult to quantify the benefit to the community at large from the DC/PB/MP Project; however it can be easily argued that the District as a whole would attain some benefit from the mitigation of pollution risk of failing onsite sewage systems. These benefits are expected to include:

- Elimination of a source of pollution to Deep Cove and Patricia Bay ground water and marine environment;
- Overall improved quality of effluent which ultimately enters receiving water from the sewer; as well as
- Improvements to the local environment related to reduced coliform counts.

Based on a review of the Project as a whole, the level of benefit received by the public and District taxpayers would readily justify the 4.2% contribution from community based funds.

It should be noted that the above statements are intended to indicate whether value for money was received, not to provide any form of legal advice whatsoever. If a formal legal statement of whether or not the expenditures of specific fund contravened any Bylaws or the Community Charter, then appropriate legal advice must be obtained and this is outside the scope of the review for this report.

Recommendation

There exists opportunity to more clearly and formally establish the definitions, intent of use, bylaws and policies that affect several of the funds described above. Some confusion relating to these issues led to unnecessary negative public perception, even though as previously stated, the total contribution of these funds was relatively minor compared to the Project total, and the contributions appear to be well justified.

It is recommended that District Staff and Council work on reviewing and clarifying the policies and bylaws related to the use of each fund. For future capital projects, a project website should contain updated and easy to understand budget and contribution information as well as the policies for the use of each fund.

There should also exist a formal procedure and requirement for Council to review relevant fund bylaws before allocating any money to capital projects.

3.5 Impact to Long Term Financing

Part of the Scope of Services was to determine the impact on long term debt financing. In particular, the impact on Approval Free Liability Zone borrowing as a result of financing the Project.

To assess the impact to borrowing, a plot of long term expected debt servicing liabilities was generated and compared against the forecasted Approval Free Liability Zone (AFLZ) and Municipal Liability Limit curves.

Forecasted Municipal Annual Calculation Revenues

Municipal revenues are forecasted to 2032 and based on information provided by District Staff in the form of a forecast of controllable municipal revenue. It is assumed that the forecast would approximate the items outlined under the 'Annual Calculation Revenue' in Part 1 the Municipal Liabilities Regulation.

The 'Annual Calculation Revenue' is the total revenue of a municipality from the following sources^x:

(a) subject to section 5 [*cap on Class 4 property revenue*] of this regulation, revenue referred to in section 192 (a) to (f) of the *Community Charter*, other than

(i) revenue received under section 197 (1) (b) [*municipal taxes for others*] of that Act, and

(ii) tax sharing revenue paid to another municipality as provided for by letters patent;

Note: the revenue referred to in sections 192 of the Community Charter includes^x:

(a) fees under Division 2 [*Fees*];

(b) taxes under Division 3 [*Property Value Taxes*];

(c) taxes under Division 4 [*Parcel Taxes*];

(d) taxes under Division 5 [*Local Service Taxes*];

(e) taxes under section 353 [*taxation of utility company property*] of the *Local Government Act*;

(f) fines and other penalties referred to in section 261 [*payment of fines and other penalties to municipality*];

(b) subject to section 5 [*cap on Class 4 property revenue*] of this regulation, tax sharing revenue received from another municipality as provided for by letters patent;

- (c) unconditional grants under the *Local Government Grants Act*;
- (d) payments in place of taxes that are made by a public authority;
- (e) revenue received under an agreement, other than gifts or grants received under an agreement or amounts included as revenue under another paragraph of this section;
- (f) revenue received under the Memorandum of Understanding between the Province of British Columbia and the Peace River Regional District as revenue under the Oil and Gas Revenue Reallocation Program;
- (g) revenue received under an agreement between the Provincial government and the municipality under which the Provincial government pays amounts in relation to a casino operating in the municipality, other than any portion paid over to another municipality under an agreement respecting this revenue;
- (h) revenue received from another municipality as referred to in paragraph (g);
 - (i) revenue received under section 5 [*compensation to local governments*] of the *Ports Property Tax Act*;
- (j) investment income, other than
 - (i) revenue from the disposition of assets, and
 - (ii) Municipal Finance Authority actuarial adjustments.

Municipal Liability Limit

According to the Municipal Liabilities Regulation, a municipality may not incur a liability if at the time it proposes to incur the liability the annual cost of servicing the aggregate liabilities of the municipality for the year exceeds 25% of the annual calculation revenue of the municipality for the previous year.^{xi}

To plot the Municipal Liability Limit, a curve was generated using Forecasted Municipal Revenues up to 2032, with the value at any point along the curve taken as 0.25 times the municipal Annual Calculation Revenue for the previous year.

Approval Free Liability Zone (AFLZ)

According to the Municipal Liabilities Regulation, approval of the electors is not required at the time it proposes to incur a liability if the annual cost of servicing the aggregate liabilities of the municipality for the year does not exceed 5% of the annual calculation revenue of the municipality for the previous year.^{xii}

There are special cases where the above requirement is not applicable, including when borrowing above the AFLZ is required to implement a Project whose purpose is to satisfy all or part of an approved Liquid Waste Management Plan.

To plot the AFLZ, a curve was generated using Forecasted Municipal Revenues up to 2032, with the value at any point along the curve taken as 0.05 times the municipal Annual Calculation Revenue for the previous year.

Liabilities

The 'Annual Costs of Servicing Aggregate Liabilities' for the municipality in any given year is forecasted based on the following liabilities: DC/PB/MP Project, SEQ Project, future Fire Hall and Municipal Building upgrades, Predicted Asset Renewals, Capital Equipment Leases, and Other Liabilities (Debt Issue Nos.: 56, 58, 60, 66 and 80). The debt notes identified under 'Other Liabilities' are from existing water infrastructure projects.

Together, the liabilities noted above are expected to represent the 'Annual Costs of Servicing Aggregate Liabilities', to allow for comparison against the Municipal Liability Limit and AFLZ Limit. By separating the DC/PB/MP Project Debt liability category, it is expected that this will highlight the relative impact that the Project will have on the District borrowing capacities.

The 'Annual Costs of Servicing Aggregate Liabilities' is the total annual expenditures in the following categories^{xiii}:

- (a) *Type 1 — general capital commitments*: in relation to a liability of the municipality that
 - (i) is or includes a non-current commitment,
 - (ii) is of a capital nature, and
 - (iii) is not covered by paragraphs (b) to (e),
the calculation liability is the current and non-current commitments in relation to the liability;

- (b) *Type 2 — contingent capital commitments*: in relation to a liability of the municipality that
 - (i) is a contingent commitment,
 - (ii) is of a capital nature, and

 - (iii) is not covered by paragraphs (c) to (e), the calculation liability is the commitments in relation to the liability;

- (c) *Type 3 — debts under loan authorization bylaws*: in relation to a liability of the municipality that is the amount of debt borrowed under a loan authorization bylaw, the calculation liability is the outstanding amount of that debt;

- (d) *Type 4 — unused borrowing under loan authorization bylaws*: in relation to the amount of debt that is authorized by a loan authorization bylaw but not yet borrowed, the calculation liability is the amount not yet borrowed, excluding any amount authorized to be borrowed under section 179 (1) (c) [*guarantees of*

borrowing by others] of the *Community Charter*, for which the borrowing authority has not yet expired;

(e) *Type 5 — loan guarantees*: in relation to any loan guarantee

Assumptions

- It is assumed that the liabilities noted would roughly approximate the ‘Annual Costs of Servicing Aggregate Liabilities’ outlined in the Municipal Liabilities Regulation.
- The DC/PB/MP Project Debt Liability is forecasted based on estimated payments for the Project over 25 years, beginning in 2008. Note that the interim financing with its relevant interest (2005, 2006 and 2007) and principal (2007) is also shown on the graph.
- The Predicted Asset Renewal Liability is based on a forecast of expected asset renewals between 2012 and 2032. Forecasted items include anticipated renewals for: buildings, sewer, water, drainage, roads, land improvements and vehicles. These amounts have been calculated from the District records for PSAB 3150 reporting and are subject to refinement over time.

The liabilities in this category were separated in an attempt to replicate how the District would likely finance Projects. It was assumed that any annual liability greater than 1 million dollars would be financed by debt, with an amortization term of 15 years at 4% interest. Yearly renewals totalling less than 1 million dollars are assumed to be funded from existing municipal reserves and hence are not included in Figure 4. The sum of anticipated yearly renewals less than 1 million dollars is \$5,050,000 from 2012 to 2032.

- The District will fund major asset renewals by amortizing the long term debt over 15 years. Note however that the specific amount of asset renewal funding required to be debt financed in any year is dependent on:
 - Whether assets fail according to age (improved condition information is required to allow for better prediction of asset service lives); and
 - Whether funding is available from reserves for asset renewals or not, as this will decrease the amount that has to be debt funded.

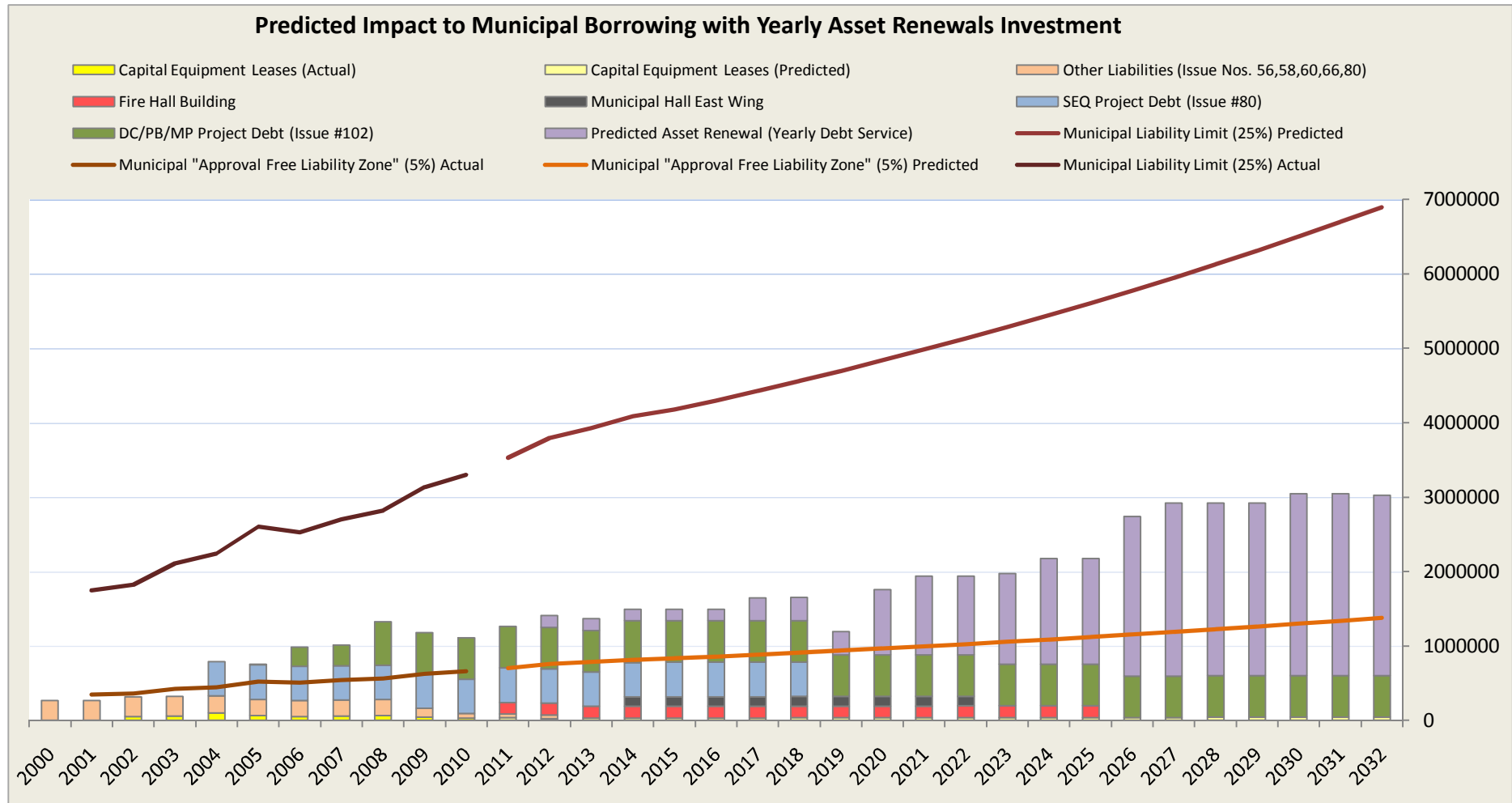


Figure 4 – Forecast of Expected Debt Servicing Liabilities

Conclusion

Based on an assessment of current and forecasted debt servicing liabilities, it is estimated that the Project will have a *minor* impact to the long term borrowing capacity of the District and a *moderate* impact on the District's Approval Free Liability Zone borrowing within the next 9 to 11 years. The consequence of exceeding the AFLZ is that any borrowing for future capital projects, provided they are not exempt due to being part of an approved waste management plan, will require approval of the electorate.

Regardless of the financing required for the DC/PB/MP Project, it is noted that;

- The District had already exceeded the AFLZ from 2004 to 2008 due to the SEQ debt, and;
- The District would likely exceed the AFLZ in the future if asset renewals are funded with debt.

Recommendation

The District should increase current efforts on financial forecasting and assessments of whether or not sufficient reserve fund contributions are being set aside to offset the debt funding required for future asset renewals.

4 Grants

4.1 Scope and Summary of RFP questions

The purpose of this section is to provide detailed responses to specific questions from the RFP relating to the Grant funding. A summary of the questions and answers is provided directly below. Additional information and discussion on each issue is provided in sections 4.2 and 4.3 of this report.

- a. *Review the use of Grant monies received to determine whether funds have been spent in accordance with the purpose(s) set out by the terms of the Grant Agreement;*

All documentation reviewed indicates that the District is in compliance with the terms of the Canada/BC Infrastructure Grant and Community Works Grant Agreements and that any monies spent on the respective portions of the Project appear to have been spent in accordance with the Agreements.

- b. *Determine whether there is any potential District liability as to repayment of Grant funding received for the Project*

Sufficient eligible expenditures are available under the Project to qualify for the entire amount of the approved Canada/BC infrastructure Grant and Community Works Grant. Repayment of these funds is not expected.

4.2 Canada/BC Infrastructure Grant

The Canada/BC Infrastructure Grant Agreement included 19 Covenants of the Recipient and 4 Additional Payment Provisions, in order to access the \$3,975,026 in Grant funds. In addition, other provisions are listed that relate to insurance, environmental mitigation measures, and operational impacts.^{xiv} The Grant Agreement covered the Deep Cove and Patricia Bay Portions only, and not McDonald Park.

The 4 Payment Provisions are paraphrased below:

1. *Prior to payment of first claim, a pre design report must be submitted to the Director including construction details and schedule.*

It is not clear whether or not this was provided; however, it is assumed that the Grant Administrator would have been satisfied with the level of design information provided as all funds have been received.

2. *The 1 hectare Rule required that a bylaw be in place to limit the development of new lots in the community to a minimum of 1 hectare. The outcome of events related to the 1 hectare rule is summarized below. Information on interim communications related to this issue are noted in table 1 of section 3.4.1.*

According to a Staff Report dated June 23, 2004, a letter from the Grant Program indicated that the Director was satisfied with the action taken by the District to satisfy an equivalency to the 1 hectare rule.

3. *Payments above 85% of total Grant allocation are withheld until the Director is satisfied with all of the following:*

i. *That the Project complies with BC Waste Management Act and the Municipal Sewage Regulation, or is a component of an approved LWMP;*

Since this Project was part of the SPLWMP, the project would satisfy this criteria.

ii. *That the sewage facility and operators are certified according to BCEOCP standards.*

Since the SPWWTP meets the above requirements, the Project would satisfy this criteria.^{xv}

iii. *That a plan is submitted for the community sewage facility that demonstrates efficient management of wastewater*

According to District Staff, such a plan is in place.^{xvi}

iv. *That the District has an approved, detailed, LWMP*

A satisfactory LWMP appears to be in place.

4. The Director must be satisfied that a plan is in place for decommissioning existing onsite sewage systems that were connected to the sewer facility.

According to District Staff, such a plan is in place.^{xvii}

Covenants of the Recipient

In addition to the above, there were 19 covenants that were required to be met by the District. Of these 19, the District appeared to be most concerned with those related to the eligibility of items for spending and the potential to have to repay Grant funds in the event that ineligible items were claimed or eligible items were improperly coded.

Eligible and Ineligible Items

Eligible costs under the Grant refer to, “all the direct costs properly and reasonably incurred and paid solely and specifically by a Recipient or Third Party, which are invoiced against a contract for goods and/or services necessary for the due implementation of the Project.”^{xviii} In addition, all eligible costs must be incurred on or after the Start Date (April 4, 2005) and on or before the Completion Date (March 31, 2006, later amended to March 31, 2007).

Eligible costs, as paraphrased from the Agreement:

- Capital construction costs associated with the Project paid to a contracted third party;
- Professional fees (design, engineering, consulting) paid to a contracted third party;
- Other costs approved in advance by the Minister;
- Communication costs approved in advance by the Minister.

Ineligible Costs, as paraphrased from the Agreement:

- Services or works normally provided by the Recipient;
- All costs related to District Staff (salary, employment benefits, overhead, etc...);
- Project feasibility/planning studies incurred before the Project Commencement Date;
- GST/PST or any other costs eligible for a rebate;
- Purchase of lands or land easements;
- Financing costs, other than capitalized interest charges paid to a bank, institution or Municipal Finance Authority;
- Gifts or contributions;
- General maintenance;
- Assets, such as small tools;
- Structures within or attached to a facility which are used to carry out ineligible activities, such as retail sales outlets;
- Professional fees (legal, auditing, accounting) incurred in the normal part of operations;
- Fundraising costs
- Equipment, furnishings and fittings used for normal administrative purposes
- Vehicles
- Unpaid invoices, accruals or holdbacks
- Other costs that the Management Committee determines should be excluded

Please see the Agreement for detailed legal descriptions of eligible and ineligible costs.

Analysis

In order to receive the entire sum of Grant funding, \$3,975,026, the District would be required to spend \$5,962,540 on eligible items.

The construction costs of the Deep Cove (DC) and Patricia Bay (PB) portions of the project within Contracts 1 and 3 account for more than the entire eligible amount. In addition, portions of (or possibly all) the Contract 2 work and any engineering/design fees occurring on or after April 4, 2005 would also be eligible. Section 5.4.3 has further details of the scope and costs of each construction contract.

All ineligible costs (District Staff Costs, McDonald Park Costs) appear to be separate from the above noted construction contract costs, including GST/PST.

Based on the available information, sufficient eligible spending is available to claim for the DC/PB portion of the Project, to qualify for the entire \$3,975,026 Grant, irrespective of whether any coding errors may or may not have occurred within the detail of the Project. We have found no evidence to indicate that the District would be required to repay any of the Grant funds. And we do not see how such an event could be justified given the total value of eligible expenditure financed by the District.

It is not anticipated that an audit of the Project would be requested in the future, since the two provisions of the Agreement that require an audit have been met or exceeded: final payment has been received, and three years has elapsed since the settlement of accounts.

Project documentation provided and reviewed, indicates that the District is in general compliance with the Covenants, Payment Provisions and requirements of the Agreement and that the Ministry has been satisfied to date with the District's performance towards the Agreement.

For a timeline of events related to the Grant, please see Table 1, Section 3.4.1.

Recommendation

The District should review the financial tracking process to ensure that it can be adapted to capital projects where specific cost tracking is required due to funding Agreements.

A formal process of tracking and reporting on the progress of grant applications as well as consideration of the potential impacts of delays should also be put in place at the beginning of any major project.

4.3 Community Works Fund Grants

A Community Works Grant Fund amount of \$220,000 was allocated to the Project.

The Grant consists of a Federal share of gas tax revenue to allow municipalities to participate in the New Deal for Cities and Communities. The Grant is administered by the Union of British Columbia Municipalities.

A Backgrounder on the New Deal:

“As part of its New Deal for Cities and Communities, the Government of Canada is investing more than \$635 million in gas tax funding over five years for the benefit of B.C. cities and communities, large and small. These investments will provide significant environmental benefits, like reduced greenhouse gases, cleaner air and cleaner water.”^{xix}

A 21 page Agreement was reviewed to determine if funding was spent in accordance to any requirements and if there would be any need to repay any of the spent funds.

Eligible Project Categories

Monies spent from the Grant must be allocated to an eligible project category and sub category according to the Community Tier established under the Agreement. The Community Tier assigned to the District was Tier 2.

The applicable Project Category, Subcategory and Community Tier for the DC/PB/MP Sewer Project are highlighted below:

- *Category:* Water and Wastewater
- *Subcategory:* Developing or upgrading wastewater and storm water systems to improve water quality and improve aquatic habitat.
- *Community Tier:* All (1, 2 and 3)

Based on the above information, and intent of the Grant, it appears that the Sewer Project (DC, PB or MP) would be eligible for spending, subject to any cost exemptions described below.

Eligible Project Costs

The eligible project costs identified under the Grant Agreement are very similar to those identified in the Canada/BC Infrastructure Grant (see Section 4.2). The exception is some leeway for applicable District Staff costs. All eligible costs must be incurred after April 01, 2005 and before the termination of the Agreement (March 31, 2015).

Summary

Based on information available and a review of the Agreement, it appears that more than sufficient eligible spending is available to claim for the Grant funds, and that the District should not be required to repay any of the funds received. All portions of the Project appear to be congruent with the intent of use of the Grant, and the District’s claim for funds appears to be compliant with the requirements of the Agreement.

Financial information related to Grant spending must be retained for three years beyond the expiry date of the Agreement (March 31, 2015). Up until this time, the Fund Administrator could request an audit of the Project.

Recommendation

Although the District appears compliant with generally accepted accounting practices, we recommend that the District reviews their financial tracking process to ensure that it can be adapted to capital projects where specific cost tracking is required due to funding Agreements. For example sufficient charge codes should exist to differentiate between cost groups for detailed reporting and tracking. However, all charge codes relating to the overall project should be able to be aggregated for summary reporting.

5 Construction Project

5.1 Scope and Summary of RFP questions

The purpose of this section is to provide detailed responses to specific questions from the RFP relating to the construction phase of the Project. A summary of the questions and answers is provided directly below. Additional information and discussion on each issue is provided in sections 5.2 to 5.10 of this report.

- a. *Review the project costs to determine what procedures were in place to effectively manage the Project including contract management to ensure the project was built on time and within the agreed upon cost*

Contract, budget management and procedures in place to manage the Project included a District Lead and Project Manager from the engineering department, a private consultant to supervise construction and Council for decision-making. This Project organization model is very typical for municipal capital works of this type. There were no major issues noted with this model of organization that resulted in any significant cost overruns or complications for the Project.

- b. *Determine what costs were paid by each funding source up to the date the Project was declared completed, and then since that date.*

Contributions to the Project include: long term debt (53%), Canada BC Infrastructure Grant (27%), Specified Area Charge (12%), DNS (4%), VAA (2.5%), Community Works Grant (1.5%). Project contributions (revenue) are detailed in Section 3.4, and Project costs (expenditures) are detailed in Section 5.4.

- c. *The reason for additional costs being incurred after the initial borrowing Bylaw 1073 was adopted in November 2004 and amended by Bylaw 1099 in September 2005 to authorize increase borrowing for the Project.*

Approximately 85% of the increase observed at the time of amending the borrowing bylaw was attributable to a substantial increase in construction index. The other 15% of that cost increase was related to the sewer route modification. There are other additional costs included in the final project total, however these were not identified at this time and not included in the September 2005 bylaw and budget assessment.

- d. *The final cost for each of the four major contracts, the amount of actual cost over or under the contracted amount and the budget variance of each, if applicable.*

The allocated budgets, and subsequent amounts spent are comparable to the original tender amounts that were approved for each contract. As of May 2011, Contract #1 indicates a budget deficit of \$26,148 and Contracts Nos. 2, 3 and 4 indicate surplus budgets of \$39,285, \$53,018 and \$79,134 respectively. A detailed summary of this information is provided in Section 5.4.3. The differences noted between tender, budget and actual costs are minimal and considered reasonable given the total value of each

contract. Any differences noted are likely the result of minor construction savings or increases that can commonly occur during construction.

- e. Identify the ongoing operating, maintenance and capital costs associated with the Project and the funding source(s) from completion of the project to 2014.

The average estimated O&M costs to 2014 is \$84,500 per year. The O&M funds will be sourced from the sewer operating fund. See Table 7, Section 5.4.7 for a yearly breakdown. See Table 7, Section 5.4.7 for a yearly breakdown.

- f. Determine whether the Victoria Airport Authority (VAA) contribution releases any businesses in their business park from having to pay connection, capacity, operation or maintenance charges and if so, how these are calculated.

Staff Reports and detailed calculation Worksheets for the VAA capital contribution indicate that this was calculated on the basis of expected flow levels for a developed land area of up to 5.7ha. The contribution received therefore includes pre-payment for some future connections. Additional capital contributions will only be required when the allowance of 5.7ha of developed area has been exceeded. The cost of construction of all connections however, will be borne by the VAA or its developers. All sewer users including any and all connections on VAA land are required to pay the applicable sewer O&M charges.

- g. Compare the Project to the Southeast Quadrant Sewer Project

The primary factor that led to higher costs on the DC/PB/MP Project versus the SEQ Project can be attributed to the significant increase in construction index that occurred after the SEQ Project, from the second quarter of 2004 onwards. The debt/cost ratio for the SEQ project was 0.40, compared to 0.53 for the DC/PB/MP Project.

Caution should be used in making direct comparisons between these two Projects because of the issues related to timing and construction rates.

5.2 Cost Estimates - Planning

Below is a summary of cost estimates identified during the planning phase of the project:

Table 5-1 – Summary of Cost Estimates During Project Planning

Date of Estimate	Details	Reference	Estimate
2000-01-15	Deep Cove, Patricia Bay and McDonald Park costs estimate used for grant application	Signed Grant application form, dated January 15, 2000	\$8,982,600

Date of Estimate	Details	Reference	Estimate
2001-01-01	Deep Cove, Patricia Bay and McDonald Park costs estimate used for grant application	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO</i> . June 23, 2004.	\$8,925,400
2004-06-23	Deep Cove, Patricia Bay and McDonald Park costs estimates plus VAA transmission changes to follow Mills Road. Note that no inflation was used to arrive at the 2004 estimate. This was essentially therefore a 2001 estimate. The estimator confirmed however that these values were still applicable as at June 2004.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO</i> . June 23, 2004.	\$9,615,400

Initial project estimates were of an order of magnitude of \$8.9 million for the total project. The modification to the sewer route to traverse Mills Road was estimated in 2004 to add roughly \$690,000 to the project cost as compared to earlier 2001 figures. No further variances were identified until the construction estimate at the time of the first tenders in 2005 reported the increase in market rates for construction.

5.3 Bylaw 1073 and 1099

The Project cost increase observed between November of 2004 and September of 2005 was addressed by Council requesting the ability to borrow additional funds under Bylaw 1099. The bylaw would allow the District to increase the amount borrowed from \$5,250,000 to \$13,615,000. Bylaw 1099 would also extend the maximum borrowing period from 15 to 25 years.

Based on a review of historical Project estimates (see Figure 8, Section 5.4.8), the additional costs observed at this phase of the project are reflective of the increase in tender costs for Contracts 1 and 2, and updated estimates for the remaining work (Contracts 3 and 4) based on the unit prices received.

The increase observed during this period can be attributed to the increase in construction index at the time. In fact, when these bylaws were being considered, nearly all the observed cost increase would have been due to inflation since many of the unanticipated costs were not yet discovered or known in detail. Please see Section 5.7 for greater insight, clarity and explanation on the impact of construction inflation to the Project.

5.4 Project Costs

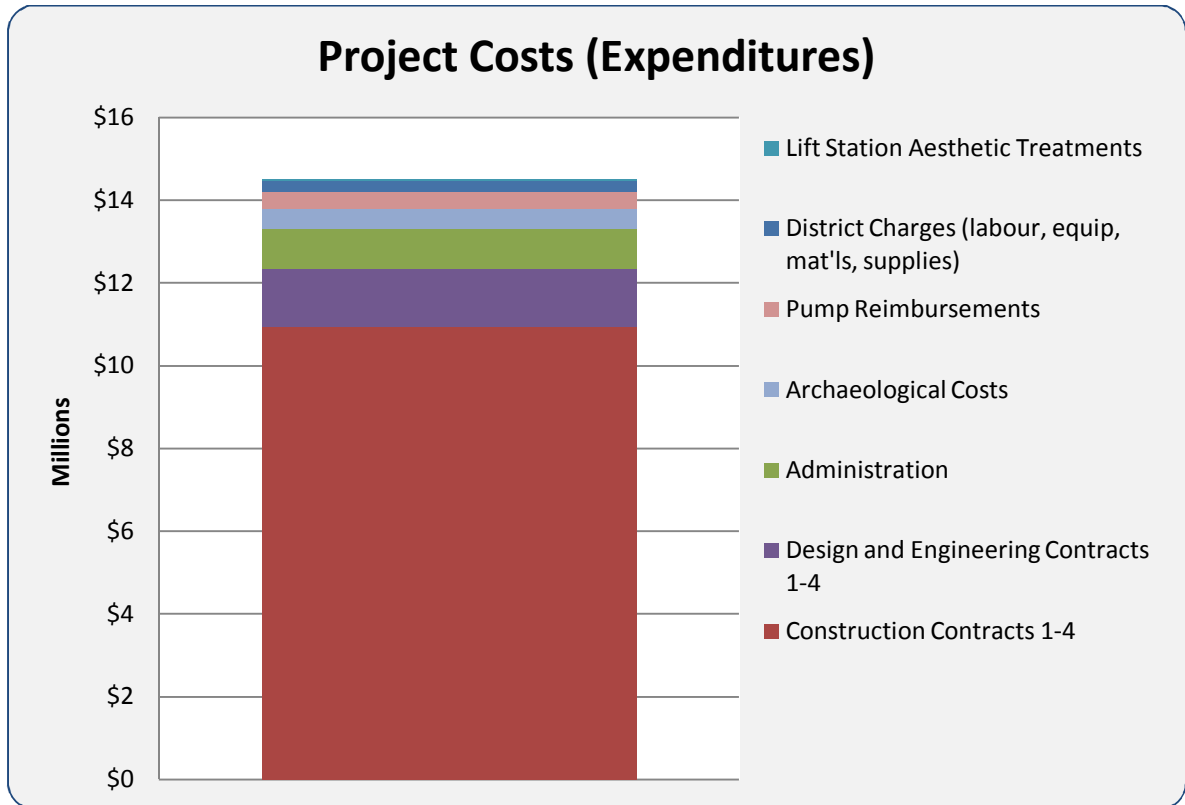


Figure 5 - Summary of Project Expenditures.

5.4.1 District of North Saanich Internal

Project costs payable by the District included charges for internal labour, benefits, admin charges, equipment charge outs, inventory and materials. The total of these costs were \$267,105.

5.4.2 Design and Engineering Contracts

The design and engineering costs were valued at \$1,429,021. This figure is the sum of all design, engineering and applicable construction supervision costs paid to 1st Team Consulting Ltd., George Giles Engineering Ltd. and Delcan Corp. This is equivalent to 13% of the related construction cost.

5.4.3 Construction Contracts

Final construction costs for contracts 1-4 are highlighted in the graph below.

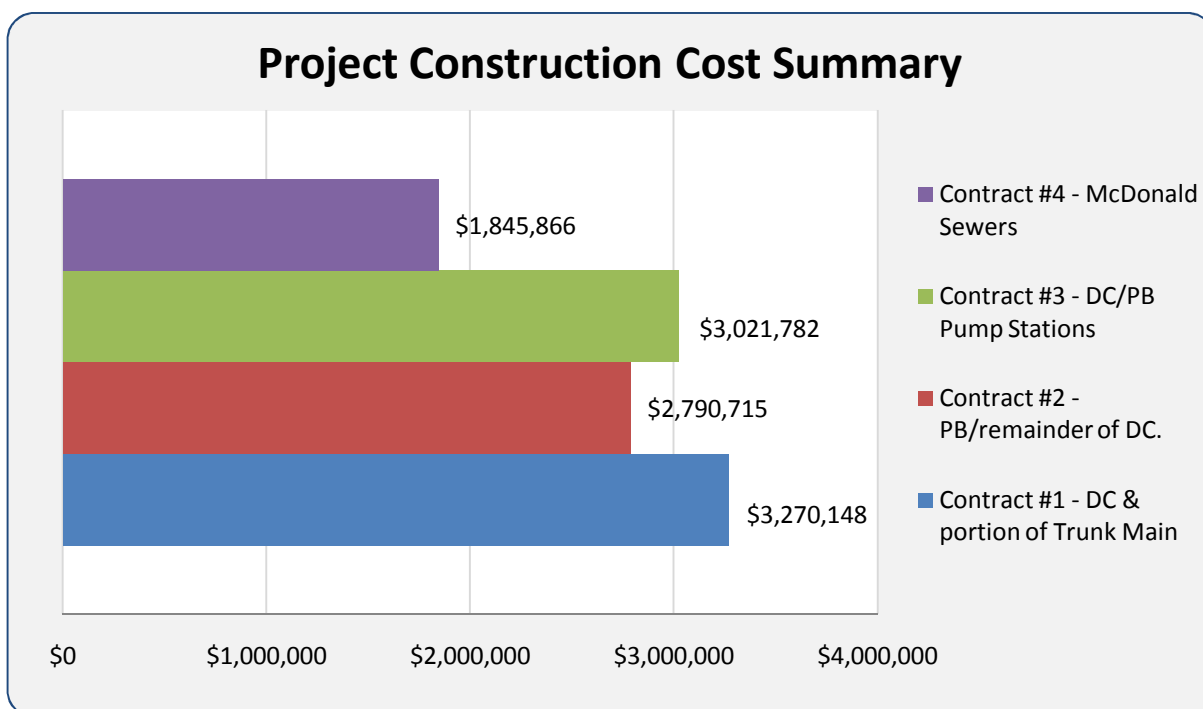


Figure 6 - Summary of Construction Costs. Total construction costs ~\$10,928,511

Contract 1 – Historical Estimates and Budgeted vs. Actual Expenditures

Historical costs estimates for Contract #1 are shown below. Contract #1 included construction of the Sanitary Sewer Collection System for Deep Cove as well as the westerly portion of the Trunk Sewer Main. The work was awarded to C-1 Contractors Ltd. for \$3,728,925. The two other bids received for the work were approximately \$900,000 and \$1,700,000 greater than the low bid, respectively.

The total amount budgeted for Contract #1 was \$3,244,000. As of May, 2011, \$3,270,148 had been spent, resulting in a minor budget deficit of \$26,148.

Table 3 – Contract 1: History of Cost Estimates

Date	Reference	Estimate/Actual	% Complete
Contract #1 - Deep Cove and the westerly portion of the Trunk Sewer Main			
2005-08-15	District of North Saanich. <i>Council Meeting Minutes</i> . August 15, 2005.	\$3,730,000	0%
2006-06-07	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . August 14, 2006.	\$3,680,000	90%
2006-08-14	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . August 14, 2006.	\$3,430,000	98%
2010-05-26	Budget Worksheet - May, 2010.	\$3,267,148	~100%
2011-05-01	Ledger Summary as of May 31, 2011.	\$3,270,148	100%

Contract 2 – Historical Estimates and Budgeted vs. Actual Expenditures

Historical cost estimates for Contract #2 are shown below. Contract #2 included construction of the Sanitary Sewer Collection System for Patricia Bay and the remainder of the Deep Cove Portion, as well as the easterly portion of the Trunk Sewer Main. The Contract was awarded to G&E Equipment Rentals Ltd. for \$3,077,573. Two other bids received were approximately \$46,000 and \$333,000 greater than the low bid, respectively.

The total amount budgeted for Contract #2 was \$2,830,000. As of May, 2011, \$2,790,715 had been spent, resulting in a minor budget surplus of \$39,285.

Table 4 – Contract 2: History of Cost Estimates

Date	Reference	Estimate/Actual	% Complete
Contract #2 - Patricia Bay, remainder of Deep Cove and easterly portion of Trunk Sewer Main.			
2005-08-15	District of North Saanich. <i>Council Meeting Minutes</i> . August 15, 2005.	\$3,070,000	0%
2006-06-07	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . August 14, 2006.	\$2,900,000	80%
2006-08-14	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . August 14, 2006.	\$2,900,000	80%
2010-05-26	Budget Worksheet - May, 2010	\$2,790,714	100%
2011-05-01	Ledger Summary as of May 31, 2011.	\$2,790,714	100%

Contract 3 – Historical Estimates and Budgeted vs. Actual Expenditures

Historical cost estimates for Contract #3 are shown below. Contract #3 included the construction of the lift stations for the Sewer System. The total amount budgeted was \$3,074,800. As of May, 2011, \$3,021,782 had been spent, resulting in a minor budget surplus of \$53,018.

Table 5 – Contract 3: History of Cost Estimates

Date	Reference	Estimate/Actual	% Complete
Contract #3 - DC/PB Pump Stations			
2006-02-06	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . February 06, 2006.	\$3,174,800	0%
2006-06-07	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . August 14, 2006.	\$3,174,800	5%
2006-08-14	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . August 14, 2006.	\$3,174,800	25%
2010-05-26	Budget Worksheet - May, 2010	\$3,021,782	100%
2011-05-01	Ledger Summary as of May 31, 2011.	\$3,021,782	100%

Contract 4 – Historical Estimates and Budgeted vs. Actual Expenditures

Historical cost estimates for Contract #4 are shown below. Contract #4 included the construction of the MacDonald Park Sewer portion of the Project. The Contract was awarded to C-1 Contractors Ltd. for \$2,248,300. The two other bids received were approximately \$15,000 and \$138,000 greater than the low bid, respectively.

The total amount budgeted for Contract #4 was \$1,925,000. As of May, 2011, \$1,845,866 had been spent, resulting in a budget surplus of \$79,134.

The reason for the budgeted amount being lower than the tendered amount is due to \$450,000 that was included in this contract to complete unrelated water main repairs. This amount is not reflected below.

Table 6 – Contract 4: History of Cost Estimates

Date	Reference	Amount	% Complete
Contract #4 - McDonald Park Sewers			
2006-02-06	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO. February 06, 2006.</i>	\$1,850,000	0%
2006-06-07	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO. August 14, 2006.</i>	\$1,850,000	0%
2006-08-14	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO. August 14, 2006.</i>	\$1,898,000	0%
2006-08-21	District of North Saanich. <i>Minutes of the Meeting of Committee of the Whole. August 21, 2006</i>	\$1,798,300	0%
2010-05-26	Budget Worksheet - May, 2010	\$1,845,865	100%
2011-05-01	Ledger Summary as of May 31, 2011.	\$1,845,865	100%

5.4.4 Pump Reimbursements

Pump reimbursements were provided to residents who were not able to gravity connect to the sewer due to the layout of their property in relation to the Sewer.

A budget of \$489,100 was established for pump subsidies/reimbursements. The total spent, as of May 2011 was \$392,366. The unspent balance (\$96,734) is part of the \$167,000 overall balance that has been set aside in reserve (refer to section 3.3 and Table 10-3 Schedule of Unspent Funds for discussion and details)

It is believed that the majority of the pump reimbursements have been paid out to residents however, the District should confirm if any future reimbursements are possible and allocate appropriate funds, as and if necessary. Consideration should be given to all current and potential future costs associated to the Project and the relative priority of these items before re-allocating reserve funds to specific uses.

5.4.5 Administration

Project Administration was a broad cost category which comprised of the following items: legal, advertising, easements and land acquisitions, surveys, other consulting services, other contracted services, interim financing charges and Municipal Finance Charges.

A summary of administrative costs for the project is provided below:

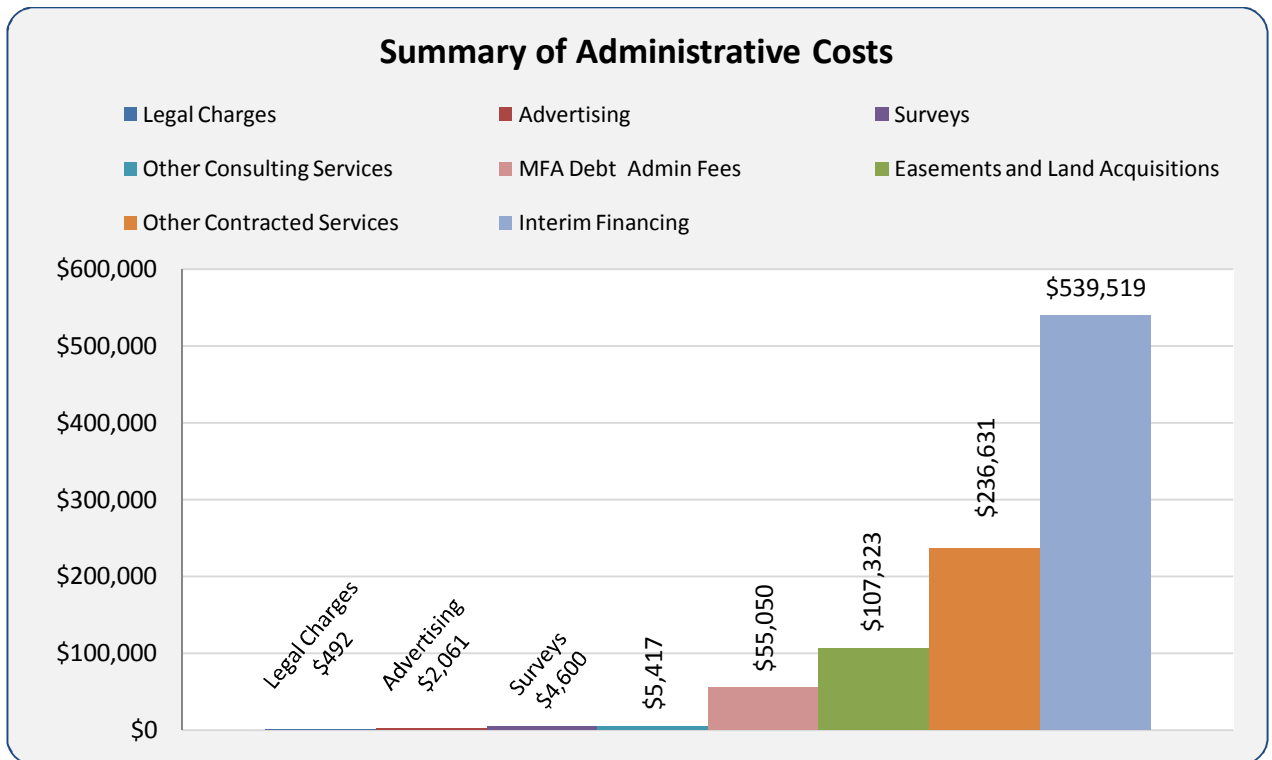


Figure 7 - Summary of Administrative Costs. Total administrative costs = \$951,094

5.4.6 MFA Debt Administration Fee

Municipal Finance Authority debt administrative fee for the Project totalled \$57,922. The MFA administrative fee is calculated by multiplying the long term debt, \$7,722,907, by the bank sales commission plus the MFA Finance Charge (0.006 + 0.0015 = 0.0075).

5.4.7 Archaeological Costs

The extent of archaeological costs encountered on the Project was generally unforeseen. The total amount spent on this item totalled roughly \$497,000. The archaeological costs were sourced from the District's General and Sewer Operating Funds.

Recommendation

It is recommended that all major capital projects include a separate historical resources assessment during the planning and design phase. Historical resource studies tend to give

a better understanding of the likelihood of encountering any historical artefacts. This will mitigate the potential impact of unforeseen costs.

5.4.8 Lift Station Aesthetics

At a Special Council meeting on March 14, 2007, \$300,000 was approved for expenditure in order to satisfy public aesthetic and odour concerns at a number of lift stations on the Project. A subsequent budget worksheet indicates that the estimated need was revised and as a result of this only approx. \$165,000 was actually budgeted for spending on the Project. Of this revised budget amount, only around \$42,000 has currently been spent as of May, 2011. According to District technical staff, the remaining funds will be required for odour mitigation equipment at several of the lift stations.

It is interesting to note that a Staff Report dated March 07, 2007 indicated that a petition of 119 names had been received regarding aesthetic concerns, however, of the 119 names, it was alleged that 45% of the respondents were from outside the project area, and 14% were from outside of North Saanich. The validity of signatories to petitions should be carefully considered in any decision regarding respond to such requests.

5.4.9 Sewer Re-routing to Mills Road

The expected cost increase to re-route the sewer project to Mills Road from Willingdon road was estimated by District Staff to be \$690,000. The route modification required an extra 1km of pipe and two additional pump stations.^{xx}

The implications of Project re-routing are discussed in Section 3.4.3.

5.4.10 Ongoing O&M and Capital Costs to 2014

A summary of ongoing O&M costs to 2014 are provided below. The O&M funds would be sourced from a sewer operating fund.

No significant additional capital renewal costs are expected as of 2014 due to the project components being relatively new.

Table 7 – Estimated Project O&M costs to 2014.

Year	Budget	Amount
2011	Approved budget	\$ 82,000
2012	Projected	\$ 83,500
2013	Projected	\$ 85,500
2014	Projected	\$ 87,000

5.4.11 Cost Summary

A project cost summary is shown in Figure 8 below. The summary highlights cost estimates at various stages of the project lifecycle. Some of the “extra” cost items on the project that were unanticipated are shown separately for emphasis. The Mills Road route scope change is also highlighted for comparison.

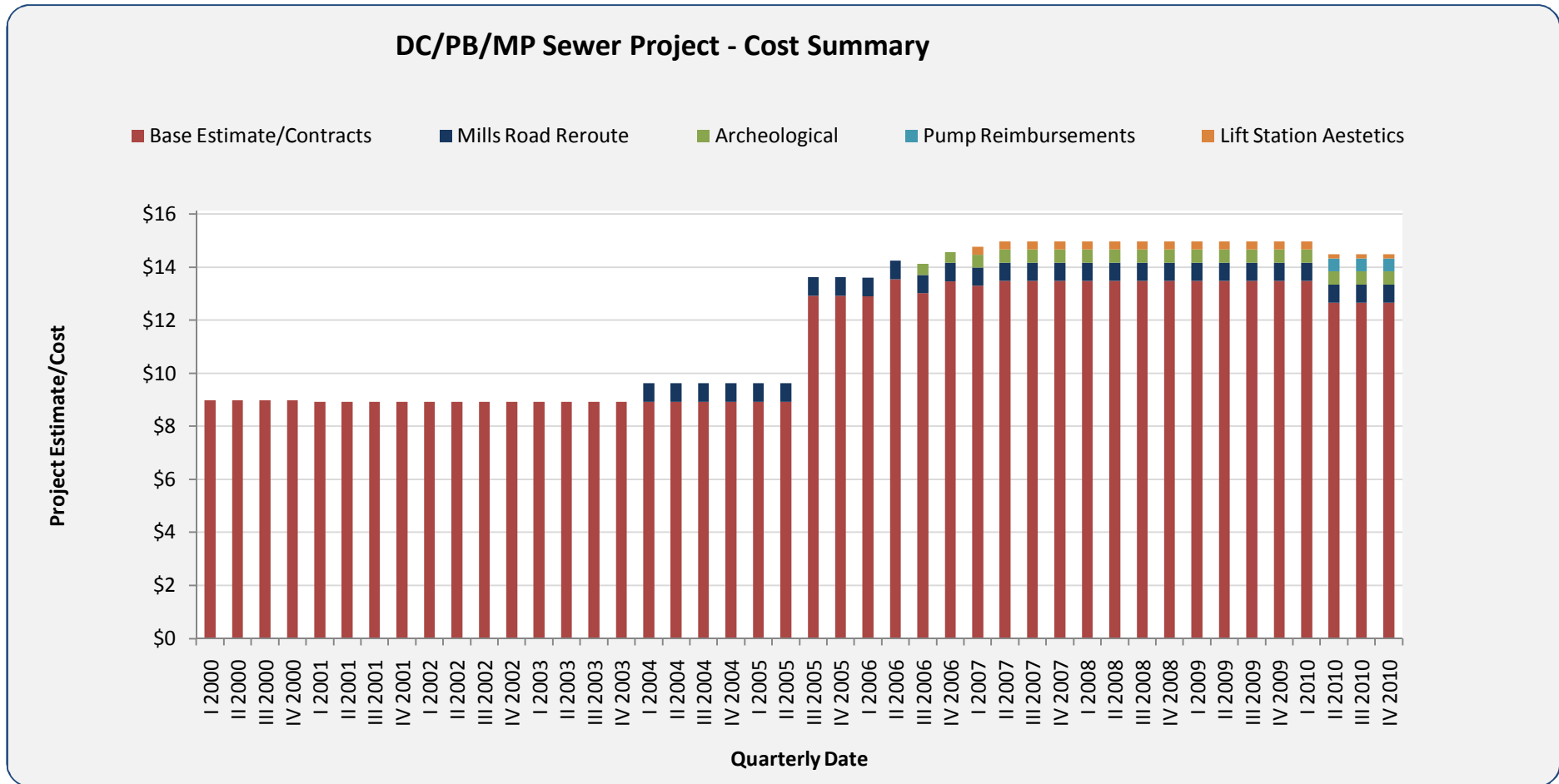


Figure 8 - Summary of Project Estimates 2000-2010 (shown as estimates to actual)

5.5 Updated Cost Estimates and Decision Point

On July 07, 2005 a District of North Saanich Staff Report from the Municipal Engineer addressed to the CAO identified a new project cost estimate of \$13,615,000. The revised estimate was based on the recently received tender submissions for Contracts 1 and 2 and updated cost estimates for Contracts 3 and 4 based on the unit prices received. The Report indicated that the tenders received were considered to be appropriate based on the engineers estimate, but were substantially higher than estimates that dated back to the time of the Grant application in 2001 and reviewed in 2004. It is unclear as to exactly when the engineers estimate for Contracts 1 and 2 were submitted but it is expected that they would have been available after completion of the detailed design and prior to going to tender.

The Staff Report on the tenders received was subsequently discussed at the July 11, 2005 Council meeting. Council was now aware that the project would cost roughly \$4 million dollars more than was anticipated based on an earlier estimate of \$9,615,400, identified in a June, 23, 2004 Staff Report from the Municipal Engineer to the CAO.

At this point in time, Council faced the decision to either continue on knowing that the cost had escalated or cancel the Project and attempt to further investigate alternatives. Either decision would have significant implications.

Proceeding would indicate that cost escalations would have to be accepted and considered manageable and that sufficient public benefit would be derived from completing the project to justify the increased cost.

Not completing the project at this stage might have resulted in forfeiting of the roughly \$4 million in grant monies available and potentially compromising the benefit of any funds that had been invested in the project up to that point, roughly \$130,000.

A decision to not complete the Project might have resulted in the District being non compliant with commitments made under the Saanich Peninsula Liquid Waste Management Plan (SPLWMP) which had been approved by the Minister. Residents would also continue to be faced with the repair of failing onsite septic systems and the wider community with the possibility of pollution leaching into waterways or groundwater.

There was clearly a balance of consequences for the community to be considered in determining what action to take.

On August 15, 2005, Council approved the award of Contracts #1 and #2 by passing Resolutions Nos. 516 and 517, respectively. The award of contracts meant that the project would now proceed to construction.

5.6 Impact of Construction Inflation

The observed spike in construction index observed in and after 2004 was related to a global surge in materials, labour and construction prices. The trend continued for several years until the more recent recession when construction prices were observed to ease somewhat.

In order to evaluate the impact of construction inflation to the project, the overall project costs were plotted and compared with available construction index factors from Statistics Canada and the Engineering News Record. Both data sets cover the period of 1999-2010.

Statistics Canada Data

No data was available from Statistics Canada specific to sewer or water systems construction or for the specific construction region in question. The closest matching data series was the Non Residential Building Construction Index pertaining to the region of Vancouver, British Columbia. This cost index data includes all major sub-trades groups: structural, architectural, mechanical and electrical.

While the data is considered to be representative of the general labour, materials and construction markets of the time, caution should be used in its application and for drawing conclusions due to the differences in region and construction type. The Statistics Canada data is considered to be more representative of the local market condition observed for the Project, compared to the ENR data, described below.

The Stats Canada data uses the year 2002 as a baseline (Index=100).

Engineering News Record Data

The Engineering News Record Data is based on US construction market information. As noted above, this data is considered to be representative for comparison purposes, but similar caution must be exercised when drawing conclusions.

The ENR data appears to match fairly well with the Statistics Canada data, with the exception of a major bubble occurring between 2006 and 2009. The observed deviation may be the result of stronger economic performance and demand for skilled labour and materials in Western Canada as compared to the US or other market/currency effects.

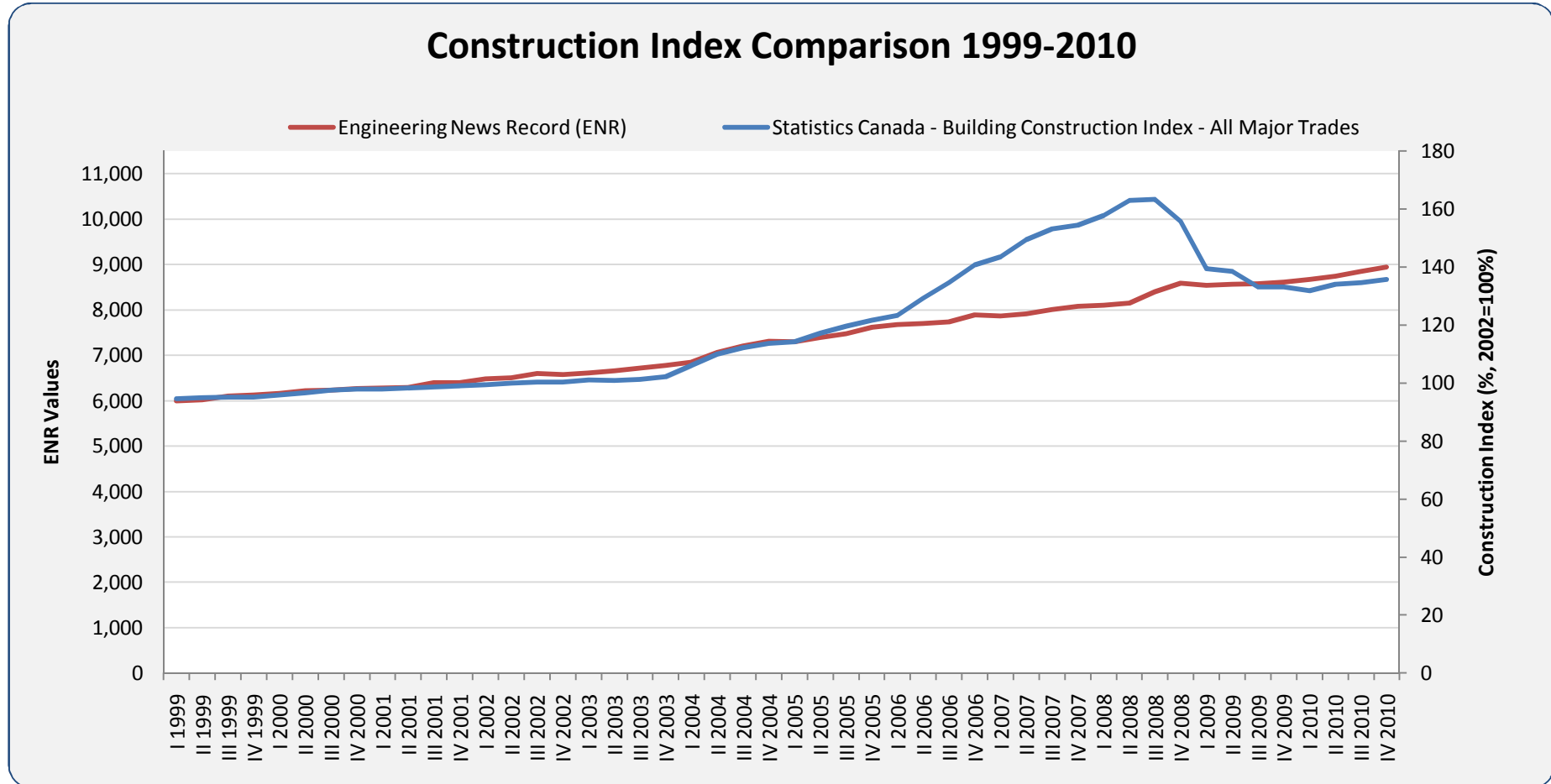


Figure 9 – Comparison of Statistics Canada and Engineering News Record Construction Index 2000-2010.

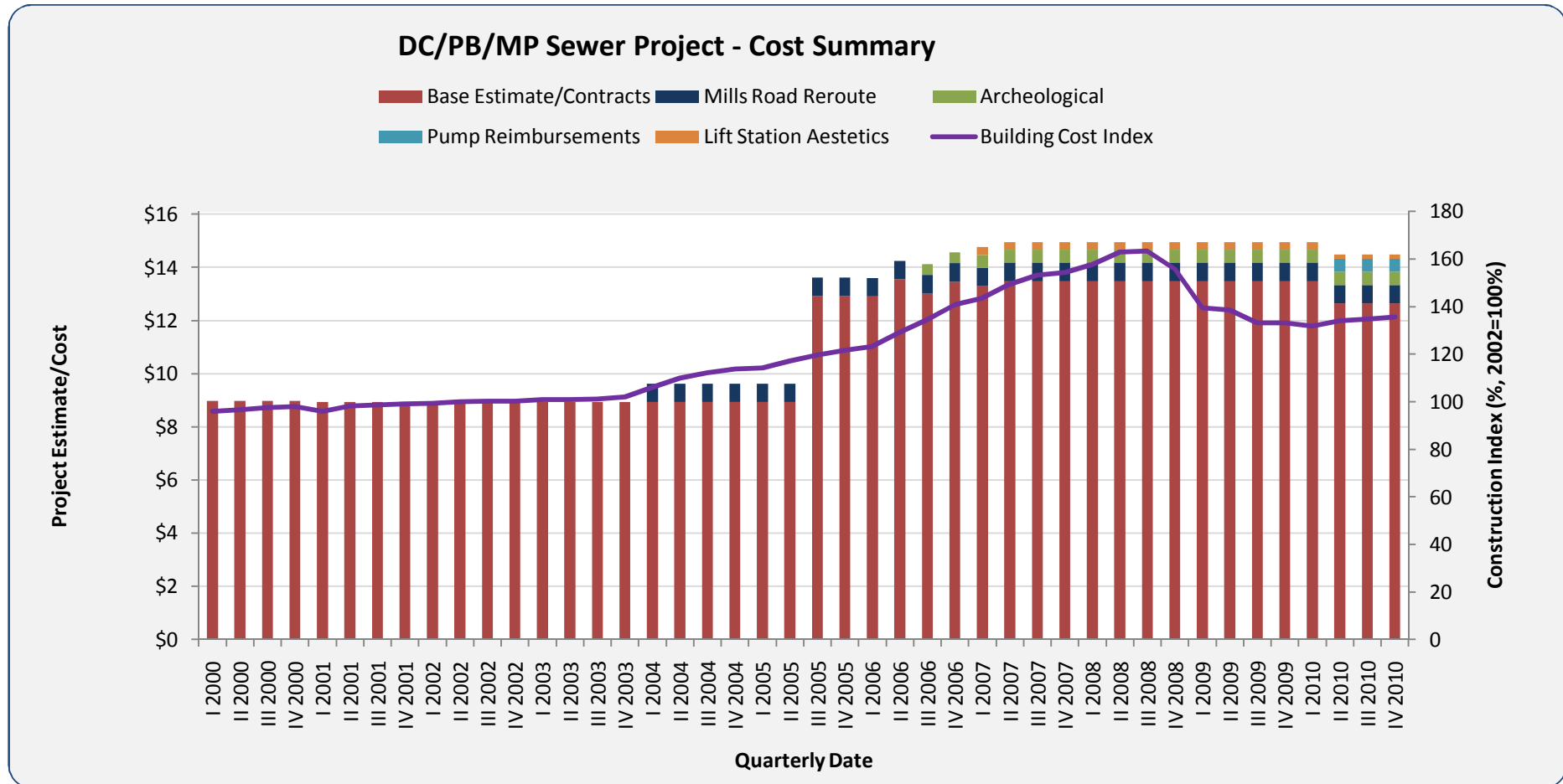


Figure 10 – Summary of Project Estimates and Non-residential Construction Cost Index for Vancouver.

In order to validate whether or not cost increases for the Project were primarily due to construction inflation, a graph was generated showing historical cost estimates and construction index versus time. Any items that may have been considered “unexpected” or “scope changes” were extracted from the base estimate and shown separately for emphasis. These items highlighted to present a level comparison of historical baseline costs for the project. The base estimate is intended to represent the design, construction and administration portions of the project.

The major cost items that were extracted for comparison to the baseline include:

- Sewer route scope changes;
- Archaeological;
- Pump reimbursements, and;
- Lift stations aesthetics

By observing how the available construction index data fits with the cost estimate data, it is apparent that a reasonable argument can be made that construction inflation was a significant contributor to the increase in project cost. Between 2000 and the end of 2006 for example, the construction index had risen by nearly 45%. A 45% increase of the original construction estimate (2001) represents a baseline cost of roughly \$13 million.

It is therefore reasonable and logical to conclude that the project cost increase observed can be primarily attributed to construction inflation due to market, materials and labour conditions. In fact, construction inflation amounts to more than 70% of all construction increases observed since the 2001 estimate. If the Mills Road route change is excluded from the cost increases, then construction index increases account for nearly 80% of all Project cost increase versus earlier estimates. These comparisons are provided since some might consider the cost increase due to the Mills Road route change to be a physical scope change, and not simply an “unexpected item”, although this is debatable.

From the individual column stacks, we can also conclude that the project “extras”, while not negligible, are still relatively small compared to the baseline project costs. In fact these “extras”, not including the Mills Road route change, account for less than 7% of the total project costs.

Summary

To summarize, roughly 70-80% of the cost increase on the Project between 2001 to completion are believed to be attributed to construction inflation, while the remaining 20-30% are considered to be attributable to the unforeseen extras and the Mills Road reroute described previously.

5.7 Timing and Awareness

In a Staff Report, dated June 23, 2004, between the Municipal Engineer and CAO, it was noted that the cost estimates from 2001 had been reviewed and were still considered to be valid due to the conservative nature of the estimates as well the inclusion of contingency.

The validity of this assumption can be tested by observing the construction index prior to issue the Staff Report (June 2004). The construction index was relatively flat between Q1, 2001 and the end of 2003 showing a net increase of roughly 4%. In Q1 and Q2 of 2004, right around the time of release of the Staff Report, the construction index rose sharply, by roughly 8% alone by the end of the first two quarters. This trend is highlighted in the table below.

Table 8 – Construction Index 2001-2004, inclusive

Statistics Canada - Non Residential Building Construction Index 2001-2004															
2001				2002				2003				2004			
Q1	Q2	Q2	Q4	Q1	Q2	Q2	Q4	Q1	Q2	Q2	Q4	Q1	Q2	Q2	Q4
98	98.3	98.7	99	99.4	100	100.3	100.3	101	100.9	101.2	102.1	106	110	112.2	113.7

During the midst of increasing construction costs, namely during Q1 and Q2 of 2004, the increases observed would not have been easy to anticipate, especially considering how flat the construction index had been from 2001 to the end of 2003.

Based on the observed data, a defensible argument could be made that using the original cost estimates (2001) at the time of the release of the Staff Report would have been reasonable at that time. It was noted that the 2001 estimates included contingency and were considered to be conservative^{xxi}. The original estimates used local project comparison data from Vancouver Island, and the ENR index. This method of estimating is considered to be reasonable and on par with industry practice.

While it is generally common practice to re-cost projects periodically throughout their planning and design phases, it is not overly clear how much benefit or insight this would have provided, or if it would have been able to accurately predict the levels of inflation that would be observed in the coming months and years, from 2004 onward.

To further complicate matters, tenders can be very region/project specific depending on available skilled labour, materials, economic and other factors, including project complexity and timing.

Once the bids for Contracts 1 & 2 were received, re-tending the contracts either as is or in smaller packages in an attempt to find cost savings was considered, but quickly abandoned^{xxii}. It is unlikely that such action would have had any appreciable benefit. In fact, such action would have risked the possibility of tender prices increasing even more than those received. Based on observation of the subsequent further increases in the construction cost, it would be almost three years before construction costs would begin to decrease and rates have never returned to those of 2005.

Summary

Based on an analysis of available construction market data, it is reasonable to conclude that Staff would have only become fully aware of the cost impact to the Project due to construction inflation at, or very near, the time of receiving the first tenders. It is also reasonable to conclude that it would have been very difficult for Staff to accurately predict the increase in construction costs that were observed due to construction inflation in the time prior to letting the tenders.

Regardless of staff predictions or awareness, once the tender costs were known, it was Council who would have had the final authority to decide whether or not to go ahead with the Project with the costs as they were known. Based on the balance of consequences for the community, Council approved the letting of the tenders and proceeded with the Project.

Recommendations

It is recommended that estimates for all major capital projects be routinely recalculated during their planning and design phases, using industry standard practices. This becomes increasingly important the longer a project sits in the planning and design phase. A re-costing exercise shortly after the release of the Staff Report in 2004 may have provided some beneficial, but limited, insight into the expected construction cost increases.

Generally, re-costing should be performed as needed, but at least annually is good practice and more often if market conditions dictate. The benefit of re-costing is not only to anticipate project cost increases, but also cost decreases, which can save the organisation money by taking advantage of market conditions and to improve confidence in the figures being used for decision-making.

5.8 Project Schedule

The following construction schedules were made available for review:

Table 9 – Summary of Construction Schedules

Contract #	Schedule Issue Date	Schedule Type	Approx. Construction Duration (Months)	From	To
All	2001 – submitted with Grant Application	Preliminary	10	2002 - July	2003 – Apr.
1	2005 - June	Preliminary	8	2005 - Aug.	2006 – Mar.
	2005 – Aug.	1st Draft	11	2005 - Aug.	2006 - June
	2005 – Oct.	Revision/Update	11	2005 - Aug.	2006 - June
2	2005 – July	Preliminary	9	2005 - Aug.	2006 – Apr.
	2005 – Sept.	1st Draft	9	2005 - Sept.	2006 - June
	2006 – Jan.	Revision	7	2005 - Dec.	2006 - June

Contract #	Schedule Issue Date	Schedule Type	Approx. Construction Duration (Months)	From	To
3	2006 – Feb.	Unknown	6	YYYY - Jan.	YYYY – Aug.
	2006 – July	Unknown	2.75	2007 - July	2007 – Oct.
	2007 – June	Unknown	2.25	2007 - July	2007 – Sept.
4	2006 – Aug.	Preliminary	7	2006 - Sept.	2007 – Mar.
	2006 – Oct.	1st Draft	6	2006 - Oct.	2007 – Mar.
	2006 – Dec.	Revision	6	2006 – Oct.	2007 – Mar.
	2007 – Mar.	Revision	8	2006 – Oct.	2007 - May

Construction Schedule

The preliminary construction schedule issued in 2001, shown in the top row, Table 9, was submitted with the Canada/BC Infrastructure Grant Application. The preliminary schedule provided a construction timeline of 10 months, however, it appears that the actual construction required roughly 28 months.

The construction duration difference between the preliminary schedule in the Grant application and the actual construction program is significant. The difference may be a result of doing some contracts sequentially instead of simultaneously, or underestimating the work required, or due to the preliminary nature of information available at the time. The individual Contract schedules however do not appear to deviate significantly between the preliminary schedule and revised construction schedules.

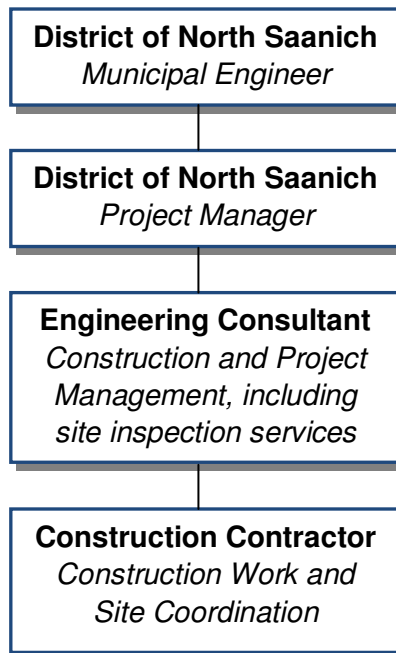
Late Start

The explanation for the late construction start date, as compared to what is indicated in the Grant Application, is due to the amount of time it required to secure Grant funding. The Grant was expected to be secured by the third quarter of 2001, however the Grant was actually only received in the first quarter of 2004. The reason for the time delay appears to be related to the amount of follow up time required to satisfy the Ministry on the 1ha rule requirements.

5.9 Project Management and Documentation

The project was managed from the Engineering department, led by the Municipal Engineer. A sample team organisation, sourced from pre construction meeting minutes, is shown below:

Figure 11 – Project organization



The Project organisation shown is very typical for this type of work. The work appears to have been completed as a design-bid-build process.

Other than organisation, it was not entirely clear what additional Project Management practices were in place for the Project. It was not clear if a project plan/charter was in place, who the Project Sponsor was, or if a steering committee was in place. The absence of information tends to suggest that these may not have been used on this project and it appears that rather than a steering or project committee, the District staff reported to Council for key decisions and approvals throughout the project.

It is recognized that the District is limited in both human resources and funding, which makes it difficult to establish a dedicated PM/ project management team for capital works. However, there are still benefits to using a more formal project management approach from the owner's point of view. This includes increased monitoring and controls for cost and change management, and improved documentation and schedule management.

It was not apparent that an 'as constructed' report had been completed for the Project, or if the District was maintaining a master Project documentation file. In our review of documentation, it was evident that relevant information about the project exists in multiple files in multiple departments and some in uncontrolled files in staff offices. A central suite of controlled project files containing all information from conception to completion of the Project would have been preferable and assisted both management and review of issues.

Recommendations

It is recommended that all major capital projects include provisions for an as-constructed report and that the District maintain a single master project file with multiple sub-folders as necessary. The set of project files should contain all available project information in one

location, and also include a detailed project ledger/history of project events. This will improve both project management and organization during the course of the work, as well as review and auditing of the project.

The District should also consider the use of a dedicated Project Steering Team or Committee. The Steering Committee will ideally include membership from all sides of the project spectrum: engineering, financial, operations and a political representative if necessary (Mayor or representative).

5.10 Comparison to Southeast Quadrant (SEQ) Project

The primary factor that led to higher costs on the DC/PB/MP Project versus the SEQ Project has been attributed to the significant increase in construction index that occurred after the SEQ Project, from the second quarter of 2004 onwards.

It is challenging to compare the two projects on a per connection basis since every project will be subject to unique constraints and complexities, possibly resulting in higher or lower per connection costs. These factors may include topography, geology, soil type, historical resources (archaeological issues), construction timing, material and labour costs, the number of tendering companies available to do work, unique construction issues, length and course of sewer routing, etc.

The District borrowed roughly \$4,900,000 over 15 years to finance the SEQ Project, and the total cost of the Project was \$12,152,062. For simplicity sake, this represents a debt to total cost ratio of roughly 0.40. The debt to total cost ratio of the DC/PB/MP Sewer Project was roughly 0.53 in comparison.

Any further comparison of the projects would likely not provide significant additional benefit as it is fairly obvious that the difference observed between the Projects is due to the significant inflation observed during the construction period of the DC/PB/MP Project.

6 Operational

6.1 Scope and Summary of RFP questions

The purpose of this section is to provide detailed responses to specific questions from the RFP regarding operational issues. A summary of the questions and answers is provided directly below. Additional information and discussion on each issue is provided in sections 6.2 and 6.3 of this report.

- a. *Determine the rationale for the decision made as to the extent of public consultation and whether a citizen referendum was required by legislation.*

Based on available information, it appears that sufficient technical information and legal rationale was available to justify proceeding with the Project.

The decision to complete the Project was based on meeting commitments outlined under the SPLWMP that was approved by the Minister under the Environmental Management Act (formerly Waste Management Act). According to two previous legal opinions, there was no requirement for the District to obtain further approval of the electorate on the Project or to hold a referendum.

Although the District had likely exceeded the Approval Free Liability Zone (AFLZ) at the time of borrowing for the Project, it appears that the Project would be exempt from a referendum since the Community Charter and the Municipal Liabilities Regulation, allows for exemption of Projects that are being implemented to satisfy all or part of an approved Liquid Waste Management Plan.

In addition to the above, it appears that any requirements related to an approved Waste Management Plans under the Environmental Management Act would supersede any requirements under the Community Charter or Local Government Act including the need to hold a referendum related to the AFLZ borrowing.

Council investigations on alternatives determined that installation of a reticulated public sewer system was the only viable long term option by which the Council could comply with the Ministers requirement in the SPLWMP.

A review of the “Referendum question” identified that improvements could be made regarding how the decision-making process was communicated to the public.

6.2 Project Rationale

In reviewing available information, several key drivers have been identified as the rationale or business case for the Project, some of which are outlined below. The project rationale was also provided in the Canada/BC Infrastructure Grant Application as an attachment of Supplementary Information. The Supplementary Information echoes the issues mentioned below.

At the time of Grant Application, and shortly after, there appeared to be a strong business case and rationale to proceed with the Project. Further investigation of onsite issues and wastewater treatment alternatives was completed in 2001 by Giles Environmental Engineering and McCrae Engineering, respectively.

6.2.1 Saanich Peninsula Liquid Waste Management Plan (SPLWMP)

The 1996 SPLWMP was approved by the Minister of Environment, Lands and Parks on March 02, 1995. The plan included the following key commitments:

- The District of North Saanich commits to reserving sufficient capacity in the Saanich Peninsula Waste Water treatment Plan (SPWWTP) that will enable it, within five years, to implement permanent sewage treatment and disposal solutions for areas of North Saanich that are exhibiting on-site sewage disposal problems;
- That the District of North Saanich make a firm commitment to establish a permanent solution to those areas with existing and potential on-site sewage disposal problems within the next five years;
- That the District of North Saanich confirm that the areas of Deep Cove and Patricia Bay be confirmed as exhibiting on-site sewage disposal problems;

With the adoption of the SPLWMP, the District of North Saanich established a commitment to implement permanent solutions for the Southeast Quadrant Area and Deep Cove/Patricia Bay Area.

6.2.2 Existing onsite septic systems and health and environmental hazards

The health and environmental issues related to the Project appear to have been well known prior to implementation of the Project. These issues are identified in various reports dating back to the mid 1990's.

A *Review of Onsite Sewage Disposal Failures for North and Central Saanich* was conducted by the Capital Regional District (CRD) in 1996. This report outlined an observed failure rate of greater than 50% for onsite septic treatment systems in the Deep Cove area. The failures were primarily attributed to soil and site conditions that were unsuitable or unfavourable for the use of septic fields^{xxiii}.

A Bender & Dyck report from 1996^{xxiv} provided the following on the Deep Cove sewer area:

- *“Sewage disposal problems are severely exacerbated by the minimal sized lots”;*
- *“Soil conditions on both sides of the road and the beach/waterfront indicate heavy clay close to the surface”;*
- *“37% of the properties were known or suspected of having onsite sewage disposal malfunctions”;*
- *“That many properties because of lot size and poor soil would have great difficulty correcting any malfunctions”;*

- *“That sewerage the area would provide a permanent solution for the homeowners in the area”*

Further comments were highlighted in the Grant Application and attachments included the following:

“Studies over the past years have consistently shown that most of the District, and Deep Cove in Particular, is not ideally suited for in ground sewage disposal.”

“The Saanich Inlet Study, carried out in 1995 and 1996 by the BC Ministry of Environment, Lands and Parks identified coliform and nitrogen contamination emanating from the Deep Cove and Patricia Bay areas as a major concern and one of the recommendations of the Technical Synthesis Report is that ‘...present practices with respect to conventional septic disposal system design, siting, monitoring, enforcement and operation are not sufficient’^{xv}”

According to available information, the site soil conditions, rate of failure and environmental impact associated with the DC/PB areas were well known and provide a strong indication that the Sewer Project was required to remedy these issues properly.

6.2.3 Option Analysis

Options analysis for alternative wastewater collection systems serving DC/PB was completed by McCrae Engineering Consultants Ltd. in a report dated May 22, 2001 (Draft #2).

This study compared the following alternatives for Deep Cove:

- Conventional gravity system with grinder pumps and a local low pressure sewer system;
- Low pressure sewerage system;
- Septic tank effluent pumping and gravity system.

This study compared the following alternatives for Patricia Bay:

- Conventional gravity sewer system
- Low pressure sewer system
- Septic tank effluent pumping and gravity system;

The report favoured a gravity and low pressure system with grinder pumps for the Deep Cove area and a conventional gravity system for the Patricia Bay area.

Summary

Based on available information, a sufficient rationale was provided to proceed with the Project and it appears that a number of feasible alternatives were considered based on their cost effectiveness. In addition to this, the indication that failures were due to limited

permeability of the soils in the relevant areas, would have precluded other on-site treatment options. This is because even if an on-site option produced good quality treated effluent, it appears that the soil had a limited capacity to accept long term effluent discharge.

Recommendation

All major capital projects should have a District prepared business case, citing justification, rationale, and the cost benefit of a project. A recommendation is to develop a standard Business Case template that can be used to evaluate all projects against the District corporate/operational goals.

6.3 Public Consultation and Communications

6.3.1 Public Consultation

Public consultation occurred in several formats, including an open house meeting early in the planning phase, as part of the established Residents Liaison Committee and with regular council meetings, occurring at two week intervals.

An open house held in December of 2000 was attended by over 140 people, and was used to solicit information and opinions from citizens that would be impacted by the proposed project. When residents were asked if they perceived problems in the community with the onsite sewer systems, 67% of the 95 responses replied affirmatively.^{xxvi}

A Residents Liaison Committee was established in June of 2004. The meetings were attended by the District Project Manager and the consulting firm managing the construction of the Project. Minutes of the meetings are available.

Other methods of consultation included invited participation at Council meeting, which occur at two-weekly intervals. Members of the public took this opportunity on many instances to voice their approval/disproval of the Project.

Summary

The level of public consultation appears to be adequate and is typical of what would be expected for this type of Project.

6.3.2 Public information

Information was relayed to the public primarily through a series of seven Project Newsletters, dating from October, 2004 to April, 2007. The Newsletters advised of Project issues, progress and other pertinent details. There was at least one newsletter, dated April 2001 that was delivered to residents prior to the first official Project newsletter.

In general, the Newsletters appeared to have been well done and informative, and were delivered on roughly a quarterly basis. The only improvement to note, deals with the level of cost estimate details provided in early newsletters.

It is recommended that at any time a cost estimate is provided to the public, that the level of estimate (preliminary, engineer's, tender) be detailed along with the level of uncertainty tied

to the estimate. Without this detail, members of the public have a tendency to perceive estimates as guaranteed prices.

In addition to the aforementioned Newsletters, the public would have also been exposed to information available in community newsletters and various community lobby group publications, although this information was not in any way official, or sanctioned by the District. This is mentioned only because the District should be cognizant that they may encounter other competing media sources during the course of a Project, many of which are written as editorials based on personal opinion.

6.3.3 Referendum

Intent to hold Referendum

Based on the information reviewed, it was difficult to determine if the District had at any point in time officially committed to conducting a referendum on the Project, or exactly what that referendum would decide (go forward with Project, continue to explore alternatives, etc.). Two specific references are provided for discussion:

- In the Supplementary Information submission for the Canada/BC Infrastructure Grant application, a “Referendum” is mentioned in several locations but no details are provided, other than when it was to occur. The Referendum was identified in the Project schedule, to occur in October 2001, after the milestone task of “Grant approval/reject” was completed.
- A May 23, 2001 Staff Report from the Administrator submitted to Council requesting clarification on a number of items included a discussion point for Council titled “Option 2 – Hold a referendum as initially planned”

The first example appears to indicate that in the early phase of the Project (early 2000’s) at least some consideration had been given towards holding a referendum and that this consideration had gone as far as including a “Referendum” task within the original work plan.

The second example demonstrates that Council would have been aware that there was at least some intention to hold a Referendum on the sewer Project.

Summary

It appears there was some initial intent during the early phases of the Project to hold a referendum, however, it was not abundantly clear based on the information reviewed whether or not a specific commitment to hold Referendum was relayed to the public, or what that referendum would decide.

Legal requirement to hold Referendum – Waste Management Act

The District sought legal advice on whether the ascent of electors was required prior to proceeding with the Project. A subsequent legal opinion in a letter dated June 28, 2004 provided the following analysis, based on the Waste Management Act:

“The basic scheme is that the Province understands that a waste management plan is only adopted by Council and approved by the Minister after significant public consultation. As a result, bylaws that need to be passed to implement a waste management plan that has been approved by the Minister do not need further approval by the electors”^{xxvii}.

Since the SPLWMP had already been approved by the Minister of Environment, Lands and Parks, no further approval by the electors was required to create a bylaw to implement the plan.

The District received a subsequent legal opinion on July 28, 2005 prior to making amendments to the Project loan authorization bylaw. The legal opinion was based on the Environmental Management Act, which superseded the Waste Management Act on July 08, 2004. The applicable sections of the Environmental Management Act were substantially similar to the Waste Management Act and therefore the previous legal opinion was still valid. As long as the Project was for the purpose of implementing the SLWMP, then any bylaw would be exempt from a referendum or approval by the electors^{xxviii}.

Other legal requirements to hold Referendum – Community Charter (Municipal Liabilities Regulation), Local Government Act.

At the time of borrowing funds for the Project, the District appears to have exceeded the Approval Free Liabilities Zone, which would normally require that a referendum be held to approve additional borrowing, however, it appears that the Project was exempt from any such requirement since the Municipal Liabilities Regulation allows for exemption of Projects that are being implemented to satisfy all or part of an approved Liquid Waste Management Plan.

Furthermore, the Environmental Management would likely supersede any requirements under the Community Charter or Local Government Act^{xxix}:

(7) Despite anything in the *Community Charter* or the *Local Government Act*, if a waste management plan

(a) is required under subsection (2) or (3) (a), or

(b) has been approved by the minister under subsection (5),

a bylaw adopted by a municipality for the purpose of preparing the waste management plan referred to in paragraph (a), or implementing the waste management plan referred to in paragraph (b), does not require a petition, the assent of the electors or the approval of the electors.

Decision on alternatives and Referendum

A timeline of events is provided below:

May 14, 2001 CoW Meeting

- At a Committee of the Whole meeting, Council reviewed a recommendation to discontinue consideration of local treatment and disposal options and proceed with preliminary design of regional options that connect to the Saanich Peninsula Waste Water Treatment Plant (SPWWTP).
- At the same meeting, it was suggested that should this recommendation be adopted by Council, it would be necessary for Council to evaluate the necessity of a referendum.
- The decision was delayed until all Council members could be present.

May 23, 2001 Staff Report^{xxx}

- A Staff Report from the administrator requested that Council clarify if discontinuation of consideration of “local treatment and disposal options” meant only local community systems or onsite systems as well. If the latter was the case, it was recommended that Council reassess the need for holding a referendum, since the motion would effectively eliminate all alternatives, other than a regional system.
- Two referendum options were presented to Council:
 1. *“No referendum: if Council chooses this option there might be a perception amongst members of the public that Council is reneging on a commitment to hold a referendum on this issue. **It would be important to emphasise in any communications that are circulated of the reasons for deciding not to proceed to referendum. It will also be advisable to adopt a resolution outlining the reasons for not holding one.**”*
 2. *“Hold a referendum as initially planned: if Council decides to proceed with a referendum as initially planned, then the District must be clear about the meaning of a ‘no’ vote.”*
- The Staff Report also importantly noted that, “even if a referendum is held, it would be an opinion referendum only, as Council cannot delegate the power to make a decision on this matter to the electorate.”

May 28, 2001

- Council adopts Resolutions 231 & 237, indicating that the District would discontinue consideration of local treatment and disposal options and proceed with preliminary design of regional options that connect to the Saanich Peninsula Waste Water Treatment Plant (SPWWTP).
- Council clarified that the intent of the motion was to^{xxxi}:
 - No longer consider alternative systems of disposal;

- The only treatment system that council would consider is connection to the SPWWTP;
- That all properties within the project area would eventually have to be hooked up to the system, and onsite retention systems would not be permitted;
- That no referendum be held on the issue.

Summary

By adopting the resolution not to consider local treatment and disposal options, Council effectively limited the Project alternatives to one option - connection to the Regional system. Based on the technical information of alternatives available at the time and the District requirements under the SPLWMP, it appears that the decision to proceed with the Project was justified.

Council was not legally required to conduct a referendum, and even if a referendum were held, it would have been non-binding since the public could not have unilaterally decided to renege on the commitments made under the SPLWMP. There was also no evidence to support that alternative systems could have been successfully and efficiently implemented to meet the commitments under the plan.

It was clear that the main issue relating to the referendum was the decision on the extent of public communication relating to the decision. The level of communication relayed to the public explaining the details and constraints of the SPLWMP and the referendum were not sufficient to appease public inquiry. There was, and possibly still is today, a perception amongst the public that a referendum was required, or that sufficient alternatives had not been considered.

The level of public communication that was required on the referendum issue should have been clear to Council as the issue and options were clearly laid out in the May 23, 2001 Staff Report, as noted above. However it appears that the importance of detailed communication to the public on this issue was underestimated at that time.

Recommendations

A recommendation going forward would be to ensure that the public is kept apprised of how and why critical decisions are made. The public needed to be made aware of the requirements that were made under the SPLWMP and the potential consequence of non-compliance.

Public transparency on decision making must be held paramount; otherwise the public may perceive a lack of information as an attempt to short circuit the democratic process, even if that is not the intent.

Council must be sure to carefully consider and review any advice presented by District Staff in Staff Reports.

7 Summary of Key Issues and Recommendations

No.	Issue	Recommendation	Section
1	<i>Delay in Grant funding process</i>	<p>Consideration for potential delays should be accounted for during the planning of capital projects that heavily depend on grant funding.</p> <p>A formal process of tracking and reporting on the progress of grant applications as well as consideration of the potential impacts of delays should be put in place at the beginning of any major project.</p> <p>Contingency allocations in project budgets should consider the level of uncertainty that will exist at various stages of a project. The amount of contingency should be reassessed and adjusted at each stage from initial assessments to detailed design.</p>	3
2	<i>Stakeholder Communications during planning</i>	<p>For future capital projects, the District should set up a communication plan at the beginning of the project. The plan should include requirement to maintain regular Stakeholder consultation and/or communication, during the planning phase of projects to keep apprised of any potential issues as project detail develops.</p>	3
3	<i>Future Capital Contributions</i>	<p>The District should formally document current practice relating to capital contributions in a District policy. This policy should cover the general basis of agreement and method of calculation. It should also outline how capital contribution funds should be allocated and used, particularly those received after substantial completion of a project.</p> <p>It is recommended that the District consider cost sharing agreements that include a clause to account for construction inflation. This will enable the District to equitably spread construction inflation risk across all users.</p> <p>The policy should also include requirements for periodic review of how related O&M contributions are calculated. This will ensure the revenue from these sources remains relative to actual costs incurred over time.</p>	3
4	<i>Use of community based municipal taxation funds</i>	<p>There exists opportunity to more clearly and formally establish the definitions, intent of use, bylaws and policies that govern some of the municipal funds. It is recommended that District Staff and Council work on reviewing and clarifying the policies and bylaws related to the use of municipal funds.</p>	3
5	<i>Long term finance</i>	<p>The District should increase current efforts on financial forecasting and assessments of reserve fund contributions relative to debt funding required for future asset renewals.</p>	3

No.	Issue	Recommendation	Section
6	<i>Future Grant funds</i>	The District should review the financial tracking process to ensure that it can be adapted to capital projects where specific cost tracking is required due to funding Agreements.	4
7	<i>Historical resources</i>	It is recommended that all major capital projects include a separate historical resources assessment during the planning and design phase. Historical resources studies tend to give a better understanding of the likelihood of encountering any historical artefacts and will mitigate the potential impact of unforeseen costs.	5
8	<i>Cost estimating</i>	Estimates for major capital construction should be routinely re-calculated. This becomes increasingly important if there is a significant delay between design and construction. This should be done on a maximum time interval regardless of whether the construction index is increasing, decreasing, or static. It should also be done at any point where new information affecting costs becomes known.	5
9	<i>Project Management</i>	It is recommended that all major capital projects would benefit from inclusion of the following requirements: <ul style="list-style-type: none"> • Maintain a single master project file (set of files); • Provision of an as-constructed report; • Project Steering Team or Committee; • Use of a dedicated project website to provide convenient public access to project information. 	5
10	<i>Business case</i>	All major capital projects should have a District prepared business case, citing justification, rationale, and the cost benefit of a project. Our recommendation is to develop a standard Business Case template that can be used to evaluate all projects against the District corporate/operational goals.	5
11	<i>Public relations and communications</i>	The public must be promptly apprised of all major decisions and project changes and must be aware of how and why decisions are made. Public communications should accurately reflect the level of cost estimate information available (conceptual design preliminary design, detailed design) and the level of risk associated with those estimates.	6

8 Conclusions

8.1 Major Challenges

The main concerns expressed in the RFP were primarily related to three factors:

- Project cost;
- Decision making; and
- Communication with the public.

Each of these points are discussed below in summary and in detail in the report.

8.1.1 Cost

The primary cause for the increase in cost was an unexpected and substantial increase in construction costs at the time the project went to tender. This significant change was due to economic forces affecting the construction market and beyond the control of the Council.

Timing of Grant Approval

The amount of time it took to receive the Canada/BC Infrastructure Grant unintentionally contributed to the adverse financial outcome. The delay in receiving Grant approval changed the timeline for constructing the project. As a result, the Project was constructed during a time of substantial inflation within the industry, resulting in increased cost for material, labour and construction work.

Construction inflation prior to calling tenders for the Project had been relatively flat by comparison. The impact that the delay would have on Project cost would not therefore have reasonably been foreseen at that time.

The reason for the time delay in receiving the grant, appears to be related to the amount of follow up required to satisfy the Grant Administrator on the '1 hectare rule' requirements. More than two years lapsed from the time the District was informed that the Project would not be exempt from the '1 hectare rule' to the time when the Grant Administrator was satisfied that the District had an equivalent requirement in place for the '1 hectare rule'. In the documentation reviewed, we noted a gap in the project history between July 2001 and March 2003. This is the period from when the District was informed that the Project would not be exempt from the '1 hectare rule', and the date the first proposal to satisfy the rule was submitted. The specific reason for this delay in the application process is not clear and could have had many contributing factors on both the part of the Ministry as well as the District.

Construction Inflation Impact

To quantify the extent of the impact of construction inflation on the Project, we compared final costs to the original 2001 baseline cost estimate. It was evident from this comparison that roughly 70-80% of the cost increases could reasonably be attributed to construction

inflation. The remaining 20-30% of cost increases were the result of unforeseen extras. These extras were primarily archaeological costs and the Mills Road realignment.

Based on an analysis of available construction market data, it is reasonable to conclude that it would have been very difficult for Staff to accurately predict the increases in construction costs due to construction inflation prior to letting the tenders. The construction index had been relatively flat from 2000 to 2004, with only a small increase of roughly 4%. The increase observed between 2004 and 2006 was an additional 40%. The project estimates prior to tendering included sufficient contingency to have accommodated the 4% trend noted in the 2000 to 2004 market data.

Regardless of Staff predictions or awareness, once the tender costs were known, it was Council who had the final authority to decide whether or not to go ahead with the Project based on the costs identified. The rationale for continuing with the Project despite the increase costs is discussed in Section 1.1.2 below.

8.1.2 Decision Making

Rationale for Project

At the time of Grant Application, in 2001 and shortly after, there appeared to be a strong business case and rationale to proceed with the Project. The documentation reviewed indicated that due to inherent soil conditions, onsite treatment of a significant number of developed lots in the area of concern could not be sustained long term. Further investigation of onsite issues and wastewater treatment alternatives was completed in 2001 by Giles Environmental Engineering and McCrae Engineering, respectively. These investigations provided further information in support of proceeding with the Project.

Key Decision Point

As of the July 11, 2005 Council meeting, Council was aware that the project would cost roughly \$4 million dollars more than anticipated. At this point in time, Council faced the decision to either continue with construction, knowing that the cost had escalated, or cancel the Project and attempt to further investigate alternatives. Either decision would have significant implications.

A decision to proceed would indicate that cost escalations were accepted and considered manageable and that sufficient public benefit would be derived from completing the project to justify the increased cost.

A decision to not complete the Project might have resulted in the District being non compliant with commitments made under the Saanich Peninsula Liquid Waste Management Plan (SPLWMP) which had been approved by the Minister. Residents would also continue to be faced with the repair of failing onsite septic systems until an alternative long term solution was in place. The potential risk to residents and the wider community regarding adverse environmental and health impacts from failing systems would also remain.

Another consideration could have been that construction costs would continue to increase with further delays and that investigations had already indicated the proposed project was the best long term solution.

Not completing the project at this stage would also have resulted in the potential forfeiture of the approved grant monies (roughly \$4 million), subject to reapplying for a new grant. In addition, the benefit of funds invested in the project up to that point (roughly \$130,000) may have been lost or reduced.

Considering the options available, continuing with the Project appears to have been the better of the two decisions for the community, based on a balance of consequences.

Referendum

It appears there was some intent during the early phases of the Project to hold a referendum related to the Project. However it was not clear, based on the information reviewed, whether or not a specific commitment to hold a referendum was announced to the public. It is also not clear what the intention was for that referendum to decide.

Council was not legally required to conduct a referendum based on the Environmental Management Act (or its predecessor, the Waste Management Act), The Community Charter or the Municipal Government Act. It is also evident that even if a referendum were held, it would have been non binding since the Project was to implement part of a Liquid Waste Management Plan that had been approved by the Minister following previous public consultation.

The Project was also exempt from a public referendum on borrowing above the Approval Free Liability Zone. This is because the Municipal Liabilities Regulation allows for exemption of Projects that are being implemented to satisfy all or part of an approved Liquid Waste Management Plan.

There was also no evidence to support that sustainable alternative systems could have been successfully and efficiently implemented in a timely manner to meet the commitments made under the Plan. Therefore a referendum on alternative options was not required.

Also, by adopting a resolution in May of 2001, to discontinue local treatment and disposal options, Council effectively limited the treatment alternatives for the Project, to one option - connection to the Regional System. Based on the technical and legal information available at the time as well as District requirements under the SPLWMP, it appears that the decision to proceed with the Project without a referendum was justified.

8.1.3 Public Relations and Communications

Referendum

It was clear from the documentation we reviewed, that a major public relation issue encountered during the course of the Project was related to the referendum. The level of communication that the Council relayed to the public explaining the commitments under the SPLWMP, the options available and the rationale for not conducting a referendum appeared to be insufficient to appease public inquiry. There was, and possibly still is today,

a perception amongst some members of the public that a referendum was required, or that sufficient alternatives had not been considered. Without adequate and appropriate explanation as to the rationale for why decisions were made, the public may have perceived that the democratic process had in some way been short-circuited, even if that was not the intent.

The level of public communication that was advisable on the referendum was explained in a May 23, 2001 Staff Report. The Council should therefore have been clear on this matter and the related issues and options. However, the importance of detailed explanation to the public appears to have been underestimated.

Other Challenges

Project correspondence to the public was also noted as a challenge. At times, information was conveyed that showed a high level of certainty for items such as project costs which would later change.

Based on records of Council minutes, there appeared to be concern raised that one or other contributor to the Project may have had more favourable contribution terms than residents. Based on a review of all available contribution information and Agreements, this does not appear to be case.

There also appeared to be concern that the property owners in the Project Area may have benefited from unwarranted subsidies due to the improper use of community based municipal taxation funds. A legal review of bylaw compliance was not conducted as this is out of the scope of this Project. However to put the matter into perspective, financial records show that less than 5% of total Project costs were obtained from community based municipal taxation funds. Based on perceived benefits to the community as a whole, from completing the Project, this appears both reasonable and justified.

The public relations and communication challenges discussed above could have been predominately avoided or mitigated through improved explanation to the public.

9 Project History

Date	Event	Commentary	Reference
1996-04-01	Saanich Inlet Study - Synthesis Report - Technical Version		BC Ministry of Environment, Land and Parks. <i>Saanich Inlet Study - Synthesis Report - Technical Version</i> . April, 1996
1996-10-01	Saanich Peninsula Liquid Waste Management Plan Adopted	Identified three generic areas as "proposed sewer areas" (Southeast Quadrant Area, Deep Cove and Patricia Bay Area, McDonald Park Road, and BC Ferries and Canoe Cove Area). A specific commitment was establish for permanent solutions within five years for the Southeast Quadrant Area and Deep Cove / Patricia Bay Area.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO</i> . June 23, 2004.
1999-08-01	Report on Soils relating to onsite Sewer issues in Southeast Quadrant	Report on soils constraints for on-site treatment and disposal of domestic wastewater in the southeast quadrant area of North Saanich.	Giles Environmental Engineering. <i>Soils Constraints for On-Site Treatment and Disposal of Domestic Wastewater in the Southeast Quadrant Area of North Saanich</i> . August 1999.
2000-01-01	Application for a Local Government Infrastructure Grant to serve the Deep Cove / Patricia Bay / McDonald Park Road Areas submitted	Program funding ran out without the District receiving any funds.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO</i> . June 23, 2004.
2000-11-16	Study of Treatment and Disposal of Domestic Wastewater for Deep Cove and Patricia Bay (DCPB) Area	Report considering on-site treatment and disposal of domestic wastewater in the DCPB area of North Saanich.	Study of the Treatment and Disposal of Domestic Wastewater from the Deep Cove and Patricia Bay Areas of North Saanich. Nov 16, 2000.
2001-02-01	Study of local discharge options for DCPB Domestic Wastewater	Report on local discharge options for domestic wastewater from the DCPB area.	Study of the Treatment and Disposal of Domestic Wastewater from the Deep Cove and Patricia Bay Areas of North Saanich, Local Discharge Options. February 2001.
2001-02-19	Council approved amendment of the Deep Cove / Patricia Bay Boundaries.	The amendment followed considerable public discussion.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO</i> . June 23, 2004.
2001-03-05	Council adopts Resolution 114	Resolution 114 indicates support of the Deep Cove, Patricia Bay, and McDonald Park Sewer Project and endorses the submission of a Canada/BC Infrastructure Grant Application for the Project.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO</i> . June 23, 2004.

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Date	Event	Commentary	Reference
2001-03-10	Application for Canada/BC Infrastructure Grant Submitted		District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2001-04-01	Newsletter to Residents of the DCPB Sewer Service Area		DNS Communications Committee. Newsletter to Residents of DCPB Sewer Service Area. April, 2001.
2001-05-08	Study of Treatment and Disposal of Domestic Wastewater for Deep Cove and Patricia Bay (DCPB) Area - Report No. 2, local discharge options, draft 2	Updated report on local discharge options for domestic wastewater from the DCPB area.	Giles Environmental Engineering. Treatment and Disposal of Domestic Wastewater for Deep Cove and Patricia Bay (DCPB) Area - Report No. 2, local discharge options, draft 2. May 8, 2001.
2001-05-14	Meeting of Committee of the Whole with representatives from McCrae and Giles Engineering firms as well as Earth Tech Canada Inc. Discussion of DCPB reports and options.	Discussion outcome reported that Local Treatment Options range between \$6 - \$6.8 million while regional options range between \$3.9 – 4.6 million. Recommended District discontinue consideration of local treatment and disposal options and proceed with the preliminary design of regional options. Carried.	Giles Environmental Engineering. <i>Treatment and Disposal of Domestic Wastewater for Deep Cove and Patricia Bay (DCPB) Area - Report No. 2, local discharge options, draft 2.</i> May 8, 2001.
2001-05-22	Alternative Wastewater Collection Systems Serving DCPB	<p>This study compared a conventional gravity sewer system to three alternatives (1) low pressure sewer system (2) septic tank effluent pumping and (3) septic tank effluent gravity. Note that no consideration was given at this time to alternative on-site treatment and disposal options. The outcome favoured a low pressure pumped system with some gravity sections.</p> <p>The estimated costs presented for the Deep Cove portion (Low pressure and gravity) was \$5,459,000 and the estimated cost for the Patricia Bay portion (conventional gravity) was \$846,000. The Deep Cove estimate also included \$678,000 of future O&M costs, presented at present value.</p>	McCRAE Engineering Consultants Ltd. <i>Alternative Wastewater Collection Systems Serving Deep Cove and Patricia Bay. s.l. : (ref: DNS File 9.2.3 vIII), May 22, 2001. Draft #2.</i>

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Date	Event	Commentary	Reference
2001-05-23	Council Report from Administrator on Local Treatment options and on Referendum	The report advised that Council was not required to hold a referendum if the area is covered by a Liquid Waste Management Plan. <i>Paraphrasing Section 18(9) of the Waste Management Act, if a waste management plan has been approved by the Minister, a by-law to implement the waste management plan does not require an opportunity for the electors to petition against it.</i> The Report also asked for clarity from Council on whether all onsite options would no longer be considered.	
2001-05-28	Council adopts Resolutions 231 & 237 - The District would discontinue consideration of local treatment and disposal options and proceed with preliminary design of regional options that connect to the Saanich Peninsula Waste Water Treatment Plant (SPWWTP).	Council clarified that the intent of the motion was to: (1) No longer consider alternative systems of disposal; (2) The only treatment system that council would consider is connection to the SPWWTP; (3) That all properties within the project area would eventually have to be hooked up to the system, and onsite retention systems would not be permitted; (4) That no referendum be held on the issue.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2001-05-28	A motion to discontinue consideration of local treatment and proceed with preliminary design and motion to accepted tender bid for Contract N2.	A motion was carried to discontinue consideration of local treatment and disposal options and proceed with preliminary design of regional options that connect to the Saanich Peninsula Wastewater Treatment Plant.	District of North Saanich. <i>Council Minutes of Special Meeting. May 28, 2001.</i>
2001-06-04	Council authorized amendment of Map 2 of the LWMP	The plan was amended to reflect the revised service area boundaries for Deep Cove/ Patricia Bay.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2001-06-18	Council discussed and postponed a resolution regarding a timetable for requiring serviced properties to connect to the system		District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2001-06-25	A resolution was adopted to prepare appropriate bylaws to allow the Deep Cove/ Patricia Bay Project to proceed	Bylaw would allow the District to proceed with project.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>

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Date	Event	Commentary	Reference
2001-06-25	Council resolution that the McDonald Park Road area not be included for sewerage at the present time, but this decision should be reviewed in 2002.	The review of this exclusion and final adoption by council was completed June 28, 2004.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2001-07-16	Council discussed and postponed a resolution regarding a timetable for requiring serviced properties to connect to the system		District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2001-07-17	Letter from the Grant Program requesting confirmation that a bylaw is in place that requires service to all lots less than 1ha in size.	The Program advised that the exemption granted for the Southeast Quadrant Project would not be applicable to the Deep Cove / Patricia Bay Project.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2001-09-17	Bylaw No. 978 - Deep Cove/Patricia Bay Collection System Specified Area (Sewer Area No. 3) adopted.		District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2002-01-21	Concern raised to Council on investigation of alternative sewer solution and costs of proposed piped project.	Citizen raises concern that decision to halt investigation of alternatives to sewer issue was based on poor data and information and that no investigation has occurred as to what the problem in the area may or may not be. Concern about costs of proposed project	Giles Environmental Engineering. <i>Treatment and Disposal of Domestic Wastewater for Deep Cove and Patricia Bay (DCPB) Area - Report No. 2, local discharge options, draft 2. May 8, 2001.</i>
2002-01-23	Saanich Peninsula Liquid Waste Management Plan (SPLWMP) amended to match the boundaries specified in of Sewer Area No. 3 (bylaw No. 978)	Map 2 of the SPLWMP was amended to match the boundaries of the Sewer Area No. 3 Plan. The amendment was approved by the Ministry of Water, Land and Air Protection	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2003-03-12	Council considers and rejects bylaw amendments to introduce a "1ha rule" for subdivision of properties outside sewerage areas		District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>

District of North Saanich – DC/PB/MP Sewer Project Review

Date	Event	Commentary	Reference
2003-03-25	Letter from Minister regarding the Grant application process and the request to by the District to waive the "1ha rule". The Ministry noted that the requirement would only be one of many factors considered for granting of funds under the program, and would not preclude the District from receiving funds.	The letter also provides insight into the demand for the project, noting that 700 application worth \$2.2 billion being received for \$800 million in available funding.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2003-05-02	Letter from Grant Program	The Districts proposal (March 06, 2003) for an alternative to the "1ha" rule is not acceptable. The District was encouraged to develop alternate approaches that would be acceptable.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2003-07-17	Letter from Grant Program	The letter indicated that the District's adoption of the new Vancouver Island Health Authority Subdivision Standards would remove a major obstacle to the District's application	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2003-08-18	Council adopts Resolution No. 506	Approved the adoption of the Vancouver Island Health Authority Subdivision Standards.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2003-10-23	Letter from Grant Program	The Program advised that action taken by the District (referring to Resolution No. 506) to satisfy an equivalency to the "1ha rule" would now make the District eligible for funding. The letter also advised that Program funding was running out.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2004-03-11	Canadian Environmental Assessment Agency Environmental Assessment Report forwarded to Western Economic Diversification Canada.		District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2004-03-15	Approval for \$4M Infrastructure Grant for Deep Cove Patricia Bay (DCPB) Sewer Project	Reported to Council	Earth Tech (Canada) Inc. <i>Comparison of Local and Regional Options for the Treatment and Disposal of Wastewater from Deep Cove and Patricia Bay. May 10, 2001.</i>
2004-05-15	Conditional Grant funding approved	Announcement of the conditional approval of a Grant up to a maximum of \$3,975,026 towards the project.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>

District of North Saanich – DC/PB/MP Sewer Project Review

Date	Event	Commentary	Reference
2004-05-21	A draft of the Grant Contract received	The draft outlines project completion timelines, but not a list of eligible/ineligible items.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2004-05-31	A revised EA document is sent to Western Economic Diversification Canada.		District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2004-06-23	Recommendation to amend bylaw No. 978 to include McDonald Park Road.	A recommendation was put forth by the Municipal Engineer to amend Bylaw No. 978 to include the McDonald Park Road Sewer System.	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2004-06-23	Staff report of June 23, 2004 indicated that cost estimates from 2001 were still considered valid.	Report indicated that project costs from 2001 had been reviewed and, as of the report date, June 23, 2004 were still felt to be adequate since the original estimate included contingency for inflation	District of North Saanich. <i>Staff Report from Municipal Engineer to CAO. June 23, 2004.</i>
2004-06-28	Design approval and inclusion of McDonald Park Area	Council approved: (1) Detailed design of sewer system for Deep Cove and Patricia Bay commence immediately, and construction commence in February, 2005, with completion by March 31, 2006; (2) Bylaw No. 978 "Deep Cove/Patricia Bay Sewer Collections System Specified Area (Sewer Area No. 3) to be amended to include the McDonald Park Road Sewer Area; (3) Detailed design of the McDonald Park Road Sewer Area to commence in 2005 and construction to be carried out in 2006, and; (4) A Residents Liaison Committee be established	District of North Saanich. <i>Special Council Minutes. June 28, 2004.</i>
2004-09-11	Information was provided to the public that cost estimates for the project were intentionally conservative and that overages were highly unlikely	A Frequently Asked Questions document included: (1) a statement that "cost estimates used for the project are intentionally conservative and it is highly unlikely that final costs will be higher than these estimates" (2) an estimated cost assessment per property of \$9,800 - \$11,200. It was not clear what the extent of distribution of this document was (U-641.04)	District of North Saanich. <i>Project FAQ U-641.04. November 09, 2004. Level of Distribution Unknown.</i>
2004-10-01	Project Newsletter #1 Released to Public	Public newsletter to advise public of project background, progress and scheduling. The cost project was noted as \$5,773,500, with available grant funding of \$3,975,036.	District of North Saanich. <i>Project Newsletter #1. October 01, 2004.</i>

District of North Saanich – DC/PB/MP Sewer Project Review

Date	Event	Commentary	Reference
2004-12-01	Agreement on Grant funding between the District of North Saanich and the Province of BC on funding of the Deep Cove/Patricia Bay Sewer Project is signed	(1) The Grant was to reimburse the District for the lesser of: 2/3 of Eligible Project Costs, or the sum of \$3,975,026. (2) The Agreement stipulates that the project shall be completed by the 31st of March, 2006.	District of North Saanich and Province of BC. <i>Grant Funding Agreement</i> . December, 2004.
2005-01-01	Project Newsletter #2 Released to Public	Public newsletter to advise public of project progress and scheduling. The estimated cost assessment per property of \$9,800 - \$11,200 was once again re-iterated.	District of North Saanich. <i>Project Newsletter #2</i> . January, 2004.
2005-03-08	Concern raised related to rock/soil and groundwater issues, and meeting grant deadlines.	(1) The project update to Liaison Committee indicated that rock, groundwater and soil concerns near Wain Road and in the Towner/Madrona Area may present issues during construction. This comment cited the first geotechnical investigation report. (2) Concern was also expressed by committee members related to the project schedule and meeting the Grant timelines.	Deep Cove/Pat Bay/McDonald Park Road Sewer Area Residents Liaison Committee. <i>Meeting Notes</i> . March 08, 2005
2005-05-10	Rumor of project cost increase	A rumor had circulated that the project cost had escalated to \$15,000,000. The rumor was not confirmed at the meeting.	Deep Cove/Pat Bay/McDonald Park Road Sewer Area Residents Liaison Committee. <i>Meeting Notes</i> . May 10, 2005
2005-06-29	Letter from Vancouver Island Health Authority	VIHA recommended that 25 properties be connected to the sewer due to "very poor soil and site conditions". VIHA is the only body that approves, rejects and maintains records of on site septic systems.	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . January 31, 2006.
2005-07-05	District of North Saanich requested an increase in the funding grant for the Deep Cove/Patricia Bay Sewer Project, and consideration for a late application for the McDonald Park Sewer Project under the BC Community Water Improvement Program	(1) An increase for Grant funding was requested to the Minister of Community Services in a briefing note. The briefing note only cited that tender costs for the project had come in considerably over budget. (2) The District of North Saanich appeared to be unaware of potential funding opportunities under the BC Community Water Improvement Program, and consequently failed to apply before the Program deadline.	Briefing Note for Minister of Community Service. July 05, 2005

District of North Saanich – DC/PB/MP Sewer Project Review

Date	Event	Commentary	Reference
2005-07-11	Council Meeting public participation	Public frustration was relayed related to the Sewer Project. These complaints were primarily focused on: (1) Concerns with project cost increases (2) Lack of communication from the District (3) Lack of a public referendum	District of North Saanich. <i>Council Minutes</i> . July 11, 2005.
2005-07-24	Letter submitted from the North Saanich Residents Association to the Mayor and Council of the District of North Saanich	The Residents Association noted concern regarding what seemed to them to be a lack of consideration for construction cost inflation in the project estimates as well as other budgetary items. This letter was a response to a general letter submitted by the Director of Infrastructure Services to all property owners.	
2005-08-01	Newsletter #3 Released to Public	Public newsletter to advise public of project progress and scheduling. The newsletter advised that the project will now cost significantly more, and residents should expect to pay roughly \$17,952 per parcel, up from the \$9,800 - \$11,200 previously reported. The District advised that it would look at other grant options and review the design in an attempt to lower the cost.	District of North Saanich. <i>Project Newsletter #3</i> . August, 2005.
2005-08-15	Council approves the award of Contracts # 1 and #2 (Resolutions Nos. 516 and 517, respectively).	Contract #1: awarded to C-1 Contractors Ltd. For an amount of \$3,728,295 plus GST. The Contract covers Deep Cove and the westerly portion of the Trunk Sewer Main. Contract #2: awarded to G&E Equipment Rentals Ltd. For an amount of \$3,077,573 plus GST. The Contract covers Patricia Bay and the remainder of Deep Cove.	District of North Saanich. <i>Council Meeting Minutes</i> . August 15, 2005.
2005-08-15	Council approves alternate funding sources (Resolutions 518-521)	(Resolution 518): The District will apply for a BC Community water Improvement Program Grant for Deep Cove/Patricia Bay portion, citing inflating construction costs; (Resolution 519): The District will apply for a BC Community water Improvement Program Grant for the McDonald Park Road portion; (Resolution 520): If the above grant application are unsuccessful, the trunk main from Munro to Canora will be partially funded by the Sewer Utility (Resolution 521): If either of the above grant application are unsuccessful, \$480,000 of the project will be funded by the Local Improvement Reserve Fund.	District of North Saanich. <i>Council Meeting Minutes</i> . August 15, 2005.

District of North Saanich – DC/PB/MP Sewer Project Review

Date	Event	Commentary	Reference
2006-01-05	Letter from Ministry of Community Services	Notification that the two Grant submissions were unsuccessful	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO. February 9, 2006.</i>
2006-02-06	Updated Project Cost Estimates	\$13,589,800 / \$17,905 per property. Contracts 1&2 40% complete. Design and contract Admin %70 complete. Administration %50 complete. Other costs are still estimates	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO. February 06, 2006.</i>
2006-02-07	Agreement on Grant funding between the District of North Saanich and the Province of BC on funding of the Deep Cove/Patricia Bay Sewer Project is Amended	In light of project scheduling, The Agreement was amended by changing the Project Completion date from March 31, 2006 to March 31, 2007.	District of North Saanich and Province of BC. <i>Grant Funding Agreement Amendment. December, 2004.</i>
2006-02-20	Council meeting approving alternative funding use	\$288,612 be borrowed and repaid by the Sewer Fund to lower the estimated connection cost for Area No. 3 by \$537 per property	District of North Saanich. <i>Council Minutes. February 20, 2006.</i>
2006-03-01	Project Newsletter #4(a) released to Public	Public newsletter to advise public of project cost and progress updates. Contracts #1 and #2 are 70% and 55% complete, respectively.	District of North Saanich. <i>Project Newsletter #4(a). March, 2006.</i>
2006-06-19	Council meeting approving alternative funding use and an increase for consulting fees	(1) \$240,000 from the Local Improvement Reserve Fund be used to offset project cost to lower the estimated connection cost for Area No. 3 by \$439 per property (2) A consulting fee increase of \$215,000 for 1st Team Engineering was approved.	District of North Saanich. <i>Council Minutes. June 19, 2006.</i>
2006-07-01	Project Newsletter #5 released to Public	Public newsletter to advise public of project cost and progress updates. Contracts 1,2,3 and 4 are 98%, 80%, 25% and 0% complete, respectively.	District of North Saanich. <i>Project Newsletter #5. July 2006.</i>

District of North Saanich – DC/PB/MP Sewer Project Review

Date	Event	Commentary	Reference
2006-07-05	Letter from resident	<p>A letter outlined a potential conflict with Resolution No. 439 (using \$240,000 from Local Improvement Reserve Fund to finance sewer project). The resident felt the resolution contravened Bylaw 1068, 2004 and conflicted with the provisions of the Community Charter.</p> <p>The letter stated:</p> <p>(1) Bylaw 1068, 2004 requires that all costs associated with the Sewer Project be borne by the owners of the real property affected.</p> <p>(2) The Community Charter requires that all costs be recovered through parcel tax on real property impacted.</p> <p>(3) The Local Improvement Fund was misallocated under the resolution since it requires one, a 2/3 affirmative vote for approval, and two, that the fund is only used for new sewer projects. He felt that the use under Resolution 439 was to subsidize the costs of the project to make it more palatable for residents affected by the project.</p>	Letter to Council, Re: Resolution 439. July 05, 2006.
2006-08-21	Council approved funds for Contract #4 - McDonald Park Road Area Sewerage System.	\$2,248,300 was awarded to C1 Contractor Ltd. This number included \$450,000 for water main repairs, bringing the actual tender for Contract #4 to \$1,798,300.	District of North Saanich. <i>Minutes of the Meeting of Committee of the Whole.</i> August 21, 2006
2006-08-21	Council approves amendments of Bylaws 1070 and 1068.	<p>(1) Amendments were to correct issues noted by resident in correspondence sent July 05, 2006. The resident later expressed concern that the Bylaws were still in conflict because they were now being retroactively applied to fit earlier decisions.</p> <p>(2) A request to have residents repay the \$240,000 from the Local Improvement Reserve Fund was defeated by council.</p>	District of North Saanich. <i>Minutes of the Meeting of Committee of the Whole.</i> August 21, 2006
2006-08-21	Council requested that District staff review Project contributions by the Victoria Airport Authority to ensure contributions are appropriate.	Staff to review if VAA contribution should be increased and report back	District of North Saanich. <i>Minutes of the Meeting of Committee of the Whole.</i> August 21, 2006

District of North Saanich – DC/PB/MP Sewer Project Review

Date	Event	Commentary	Reference
2006-12-01	Project Newsletter #6 released to Public	Public newsletter to advise public of project cost, progress updates, pump connections and archeological issues. Cost projections now indicate a connection cost of \$17,494 per parcel.	District of North Saanich. <i>Project Newsletter #6</i> . December, 2006.
2007-01-09	Staff Report with Project Cost Summary	Report provided cost summary to date for the project and recommended: (1)\$242,500 of archaeological spending be removed from project and funded elsewhere; (2)\$260,000 for constructing storm outfalls be removed from the project and funded elsewhere;	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . January 09, 2007.
2007-02-21	Staff Report requesting aesthetic and archeological costs be removed from project costs.	Report recommended once again that: (1)\$242,500 of archaeological spending be removed from project and funded elsewhere; (2)\$260,000 for constructing storm outfalls be removed from the project and funded elsewhere	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . February 21, 2007.
2007-02-26	Council approves removing some of archeological spending and all of outfall spending from the Sewer Project	(1)\$242,500 of archaeological spending be removed from project. Compensation to be sought from Provincial Government; (2)\$260,000 for constructing storm outfalls be removed from the project and funded elsewhere	District of North Saanich. <i>Council Minutes. February 26, 2007</i> .
2007-03-07	Staff Report recommending that funding be allocated to address aesthetic concerns at 7 lift stations.	Recommendation: \$200,000 Also, it was noted that a petition of 119 names was received relaying aesthetic concerns. Of the 119, it was noted that 45% of the respondents were from outside the sewer project area and 14% were from outside North Saanich.	District of North Saanich. <i>Staff Report from Director of Infrastructure Services to CAO</i> . March 07, 2007.
2007-03-14	Council approves \$300,000 be used for aesthetic improvement of 7 lift stations (Resolution 112)	Earlier considerations were for \$200,000 - \$470,000 for this work. With \$200,000 being recommended.	District of North Saanich. <i>Minutes of the Special Meeting. March 14, 2007</i> .
2007-04-01	Project Newsletter #7 released to Public	Parcel Tax as Bylaw 1140 is now \$17,593.	District of North Saanich. <i>Project Newsletter #7</i> . April, 2007.
2007-08-01	Newsletter circulates from the North Saanich Residents Association	The Newsletter was critical of the project. There was perception that other municipal funds were diverted to the offset escalating costs, when the project was supposed to be a user pay project. The letter was also critical of the draft Sewer Connection Policy by saying that it may not coincide with the Official Community Plan and Community Charter.	North Saanich Residents Association. <i>Newsletter</i> . August, 2007.

District of North Saanich – DC/PB/MP Sewer Project Review

Date	Event	Commentary	Reference
2009-06-23	BC Ferries Agreement to discharge Land and vessel effluent to McDonald Park lift station.	<p>Capital contributions: \$611,192 - one time capital contribution \$141,525 - one time capital treatment plant contribution \$50,000 - one time future capital treatment plant contribution</p> <p>O&M contribution is the rate set by District, currently set at \$389/m³ multiplied by the average flow calculated over 12 months.</p>	BC Ferries Agreement June 23, 2009.
2010-02-15	New North Saanich Middle School Sewer Connection	Report from Director of Infrastructure Services Feb 10, 2010 re connection to sewer 10400 McDonald Park Rd and calculation of contributions, approved by Council. (7)	McCRAE Engineering Consultants Ltd. <i>Alternative Wastewater Collection Systems Serving Deep Cove and Patricia Bay. s.l. :</i> (ref: DNS File 9.2.3 VIII), May 22, 2001. Draft #2.
2010-03-30	Parcel Tax and User Rates Increased	CRD Sewer Debt parcel tax increased to \$17.34 and annual user rate increased to \$405.90 (8)	District of North Saanich. <i>Council Minutes.</i> Jan 21, 2002.

10 Financial Tables

Table 10-1 Budget Summary Table – As of May, 2011

General Ledger Account	Account Codes	Budget	Actual	Budget Variance
DPC/PB/MP SEWER PROJECT:	06-2-1012			
Labour	06-2-1012-0115	\$ 75,000	\$ 79,871	\$ (4,871)
Benefits	06-2-1012-0150	\$ 25,000	\$ 29,294	\$ (4,294)
Admin Fee/Charge	06-2-1012-0190	\$ 56,000	\$ 55,050	\$ 950
Advertising	06-2-1012-0610	\$ 5,000	\$ 2,061	\$ 2,939
Legal	06-2-1012-1015	\$ 1,000	\$ 492	\$ 508
Land Acquisitions and Easements	06-2-1012-1017	\$ 115,000	\$ 107,323	\$ 7,677
Surveying	06-2-1012-1025	\$ 10,000	\$ 4,600	\$ 5,400
Equipment Charge Outs	06-2-1012-1410	\$ 40,000	\$ 34,239	\$ 5,761
Inventory	06-2-1012-1415	\$ -	\$ 4,791	\$ (4,791)
Materials and Supplies	06-2-1012-1420	\$ 40,000	\$ 63,859	\$ (23,859)
Contracted Services - Pump Reimbursement	06-2-1012-1425	\$ 489,100	\$ 392,366	\$ 96,734
Contracted Services - Others	06-2-1012-1425	\$ 200,000	\$ 236,631	\$ (36,631)
Contracted Services-Lift Station Aesthetic Treatment	06-2-1012-1425	\$ 164,852	\$ 42,227	\$ 122,625
Design & Engineering-1st Team Consulting Ltd.	06-2-1012-2393	\$ 1,160,000	\$ 1,174,400	\$ (14,400)
Consultants - George Giles Environmental Engine	06-2-1012-2394		\$ 8,092	\$ (8,092)
Delcan Corp	06-2-1012-2398	\$ 240,000	\$ 246,529	\$ (6,529)
Consultants - Others	06-2-1012-2399	\$ 20,000	\$ 5,417	\$ 14,583
Contract #1	06-2-1012-2511	\$ 3,244,000	\$ 3,270,148	\$ (26,148)
Contract #2	06-2-1012-2512	\$ 2,830,000	\$ 2,790,715	\$ 39,285
Contract #3	06-2-1012-2513	\$ 3,074,800	\$ 3,021,782	\$ 53,018
Contract #4	06-2-1012-2514	\$ 1,925,000	\$ 1,845,866	\$ 79,134
Interim Financing	06-2-1012-5120	\$ 558,000	\$ 539,519	\$ 18,481
MFA Ltd Admin Expense	06-2-1012-5125		\$ 57,922	\$ (57,922)
Sub-Total	06-2-1012	\$ 14,272,752	\$ 14,013,196	\$ 259,556
Pat Bay Archeological Costs	06-2-1016	\$ 372,000	\$ 470,968	\$ (98,968)
McDonald Pk Rd Archeological Costs	06-2-1026	\$ 50,000	\$ 25,942	\$ 24,058
Total		\$ 14,694,752	\$ 14,510,106	\$ 184,646

Table 10-2 Contribution Summary Table

Contribution Source	Amount
Canada-BC Infrastructure Grant	\$ 3,975,026
Community Works Grant	\$ 220,038
Victoria Airport Authority	\$ 364,750
Specified Area Charge	\$ 1,776,896
Other Contributions	\$ 2,000
Long Term Debenture Debt	\$ 7,722,907
Sub-Total	\$ 14,061,617
District of North Saanich (comprised of items below)	
District Funded (from User Fees & Charges)	
<i>Sewer Operating Fund</i>	\$ 243,180
District Funded (from Community Based Taxation)	
<i>Local Area Services Fund</i>	\$ 240,000
<i>General Operating Fund</i>	\$ 132,033
District of North Saanich Sub-Total	\$ 615,213
Total	\$ 14,676,829

Table 10-3 Schedule of Unspent Funds

Project Description	Amount
<i>DC/PB/MP Sewer Project</i>	
Pump Reimbursements	\$ 96,734
Other Unspent Items	\$ 69,989
Sub-Total	\$ 166,723
<i>Other Items in the Reserve (06-4-0000-4100)</i>	
2010 BC Ferries Contribution	\$ 802,717
2010 NS Middle School Contribution	\$ 129,280
Sewer Engineering Structure in General	\$ 24,862
Sub-Total	\$ 956,859
Total	\$ 1,123,582

11 References

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- ⁱⁱ District of North Saanich. Staff Report from Director of Infrastructure Services to CAO. February 21, 2007.
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- ^v District of North Saanich. Staff Report from Director of Infrastructure Services to CAO. July 15, 2008.
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- ^{xvii} Email correspondence. B.Simon to J.Sabourin. June 20, 2011, 11:42.
- ^{xviii} District of North Saanich and Government of BC. Canada/BC Infrastructure Grant Program Agreement. January 17, 2005.
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