



COUNCIL REPORT

File:

Date: December 6, 2008

From: Lynda Floyd, Chief Administrative Officer

Subject: **Village of Belcarra Water Supply and Distribution Local Area Service No. 1 Establishment and Loan Authorization Bylaw No. 413, 2008**

Purpose:

To present Village of Belcarra Water Supply and Distribution Local Area Service No. 1 Establishment and Loan Authorization Bylaw No. 413, 2008 for three readings and referral to the Inspector of Municipalities for authorization to exceed borrowing limit set by regulation.

Recommendation for Consideration:

1. That Village of Belcarra Water Supply and Distribution Local Area Service No. 1 Establishment and Loan Authorization Bylaw No. 413, 2008 be read a first, second and third time.
2. That a written request be sent to the Inspector of Municipalities requesting authorization for the Village of Belcarra to exceed its liability servicing limits set out by regulation.

Background:

By letter dated February 26, 2008 the Village of Belcarra was informed that it would receive grant funding under the Canada-British Columbia Municipal Rural Infrastructure Fund of a maximum federal/provincial contribution of \$4,035,266.00 towards a potable water supply and distribution project. Under the MRIF grant guidelines, the remainder of the project is funded by the municipality.

To cover its share of the project costs, the municipality will have to borrow the money through the Municipal Finance Authority of British Columbia (MFA). The Community Charter legislates that, in order to borrow the money for the project, Council must:

1. establish a local area service to provide municipal water. The required bylaw defines the properties which will benefit from and may connect to the municipal water system, identifies how the costs for the service will be recovered, ie parcel tax; and
2. adopt a loan authorization bylaw which sets the maximum amount of money that may be borrowed and the maximum term for the debt, which may not exceed 30 years.

The local area service establishment and loan authorization may be done in one bylaw and is provided for in Bylaw 413, attached to this report for consideration.

Village of Belcarra Water Supply and Distribution Local Area Service No. 1 Establishment and Loan Authorization Bylaw No. 413, 2008

Local Area Service Boundaries

The proposed Bylaw 413 local area service boundaries create a contiguous area, the properties included on the basis of the following criteria:

1. the property fronts the watermain;
2. the property fronts a municipal road allowance;
3. the property is developed or has a potential for development and is within the Village of Belcarra;
4. the property is developed or has a potential for development and is within the Village of Belcarra near a municipal road allowance; and
5. the property has a potential for development and connection to the watermain and is within a portion of the park boundary.

Financial Considerations:

The 2006 grant application based on Dayton & Knight Ltd.'s Potable Water Sturdy Preferred Option Pre-design Study, December 2006, identified project costs estimated at \$6,052,900.

After receiving the grant notification, taking into consideration the economic climate changes between 2006 and 2008, increased construction costs, and additional works identified during the preparation of Belcarra's Environmental Assessment submission to Western Economic Diversification Canada, Dayton & Knight provided a March 2008 updated project cost estimate of \$6,864,000.

The March 2008 estimate states "the cost of construction increased between 5 and 15% per year from 2006 to 2008. The percentage is dependant on the type of construction. Building and mechanical construction has increased at higher rates than that of conventional municipal infrastructure, such as buried pipelines. The work to be completed for the Village involves both building and mechanical construction, such as the marine pipeline and valve chambers, and conventional municipal infrastructure.

In addition to construction inflation the project scope has been revised based on additional information."

The updated construction costs are summarized below.

CONSTRUCTION COST UPDATE SUMMARY

Item	Description	Cost Est. (2008)	Cost Est. (2006)	% Change
1	HDPE Marine Watermain	\$2,085,000	\$2,560,300	+4%
2	DNV Vault	\$253,000		
3	VOB Valve Chamber	\$325,000		
4	Deane Place PRV	\$210,000	\$180,000	+17%
5	Municipal Watermains	\$2,605,000	\$2,236,000	+17%
6	Service Connections	\$1,386,000	\$1,076,600	+29%
TOTAL (Excl. GST)		\$6,864,000	\$6,052,900	+13%

Village of Belcarra Water Supply and Distribution Local Area Service No. 1 Establishment and Loan Authorization Bylaw No. 413, 2008

The total project cost is estimated to be 12% higher, or 6% per year for two years. This accounts for uncertainty within the scope of the project, timing and changes in design assumptions. As the project develops this contingency is reduced. At the time of tendering a 10% contingency is typically recommended.

The 25% contingency within the 2006 estimate resulted in a sum of \$1,087,000. As this project is further defined the contingency has been reduced to 15%.

Loan Authorization and Amortization Period

Bylaw 413 proposes a 20 year debenture in the maximum amount of \$3,020,926, with repayment via a parcel tax on the properties within the benefitting local area service. The loan estimate calculations follow, figures for a 15, 25, and 30 year debenture are shown for comparison purposes should a different debenture period be desired:

	20 Year Amort.	15 Year Amort.	25 Year Amort.	30 Year Amort.
Total Project Estimate - D&K March 2008	6,864,000.00	6,864,000.00	6,864,000.00	6,864,000.00
Less MRIF Grant	4,035,266.00	4,035,266.00	4,035,266.00	4,035,266.00
Belcarra's Project Share	2,828,734.00	2,828,734.00	2,828,734.00	2,828,734.00
Add Interim Financing Costs est. @ 4% int.	192,192.00	192,192.00	192,192.00	192,192.00
Loan Authorized by Bylaw est. @ 6% int.	3,020,926.00	3,020,926.00	3,020,926.00	3,020,926.00
Amortized Annual Debt Repayment	282,703.54	332,123.93	253,793.92	235,118.97
Benefitting Properties in Local Area Service	281	281	281	281
Parcel Tax Annual Debt Repayment	1,006.06	1181.94	903.18	836.72

The long term and interim borrowing would be done through the Municipal Finance Authority. Interim borrowing benefits include:

- lower interest rates than conventional lending sources - prime less approximately 1.25%
- lending terms up to five years
- repayment without penalty on one day's notice

BC Regulation 254/2004 "Municipal Liabilities Regulation" sets a municipal liability servicing limit at 25% of the previous year's revenue. Using Belcarra's 2007 revenue of \$813,914, the liability servicing limit is set at \$203,478.50. In each of the scenarios above, the annual debt repayment will exceed its servicing limit. Authorization from the Inspector of Municipalities to exceed this limit will be required after third reading of Bylaw 413.

Next Steps in Process to Adopt Bylaw 413:

- Obtain authorization to exceed servicing limits from the Inspector of Municipalities;
- Seek assent of the electors through the Council Initiative process.

Village of Belcarra Water Supply and Distribution Local Area Service No. 1 Establishment and Loan Authorization Bylaw No. 413, 2008

Alternatives:

- Council may request changes to proposed Bylaw 413; or
- Council may give three readings and forward to the Inspector of Municipalities for authorization to exceed servicing limits set by BC Regulation 254/2004

Attachments:

- Dayton & Knight Ltd. Construction Cost Estimates – 2008 Update, March 18, 2008
- Bylaw 413, 2008

March 18, 2008

VIA EMAIL AND MAIL

Mr. Larry Scott
Superintendent Public Works
Village of Belcarra
4084 Bedwell Bay Road
Belcarra, BC
V3H 4P8

Dear Mr. Scott:

**RE: Village of Belcarra Potable Water Supply & Distribution System
Construction Cost Estimates – 2008 Update**

Dayton & Knight has reviewed the proposed scope of work necessary for the design and construction of a potable water supply and distribution system for the Village of Belcarra. The review has been based on the following:

- The 2006 Preferred Option Pre-Design report;
- The 2006 Foreshore Environmental Assessment and Video of the proposed alignment;
- Meetings with the Vancouver-Fraser Port Authority (VFPA) and Burrard Inlet Environment Review Committee (BERC); and
- Meetings with the District of North Vancouver.

Based on the review of the above, and the most recent sea bed assessment, we have updated our 2006 cost estimates to 2008 construction costs.

1.0 BASIS OF COST UPDATE

The cost of construction increased between 5 and 15% per year from 2006 to 2008. The percentage is dependant on the type of construction. Building and mechanical construction has increased at higher rates than that of conventional municipal infrastructure, such as buried pipelines. The work to be completed for the Village involves both building and mechanical construction, such as the marine pipeline and valve chambers, and conventional municipal infrastructure.

In addition to construction inflation the project scope has been revised based on additional information. Adjustments in each of the major elements are outlined below.

1.1 Marine Crossing

The cost update for the marine crossing has involved a change in the design assumptions applied during the 2006 pre-design due to the additional information collected by Foreshore technologies and discussions with Fraser River Pile and Dredge, which is one of several potential contractors for this work. These changes include:

- Additional armouring and pipe protection between Boulder Island and the Belcarra shore;
- Addition of fill material due to the submerged rock bluffs in Belcarra; and
- Adjustments to the alignment around the north side of Grey Rock Island in the District of North Vancouver (DNV).

In addition, it is understood from discussions with the DNV that the valve chamber on the DNV side would be owned and operated by the Village of Belcarra. It has been assumed that this chamber must be designed such that it will not be classified as “confined space entry”, necessitating larger access hatches.

DNV has also indicated that two 150 mm diameter supply lines should be installed from the Strathcona Road water main, along with an additional 200 mm diameter mainline valve. This will permit the DNV to isolate a portion of the distribution system without restricting the Belcarra supply. This is in addition to a meter by-pass with check valve.

The cost estimates used in 2006 were based on a buried pre-cast valve chamber located in Belcarra. To improve access it is understood that this valve chamber is to be an above ground masonry block building.

1.2 District of North Vancouver System Upgrades

Upgrades to the Deane Place PRV are required based on hydraulic modeling previously completed by DNV. A review of the existing PRV station was completed by Dayton & Knight staff on February 15, 2008. Information from this visit has been incorporated into the cost estimate.

1.3 Municipal Water Mains

In 2007 Dayton & Knight purchased the Cadastral base map from the Province of B.C. for the Village of Belcarra, resulting in a higher level of accuracy for water main length measurements. These lengths have been updated in the new cost estimate. It should be recognized that the final lengths can only be accurately determined following detailed design based on field surveys.

An additional cost has been included to connect the Tatlow Road reservoir to the DNV marine supply with a dedicated 200 mm diameter watermain. This dedicated line will improve system control and reduce the risk of water stagnation within the reservoir and chlorine levels below the minimum acceptable levels near the end of the system.

1.4 Service Connections

It is understood that the Village would like to install a fixed radio network for collection of the water meter readings. At this time this type of meter infrastructure has been assumed. The original estimates were based on a manual read system.

2.0 CONSTRUCTION COST ESTIMATES

The updated construction costs are summarized below in Table 2-1. Complete cost estimate tables are attached.

**TABLE 2-1
CONSTRUCTION COST UPDATE SUMMARY**

Item	Description	Cost Est. (2008)	Cost Est. (2006)	% Change
1	HDPE Marine Watermain	\$2,085,000	\$2,560,300	+4%
2	DNV Vault	\$253,000		
3	VOB Valve Chamber	\$325,000		
4	Deane Place PRV	\$210,000	\$180,000	+17%
5	Municipal Watermains	\$2,605,000	\$2,236,000	+17%
6	Service Connections	\$1,386,000	\$1,076,600	+29%
TOTAL (Excl. GST)		\$6,864,000	\$6,052,900	+13%

The total project cost is estimated to be 12% higher, or 6% per year for two years.

It is typical within pre-design level estimates to include a 25% contingency. This accounts for uncertainty within the scope of the project, timing and changes in design assumptions. As the project develops this contingency is reduced. At the time of tendering a 10% contingency is typically recommended.

The 25% contingency within the 2006 estimate resulted in a sum of \$1,087,000. As this project is further defined the contingency has been reduced to 15%.

The following scope changes account for the majority of the price adjustments.

**TABLE 2-2
SUMMARY OF MAJOR COST ADJUSTMENTS**

	Updated Cost (2008)	Original Cost (2006)	Change
Dedicated reservoir supply line	\$287,000	-	\$287,000
DNV valve vault and VOB valve building	\$577,000	\$290,000	\$287,000
Municipal watermains	\$1,276,000	\$1,000,000	\$276,000
Residential Service Connections	\$1,386,000	\$1,076,000	\$309,400
Contingency adjustment	(\$414,000)	-	(\$414,000)
		TOTAL	\$745,400

The remaining adjustment is largely associated with materials and labour cost increases.

3.0 CLOSURE

We trust the above meets your requirements. If you have any questions please do not hesitate to contact the undersigned.

Yours truly,

Dayton & Knight Ltd.

Reviewed by:

Walt Bayless, P.Eng.

Jack Lee, P.Eng.

WB/ad
269.7
Encls.

cc: Ron Beesley, P.Eng., Beesley Engineering (Encls.)



VILLAGE OF BELCARRA
Water Supply and Distribution
Local Area Service No. 1 Establishment and
Loan Authorization Bylaw No. 413, 2008



A bylaw to establish a local area service for the purpose of providing water services for the special benefit of the local area service "Water Supply and Distribution Local Area Service No. 1" and to authorize borrowing to provide for financing the construction of a water supply and distribution system.

WHEREAS pursuant to the provisions of Part 7, Division 5 of the *Community Charter*, the Council of the Village of Belcarra is empowered by bylaw to undertake any work or service coming within the powers of the municipality for the special benefit of a part of the municipality;

AND WHEREAS to provide for the financing of construction of a water supply and distribution system to serve the Water Supply and Distribution Local Area Service No. 1 it is necessary to borrow a sum not exceeding three million twenty thousand nine hundred and twenty-six (\$3,020,926.00) Dollars, which is the amount of debt intended to be created by this bylaw;

AND WHEREAS the maximum term for which debentures may be issued to secure the debt created by this bylaw is twenty-five (25) years;

AND WHEREAS the provisions of Section 213 of the *Community Charter* have been complied with;

AND WHEREAS the approval of the Inspector of Municipalities has been obtained;

NOW THEREFORE, the Village of Belcarra Municipal Council, in open meeting assembled, enacts as follows:

1. This bylaw shall be cited as "Village of Belcarra Water Supply and Distribution Local Area Service No. 1 Establishment and Loan Authorization Bylaw No. 413, 2008".
2. The portion of the Village of Belcarra, more particularly described in Schedule A attached hereto and as shown outlined in heavy dark line on the plan contained in Schedule A, to be known as "Water Supply and Distribution Local Area Service No. 1", shall be the area of the Village of Belcarra benefited by the services hereinafter set forth, which area is hereinafter referred to as the "benefiting area".
3. The Village of Belcarra is hereby authorized to provide, operate, maintain and to undertake and carry out, or cause to be carried out a water supply and distribution service and to do all things necessary in connection therewith for the special benefit of the benefiting area.
4. The Village of Belcarra is hereby authorized to borrow upon the credit of the Village of Belcarra, a sum not exceeding three million twenty thousand nine hundred and twenty-six dollars (\$3,020,926.00) for the purpose of constructing a water supply and distribution system in accordance with plans available in the municipal hall for the special benefit of the Benefiting Area, and the maximum term for which debentures may be issued to secure the debt created by this bylaw is twenty-five (25) years.

5. The entire costs of the service provided pursuant to the authorization of this bylaw shall be borne by the benefiting area and shall be raised by Council, and for that purpose the Council may levy and impose a parcel tax within the benefiting area, pursuant to Section 211 of the Community Charter.
6. Should the sums recovered through the levy of a parcel tax at any time be insufficient to meet the costs of the service, the Council may levy and impose a property value tax within the benefiting area on land and improvements over and above all other rates sufficient to meet such deficit in the same manner and time as other general municipal levies.
7. The Council may, by bylaw, merge this benefiting area with any other local area service created to provide water supply and distribution services, whether contiguous or not, for the purpose of providing, consolidating or completing necessary services for such merged areas.
8. If a portion of this bylaw is held invalid by a Court of competent jurisdiction, then the invalid portion must be severed and the remainder of this bylaw is deemed to have been adopted without the severed section, subsection, paragraph, subparagraph, clause or phrase.
9. This bylaw shall take effect on the date of its adoption by Council.

READ A FIRST TIME on December 8, 2008.

READ A SECOND TIME on December 8, 2008.

READ A THIRD TIME on December 8, 2008.

APPROVED BY THE INSPECTOR OF MUNICIPALITIES on

ELECTOR ASSENT received on

ADOPTED by the Council on

Mayor Ralph E. Drew

Lynda Floyd,
Chief Administrative Officer

This is a certified a true copy of
Village of Belcarra Water Supply and Distribution Local Area Service No. 1
Establishment and Loan Authorization Bylaw No. 413, 2008

Chief Administrative Officer

**Village of Belcarra Water Supply and Distribution Local Area Service No. 1
Establishment and Loan Authorization Bylaw No. 413, 2008**

SCHEDULE A

SUBJECT AREA

Water Supply and Distribution Local Area Service No. 1 Establishment and Loan Authorization Bylaw No. 413, 2008

SCHEDULE A

