

**KOERS  
& ASSOCIATES  
ENGINEERING LTD.**  
*Consulting Engineers*

P.O. BOX 790  
194 MEMORIAL AVENUE  
PARKSVILLE, B.C. V9P 2G8  
Phone (250) 248-3151  
Fax (250) 248-5362  
kael@koers-eng.com

May 14<sup>th</sup>, 2012  
File: 1059-02

Regional District of Nanaimo  
6300 Hammond Bay Rd.  
Nanaimo, B.C.  
V9T 6N2

**Attention: Mr. Mike Donnelly, A.Sc.T.**  
**Manager of Water Services**

Dear Sirs:

**Re: Nanoose Peninsula Water System**  
**Development Cost Charges Study Final Draft Report, May 2012**

---

We are pleased to submit three copies of our final draft report entitled "Regional District of Nanaimo, Nanoose Peninsula Water System Development Cost Charges Study Final Draft Report, May 2012".

The report details works required to reflect the current projects, which considers existing users, building infill on existing serviced lots, and additional future growth. It has been prepared in accordance with the Development Cost Charge - Best Practices Guide, published by the Ministry of Community Services. The Final Draft DCC Report and calculations are based on statistics provided by Regional District staff, and includes current available project planning information and costs. It is based on a 20-year revolving period, with no allowance for government grants. Trunk watermains to be built by Fairwinds within the Lakes District Neighbourhood are shown with the 25% benefit to existing development as a rebate payment to Fairwinds, charged to existing users as agreed at our last review meeting.

The report has been modified to reflect comments received from review of the earlier draft versions, and the DCC calculation spreadsheet amended to suit.

The report identifies that exemptions can be included into a DCC bylaw if deemed necessary by the Regional District of Nanaimo. Please refer to page three (3) of the report for an example DCC Exemption that may be granted by the Regional District of Nanaimo. In addition, please refer to page eight (8) of the report which discusses the methods in which residential DCCs can be collected.

.../2

May 14<sup>th</sup>, 2012  
File: 1059-02

Regional District of Nanaimo  
Mr. Mike Donnelly, A.Sc.T.

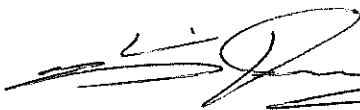
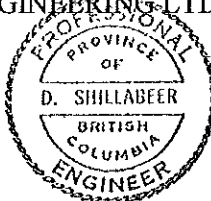
Following the Regional District's review of the final draft with the development community and board members, please feel free to contact Koers & Associates Engineering Ltd. to discuss any final required adjustments. We will then proceed with final edits and issuing of the report.

Yours truly,

KOERS & ASSOCIATES ENGINEERING LTD.



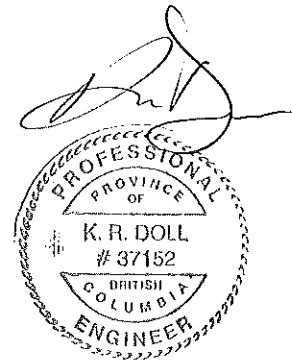
Dave Shillabeer, P.Eng.  
Project Manager



Chris Downey, P.Eng.  
Principal



Ken Doll, P.Eng.  
Project Engineer



Enclosures

**REGIONAL DISTRICT OF NANAIMO**

**NANOOSE PENINSULA WATER SYSTEM**  
**DEVELOPMENT COST CHARGES STUDY**  
**FINAL DRAFT REPORT**  
**MAY 2012**

TABLE OF CONTENTS

	<u>Page</u>
Letter of Transmittal	
TABLE OF CONTENTS	i
1. INTRODUCTION	
1.1 Background	1
1.2 Population Estimates	7
1.3 Residential Housing Unit Assumptions	8
1.4 Commercial and Institutional Land Assumptions	11
1.5 Industrial and Public Utility Land Assumptions	12
1.6 Benefit to Existing Users	13
1.7 Municipal Assist Factor	13
1.8 Financial Assistance from Government Grants	14
1.9 DCC Reserve Funds	15
1.10 General Calculation Method	15
2. WATERWORKS DEVELOPMENT COST CHARGES	
2.1 Introduction	17
2.2 Proposed Waterworks Program	17
2.3 Cost Charge Calculations	19
3. SUMMARY OF DEVELOPMENT COST CHARGES	
3.1 Summary	21
 TABLES	
1. Nanoose Peninsula Service Area, Potential Residential Development	10
2. Nanoose Peninsula Service Area, Total Estimated Units	11
3. Equivalent Population Calculation	19

## APPENDICES

- Appendix A DCC Function Table
- Appendix B Water System Improvements Schematic
- Appendix C Ministry Submission Summary Checklist

DRAFT

# **REGIONAL DISTRICT OF NANAIMO**

## **NANOOSE PENINSULA WATER SYSTEM DEVELOPMENT COST CHARGES STUDY FINAL DRAFT REPORT MAY 2012**

### **1 INTRODUCTION**

---

#### **1.1 BACKGROUND**

The Regional District of Nanaimo (RDN) does not presently have in place a waterworks distribution system development cost charge (DCC) bylaw for the Nanoose Peninsula. With more development comes the need for upgrading and expansion of all waterworks servicing functions throughout the Nanoose Peninsula Water System service area. It is the Board's intention to equitably fund this servicing between existing and new users, by implementing a new DCC bylaw.

Findings detailed in this report result from the Regional District's need to implement DCCs for the various water system components and development categories. It reviews current applicable waterworks projects for an initial 20-year period in accordance with existing study requirements to estimated build-out in year 2045, with up-to-date cost estimates in anticipated year 2012 dollars, provides estimates of growth in each of the various development types over the year 2012 to 2031 period, and calculates required charges in each category.

DCC charges are imposed to provide funds for the Regional District to pay a portion of the capital cost of providing, altering, or expanding the Nanoose Peninsula Water Distribution System, in order to serve existing and new developments. The DCCs collected only represent a part of the funding required to construct the capital projects. The balance of the funds will come from the Regional District (taxpayers), and possibly with some assistance from the Province of B.C. and Federal Government (i.e. grants). The Regional District's contribution takes into account the benefit of the water distribution system to the existing users, and also provides an additional 1% assist factor to the development's share of the various project costs.

DCCs are monies collected from land developers by a local government to offset some of the infrastructure expenditures incurred, to service the needs of new development while not adversely affecting existing users. Imposed by bylaw pursuant to the Local Government Act (1996), the charges are intended to facilitate development by providing a method to finance capital projects related to

highway facilities, drainage, sewerage systems, waterworks and parks. This report relates only to the waterworks function. It should be noted that bulk water supply is provided to the Nanoose Peninsula Water System by the separate Arrowsmith Water Service (AWS). A DCC separate to the future Nanoose Peninsula DCC is in place for the AWS bulk water supply components and functions.

DCCs allow monies to be pooled from many developers, so that funds can be raised to construct necessary services in an equitable manner. Those who will use and benefit from the installation of the capital projects should pay infrastructure costs. Recognizing that costs should be shared amongst all benefiting parties, a breakdown between benefits for existing users and new development should be provided.

The 'Development Cost Charge - Best Practices Guide' (BPG) is a publication by the B.C Ministry of Community Services, dated 2005. It is the objective of the BPG to standardize general practices in the formation and administration of DCC bylaws, while allowing flexibility to meet specific needs as allowed by the Local Government Act.

The BPG contains two parts, Part I is a guidebook for board members and administration staff responsible for developing and adopting policies, and Part II is a technical manual detailing procedures and calculations to be used by technical personnel for preparation of the actual bylaw and calculation of DCC rates.

DCC bylaws must be approved by the Ministry. The Ministry has indicated that expedient approval of DCC bylaws will be received when prepared in accordance with the BPG. To assist the Ministry staff in the review of the proposed DCC bylaw, a Ministry Submission Summary Checklist is included in the BPG as Appendix C.

When a DCC bylaw is implemented, developers or those parties paying DCCs will be affected by the new charges. The BPG recommends a suitable period of notification before a DCC bylaw is in effect, known as a grace period. Newspaper articles and notices, information circulars and verbal communications should be provided to the Regional District residents, taxpayers and land developers to provide the opportunity to become aware of the proposed bylaw, the anticipated charge rates required and the approximate timing of the new bylaw's implementation. The DCC bylaw may state the effective date, or time period (of up to a year) from the date of DCC bylaw adoption, as confirmation of the grace period. This would apply to both initial bylaw implementation, and at the time of future updates with rate changes. As stated in the BPG: "The grace period is granted by a municipality as an acknowledgement of the impact DCCs may have on the development industry."

Section 943 of the Local Government Act provides in-stream protection of one year from the bylaw date for subdivision applications, provided that the application fees have been paid. Complete application usually means that the developer has received a letter of 'Conditional Approval' of subdivision, or equivalent such as 'Preliminary Layout Approval'. This applies at initial bylaw adoption and where DCCs have increased from the existing charges.

Upon adoption of the new bylaw, the proposed DCCs will immediately apply to subdivisions under the following conditions:

- Where an application has been denied.
- Where 'Conditional Approval' has lapsed during the one year in-stream protection period.
- Where final approval of subdivision has not been received prior to the first anniversary date of the new bylaw.

Note that developers of multi-phased subdivisions should be especially aware of significant dates. This includes dates such as that of the DCC bylaw adoption, the new bylaw's anniversary, and the expiry date attached to the Letter of Conditional Approval.

There are no Local Government Act provisions governing those DCCs where collection is tied to building permit applications. As a result, municipalities normally follow the Act, and do not normally provide any form of in-stream protection to these types of development. Unless the RDN specifically wishes to change this by clarification and amendment of the Regional District Building Permit Bylaws, the amount payable is determined in accordance with the rates applicable at the time of building permit application. As noted in the BPG: "However, the ruling of *Acamar v. City of Surrey* (1997) confirms the view that Section 943 only applies to subdivision applications."

As stated in the BPG: "Courts have concluded that the date which the appropriate DCCs should be calculated is the date that sufficient information is available to issue the permit, and not necessarily the actual date of building permit issuance."

The grace period should not be confused with in-stream protection. The former only serves to allow enough time for people to be notified of the new DCC rates as related to all types of development including those where DCCs are due at the time of building permit applications; the latter seeks to provide preferential treatment to developers meeting certain time criteria for those development types where DCCs are due at the subdivision stage.

Section 933 (4) of the Local Government Act describes circumstances when development is exempt from paying DCCs, and as amended in year 2004. If DCC

exemptions are necessary then the Regional District will need to incorporate language into the bylaw.

It is recommended, and assumed by this report that both Commercial and Institutional DCCs be charged, at a per square metre rate, where a building permit is issued for the construction, or alteration, or extension of a building that results in an increase of the original building area and where the value of the work covered by the building permit is greater than \$100,000. The Bylaw should be worded such that DCCs would only apply to the increased building size, beyond the pre-existing area, or number of housing units for mixed-use developments.

It is assumed that in accordance with Section 933(4) of the Local Government Act, as amended in 2004, DCCs will be charged for residential buildings where a building permit is issued for the construction, or alteration, or extension of any residential-use building, including those with less than four dwelling units. In accordance with this provision, any building permit for alteration or construction of more than one dwelling unit will be charged DCCs. If the Board wishes to charge DCCs for residential buildings with less than four but more than one unit as anticipated, it must specify so in a by-law in accordance with Section 933 (4.1)(a) of the Local Government Act.

For institutional DCCs, it is possible that an existing school may be closed and demolished after a new school has been built on a different site, resulting in a transfer of the servicing burden. The bylaw should be worded to allow credit for DCCs payable in such instances, to ensure that they are only charged where an increased burden results from redevelopment or new development. DCCs would only apply to any upsized building area, and for new development when it occurs at the old site. If the building use is retained at the old site, for alternative additional use or sale, an increased burden will result, and this DCC credit would not be applicable. Similar provisions should be worded for all commercial and institutional buildings, where DCCs would only be charged on the increased building floor area beyond the existing total floor area, to equitably charge for the increased burden.

The bylaw with respect to industrial DCCs should be worded to ensure that Industrial DCCs are charged on a case by case basis. The amount of DCC collected will depend on servicing needs and the anticipated burden from the specific Industrial development. At the time of development approval, the existing bylaw would be updated and the appropriate amendment would be made.

There are no specific references to "DCC credits" or "DCC rebates" in the Local Government Act. The intent of Clause (8) of Section 933 is that developers providing trunk services beyond the local servicing needs of the development shall have those costs deducted from the applicable DCCs payable. This applies



provided it is an identified DCC project in the capital plan. To implement the provisions of the legislation, the concepts of a "DCC credit" and a "DCC rebate" are introduced. Policies regarding when the Regional District should offer a credit versus a rebate should be carefully considered. In either case, the DCC accounting system should allow credits and rebates to be monitored and tracked.

The DCC program is compiled to service new development in an orderly manner. A situation is likely to arise where a developer desires to proceed with a land development before the required trunk services are installed in that area. This type of development can be considered to be "out of sequence". If the Regional District cannot afford the financial burden of additional infrastructure requirements, the Approving Officer would decline the development for the present time. Alternatively, the developer can construct the necessary trunk services, in advance of the proposed timing.

In this case, the out-of-sequence development could be offered a **DCC credit**, where the cost of constructing the required trunk works is deducted from the amount of DCCs that would have otherwise been payable. The DCC credit cannot exceed the amount of DCC payable. For phased developments in the same site vicinity, it is assumed that the Regional District would execute a separate agreement with the land developer allowing any applicable excess credits to be carried forward to apply against future development DCCs. Similar agreements should be implemented to allow transfers of credits on property sale prior to building construction for categories where DCCs are collected at the building permit stage. Such credits should be allowed on a proportional basis against subdivided parcels, on a land area basis or anticipated building area basis, as deemed applicable by the Regional District.

The DCC program covers trunk main requirements and other facilities beyond the services required for local development areas. Should a developer wish to proceed with a development before the trunk services fronting his property are installed, the Regional District may allow the developer to construct the necessary portion of the works to a trunk standard. The Regional District would then offer a **DCC rebate** for the incremental portion of the costs beyond the local requirement, following acceptance of the completed trunk works and registration of the development lands. In such cases, the rebate amount could exceed the DCCs payable.

Where a development constructs non-DCC project trunk works, which benefit adjacent developments, those servicing function costs, or over-sizing costs, may be considered for inclusion in a latecomers' agreement. The agreement would be in accordance with the provisions of the Local Government Act. In this case, the development would be responsible for setting up and costs of the agreement, which would then be administered by the Regional District. Similarly, "out of

sequence” DCC projects that cannot be accommodated by the municipality as detailed in the BPG, where a developer’s costs are not recoverable through a DCC credit or rebate, may also be considered for inclusion in a latecomers’ agreement.

The BPG states that DCC recoverable costs should be clearly identified in the DCC documentation and must be consistent with Ministry provisions. According to the Local Government Act, the recoverable capital costs associated with DCC projects include planning, engineering, and legal costs (Section 935(4)). In practice, this section has been interpreted by the Ministry of Community Services to include the following activities:

- planning, public consultation, and engineering design
- right-of-way or land acquisition
- legal costs
- interim financing
- contract administration and site inspection services
- construction costs
- contingencies
- appropriate net sales tax in full

Ministry policy does not consider inflation and long term debt financing eligible for DCC recovery. However, Section 935(3) (c) of the Local Government Act does allow funds in DCC reserve accounts to be used to pay for the interest and principal on a debt resulting from DCC project costs.

The average cost of a typical unit of development should not change significantly over time except for the effects of inflation or changes in standards, provided development projections are accurate. However, due to the periodic revision of the OCP, the Regional District’s financial situation, changing infrastructure needs, and other factors affecting new development that are beyond the Regional District’s control, the DCC bylaw will require future amendment.

In general there are two levels of amendment: a minor adjustment to DCC rates to reflect inflation, and a major review of the DCC for updating of capital project requirements, development projections, and the DCC accounting.

A minor amendment to the DCC bylaw is an updating based on changes in construction costs and inflationary effects. This type of bylaw amendment requires statutory approval, but due to its nature is anticipated to receive expeditious Ministry approval. This type of amendment should be carried out when necessary, likely once every two to three years.

A major bylaw amendment involves a full review of the DCC methodology, including:

- Underlying DCC assumptions
- Broad policy considerations
- Updated development projections
- DCC program costs
- Study and project review updates and timing of proposed capital projects
- Addition of new projects to the DCC program, and deletion of completed capital projects

In accordance with the BPG recommendation, the major amendment to the DCC bylaws should be completed once every five years.

## 1.2 POPULATION ESTIMATES

Data on existing housing units, recent growth statistics and future development, has been obtained from the Regional District. This includes data provided by the RDN from recent planning studies conducted for Schooner Cove and the Lakes District.

Existing serviced unit counts and associated service population estimates have been extrapolated from RDN 2010 records. This shows that at the end of year 2010 there were a total number of serviced single-family residences of 1,975 (of which 462 are within the Fairwinds Community part of the service area, and 1,493 are in all other parts). Examination of the RDN January to December 2010 Commercial and Multi-family Water Usage Summary shows applicable development units of 238 multi-family (which includes the 100 mobile home units on Apollo Drive, 20 Brynmarl Road condominiums, and 118 townhomes within Fairwinds), 22 commercial services, and 5 institutional services. This record also shows many services to localized irrigated landscape areas, such as traffic islands, fireline services, and small golf course convenience toilets, all of which do not represent applicable development units. From these year 2010 records, an estimate of the end of year 2011 units has been made by applying the typical 2% growth rate experienced in the service area, for the one year. This results in an estimated existing 2,010 single-family and 243 multi-family units.

The existing end of year 2011 population is estimated at 5,085 people. RDN planning information has seen the average population per single-family residence drop over the last 25 years, from a typical 2.4 people per unit, with an anticipated future development density of 2.2 people per unit. Multi-family residential units,

where most of the housing is suited for 2 people with some one-person residences, have a design average of 1.9 people per unit suggested. Applying an average 2.3 people to each of the 2,010 existing single-family residences, and 1.9 people to each of the 243 existing multi-family units, the existing estimated population of 5,085 people is obtained.

Future population estimates are based only on that growth within the existing boundaries of the Nanoose Peninsula Water System service area. Expansion of the Nanoose Peninsula Water System service area is not included in this study.

Based on available land and current development strategies, lot build-out has been estimated and forms the basis of the population estimates. When multiplied by the provided future average population per household at approximately 2.2 persons per single family household and 1.9 persons per multi family unit the data projects a build-out population of approximately 10,000. The growth of approximately 4,900 people beyond the assumed current population is estimated to be accommodated within 1,167 single-family units at 2.2 people per unit (2,567 people), plus 1,231 multi-family units at 1.9 people per unit (2,339 people), and 50 congregate care units at 1.0 person per unit (50 people).

Future population estimates have been projected by simply reviewing recorded historical data and considering the generally positive development growth pattern on Vancouver Island. This used RDN future growth projections which have been approximated to be 2% per annum, compounded yearly. When extended over a period of thirty-four years, the projected population compares well with the projected build-out population. Additionally, taking the 2011 estimated population and compounding it annually at 2% over the next thirty-four year period, results in a projected total service area population of 9,971 for the year 2045.

The DCC Function table in this report has been developed to include all foreseeable capital projects over the initial revolving 20 year period, of the approximately 34-year period at which build-out has been estimated to occur using the data provided. The interim population growth to match this 20-year period is based on 2% compounded growth, with a corresponding population growth of 2,472 people.

### 1.3 RESIDENTIAL HOUSING UNIT ASSUMPTIONS

Residential housing includes single-family dwellings, multi-family dwelling and congregate care (intermediate care) facilities. The RDN's Nanoose Peninsula Official Community Plan (OCP) does not reference the development of congregate care facility units within the Nanoose Peninsula. However, this report

considers the potential construction of 50 new congregate care facility units during the DCC build-out period from year 2012 to year 2045. Congregate care units are expected to average 100 m<sup>2</sup> per unit (100 units/ha), with a site coverage of about 40%.

As mentioned in Section 1.2 of this report, current residential property counts and build-out property counts have been projected based on information provided by the Regional District, data gathered from the Nanoose Peninsula Water Distribution Study (2007), Nanoose Bay OCP and available planning studies completed for Fairwinds.

Much of the future development lands are currently owned by a corporation known as Fairwinds Development, the majority of which are contained within the recently approved Lakes District Neighbourhood Plan, and the proposed redevelopment of the existing Schooner Cove area designated as the Schooner Cove Neighbourhood Plan. In addition, Fairwinds Development has some adjacent in-stream properties, consisting of Phase 7D (single-family development with completion of Goodrich Road, being a small parcel in the south, adjacent to the DND boundary), Phase 8 (multi-family development at the present west end of Collingwood Drive), and Phase 11B (Schooner Ridge multi-family townhome development off Bonnington Drive). A subsidiary company of a previous Fairwinds Development owner holds some parcels within the existing developed Fairwinds lands, under the ownership of Nanoose Harbour Holdings Ltd. This includes a potential 57-unit multi-family development on Andover Road, a single-family zoned lot on Schooner Cove Drive at Dolphin Drive, and a small (already subdivided and serviced) multi-family zoned property being Lot 1 at Redden Road and Dolphin Drive. Other development within the overall Nanoose Peninsula Water System service area includes small scattered subdivisions, and potential redevelopment on existing developed parcels, some with possible rezoning.

Table 1, Potential Residential Development, shows the estimated units relating to the various development areas within the service area. For the Lakes District, an approximate breakdown between single-family and multi-development units is made for the total 1,675 allowable units, based on the objectives of the neighbourhood plan. This breakdown estimate should be reviewed and adjusted if necessary in future DCC update studies. Should a higher percentage of single-family development actually occur, it is not anticipated that any additional infrastructure works would be needed, due to the relatively small difference in design people per unit for the housing types. DCC funding would also not be adversely affected, as the higher DCC charge for single-family residential development would generate additional funds due to its greater burden.

Schooner Cove redevelopment is all multi-family residential (plus commercial

detailed in the next section), in accordance with the approved neighbourhood plan. Other specific known potential development have the anticipated unit numbers and types shown. For the Red Gap Area, where the OCP allows 211 more units beyond the existing 289, a nominal allowance of the development type breakdown is shown. For the remainder of Nanoose, allowance is made for some infill single-family housing.

It is noted that overall this results in a higher percentage of multi-family units compared to that estimated during the year 2007 Water Study. This is due to changing demographics, the desires and objectives of the Lakes District Neighbourhood Plan, and particularly as a result of proposed Schooner Cove redevelopment as detailed in the Schooner Cove Neighbourhood Plan, all of which has been recently approved in year 2011.

Table 1. Nanoose Peninsula Service Area, Potential Residential Development

	Single-Family	Multi-Family	Congregate Care
Lakes District Neighbourhood Plan (Total 1675 Housing Units plus congregate care allowance)	1,000	675	25
Schooner Cove Neighbourhood Plan	0	360	0
Fairwinds Community In-Stream Phases:			
Phase 7D	25	0	0
Phase 8	0	18	0
Phase 11	0	32	0
Nanoose Harbour Holdings:			
Andover Road	0	57	0
Schooner Cove Drive	10	0	0
Lot 1, Redden Road	0	3	0
Red Gap Area	100	86	25
Remainder of Nanoose	32	0	0
<b>Total Additional to Build-out Projection (Year 2045)</b>	<b>1,167</b>	<b>1,231</b>	<b>50</b>

From these information sources as summarized in Table 1, Potential Residential Development, it is estimated that a total of 1,167 new single-family dwellings, 1,231 new multi-family dwellings, and 50 congregate care units may be developed within the Nanoose Peninsula to build-out within the present Nanoose

Peninsula Water System service area. Table 2, Total Estimated Units, shows the addition of existing development and estimated growth, to obtain projected total estimated units at build-out of the service area.

Table 2. Nanoose Peninsula Service Area, Total Estimated Units

	Single-Family	Multi-Family	Congregate Care
Current (2011)	2,010	243	0
Estimated Growth to Build-Out	1,167	1,231	50
<b>Total Units at Build-out Projection (Year 2045)</b>	<b>3,177</b>	<b>1,474</b>	<b>50</b>

For an estimate of development within the initial 20-year revolving DCC period, growth is estimated at 2% per annum, increasing by an estimated 2,472 people from approximately 5,085 at the start of year 2012 to a projected 7,557 in year 2031. At the 2% assumed average annual growth rate, the 9,971 estimated build-out population is achieved in year 2045, matching that of previous studies and planning reports. Growth in the initial 20 year DCC period is estimated to consist of 775 single family units (1,705 people at 2.2 per unit), plus 390 multi-family units (741 people at 1.9 per unit), plus 25 congregate care (25 people at 1.0 per unit).

DCCs for single family residential development would be collected at the subdivision stage. Cost charges for residential units are expected to be applied to all forms of single-family development, including bare-land strata developments. Charges applicable to multi-family land uses, including mobile and modular homes, would be collected at the time of building permit issuance, when the exact number of units in the development is known.

#### 1.4 COMMERCIAL AND INSTITUTIONAL LAND ASSUMPTIONS

Non-residential land uses are categorized separately from residential land use for DCC bylaws. In order to keep the number of designated land uses at a practical level, it is normal practice to consider the groupings under commercial /institutional and industrial /public utility categories.

Commercial use includes service commercial, office commercial, and commercial portion of mixed commercial/residential development. Institutional use includes government offices, recreational facilities, churches, community halls, fire halls, municipal halls and buildings, public and private schools, colleges, and universities, hospitals including private care facilities, and senior or low-cost housing (depending on the provisions of the Zoning Bylaw).

The BPG recommends that commercial and institutional development be charged on the basis of building floor space expressed in square metres, or per 1,000 sq.ft. The Regional District has selected to charge on the basis of gross building area expressed in square metres. DCCs for commercial/institutional land uses would be collected at the time of building permit issuance, when charges related to floorspace are easily calculated.

The Nanoose Peninsula commercial zones currently consist of the Red Gap Village Centre and Schooner Cove Neighbourhood Centre. Of these two areas, the Red Gap Village Centre is the much larger commercial centre. However, the Fairwinds Development is planning to add significant commercial and mixed-use development to the Schooner Cove and Lakes District Neighbourhood Plan.

It is anticipated that redevelopment will result in additional commercial floor space of approximately 5,600 m<sup>2</sup> of gross floor space at the Red Gap Village Centre. Additionally, Fairwinds is planning to incorporate approximately 2,325 m<sup>2</sup> of commercial space in the Schooner Cove Neighbourhood Centre and approximately 4,800 m<sup>2</sup> of mixed-use buildings in the Lakes District. This combines to a total estimated 12,725 m<sup>2</sup> of commercial development within the Nanoose Peninsula Water System service area to build-out. In the initial 20-year revolving DCC period, it is estimated that the Red Gap expansion and Schooner Cove will be fully developed, and one-third of the Lakes District commercial, for a total of 9,125 m<sup>2</sup> total. Where land uses on a site are mixed, it is intended that applicable DCCs be charged on the basis of all actual uses on a site. This may include a residential component, and a commercial component.

Institutional redevelopment will likely occur and result in additional floor space to the Nanoose Bay Elementary School, for which a 50% size increase of 2,320 m<sup>2</sup> is estimated. In addition, the Lakes District has included a Lakehouse Centre into its future development plans, for which 9,200 m<sup>2</sup> is estimated. Based on these assumptions, growth for institutional buildings is estimated at 11,520 m<sup>2</sup> of gross floor area. It is anticipated that this will be fully built within twenty years.

## 1.5 INDUSTRIAL AND PUBLIC UTILITY LAND ASSUMPTIONS

Industrial use includes light, medium or heavy industrial uses, warehouses, mini-storage, minor repair, fabrication and storage facilities or space, and fuel storage areas. Public utility use is also covered under this category, including B.C. Hydro, Telus, FortisBC Gas, Shaw Cablesystems, and similar utility storage, distribution and plant facilities. It should be noted any reference to industrial DCCs, are intended to apply to all industrial, warehouse and public utility land uses.



As determined and agreed upon through discussions with RDN staff, Industrial and Public Utility development is not applicable to this report at this time, as there are no industrial designated lands in the OCP. Similarly, no public utility use facilities that burden the water system are anticipated. Should this situation change in the future for industrial or public utility land uses, the anticipated burden would be established, and the appropriate DCC charges would apply and be included in a minor update to the DCC bylaw.

#### 1.6 BENEFIT TO EXISTING USERS

Capital costs for DCC calculations must be net costs. It is recognized that most improvements within the Regional District provide a partial benefit to the existing residents and users.

All capital projects have been individually reviewed during this study, and the percentage benefit to existing users estimated. The cost for each project applicable to existing users is then deducted from the total expenditure, to calculate the allowable DCC recoverable portion of the project. Assumptions on the allocation are shown on the table detailing the DCC calculation.

#### 1.7 MUNICIPAL ASSIST FACTOR

Section 933 (2) of the Local Government Act states that the purpose of DCCs is to provide funds to "assist" local government in paying costs of infrastructure. By not allowing 100% of the growth related costs to be charged to new developments, the legislation implicitly requires an "assist factor", with a minimum of 1%. It is important to note that this assist factor is separate from the allocation of project costs between new development and existing users, which is considered on a project specific basis.

The assist factor chosen reflects the Regional District's desire to encourage development, and is largely a political decision. Most DCC bylaws use assist factors in the 1% to 10% range, while some assist to 25% or more. With the healthy development climate over the last several years, and the anticipation that this would continue for the foreseeable future, a low assist factor has been considered to be appropriate by many other Vancouver Island municipalities.

Under certain conditions, the assist factor is adjusted to maintain DCC rates within a perceived affordable level. An assist factor of 1% has been used for the waterworks DCC charges calculated in this review.

The total Regional District contribution to the required projects can be

summarized as:

- the total capital cost attributed to existing users
- portion of costs associated with developments exempt from DCCs
- the costs involved in the 1% assist factor.

## 1.8 FINANCIAL ASSISTANCE FROM GOVERNMENT GRANTS

Government grants, including Federal/Provincial infrastructure funding programs and Provincial revenue sharing programs may be available for projects, particularly those that contribute towards major roadworks and bridges, improved public health and water quality considerations, environmental improvements relating to sanitary or storm drainage projects, downtown redevelopment infrastructure improvements, and high-profile park improvement works. If awarded, these can provide:

- A significant portion of study cost recovery.
- 25%, 33.3% or 75 to 80% Provincial Government funding, through various programs, including the recent Towns for Tomorrow funding.
- A total of 66.7% combined assistance under Infrastructure Funding Programs supported through joint Federal / Provincial agreements.

Given the extremely limited potential for availability, successful application, and award of grants under the ongoing anticipated economic climate, the calculations have assumed that no grants will be available for listed projects. An assumption of 0% has therefore been made and shown under the government grant column of the spreadsheet.

The Regional District should still continue to make every effort to obtain financial assistance towards all key eligible projects, particularly the larger scale and environmental type of system expansions. Small studies, reviews, and major DCC updates may prove to be eligible for receipt of some funding, such as a 50% study grant. For distant-future asbestos-cement (AC) watermain replacement projects, programs may be established prior to construction which could provide some funding assistance.

## 1.9 DCC RESERVE FUNDS

The reserve funds are the total amounts that have been collected from developers, and not yet been spent on DCC projects. Consideration of reserve funds in the DCC calculation would only be required at the time of a DCC update review, not for a new bylaw.

### 1.10 GENERAL CALCULATION METHOD

DCCs are calculated in accordance with the recommendation of the BPG using a common unit basis for each function. In order to provide an equitable basis for the calculation of DCCs between the various land-use types, an 'equivalent population method' is assigned to each of the different designations of land-use as appropriate. In order to meet this requirement, the common unit basis is generally different for each function. In particular, water distribution costs are related using the equivalent population demand, which is based on average densities and usage experience obtained from traditional records for all development categories.

DCC charges are on a system-wide basis for all functions, in accordance with the BPG.

The cost estimates include those capital costs listed in tables for the water system components and functions, identifying those for which costs are recoverable through the DCC bylaw. Interim financing costs for DCC projects is an allowable expense. Long-term debt however is not considered an allowable expense under the BPG, although a recent change to the act conditionally allows this expense under exceptional circumstances for specific projects.

Cost estimates are generally prepared to Ministry of Transportation policy, Class D, with an accuracy level suitable for preliminary project control budgets, for program planning, and to obtain approval in principle. In addition to the estimated construction costs there is a nominal 15% engineering design, tendering and contract administration plus inspection and record drawing completion allowance, and an overall 30% contingency allowance. The contingency allowance includes the Regional District's internal administration, legal interim financing, and present net 1.85% HST tax costs, as well as the project design and construction contingency costs for additional or unexpected works and expenditures which may arise as the projects proceed to detailed design and construction completion. Costs are based on estimated year 2012 construction costs.

There is no allowance for future inflation, as this is not permissible under the Local Government Act. This should be regularly assessed as projects and time advances, particularly in view of the recent rapid construction cost escalation within the Province of B.C., the uncertainty of oil pricing that affects pipe and construction equipment operation, and worldwide steel cost escalation that affects the supply of pipe and fittings. Inflationary affects will result from cost increases between the time of this report and tendering of the various stages and components of the projects. It is assumed that the minor, approximately biannual reviews of the bylaw will allow for adjustments to the DCC charges to accommodate inflation costs.

DRAFT

## **2 WATERWORKS DEVELOPMENT COST CHARGES**

---

### **2.1 INTRODUCTION**

To help defray the cost of providing fire protection and domestic water demand in future developments, waterworks DCCs are collected. This component of the report explains the resulting development cost charges arising from the expenditure program. Waterworks development cost charges are to be imposed on a system-wide basis.

### **2.2 PROPOSED WATERWORKS PROGRAM**

The proposed expenditure program consists of a series of waterworks projects and improvements. The scope of works as identified in the DCC Function Table (Appendix A) was developed from information contained in the latest Nanoose Peninsula Water Distribution Study, the Nanoose Peninsula Water Audit Study, the Nanoose Peninsula Water System Capital Planning Study, current knowledge of future projects, the Capital Works Plan, and additional input from RDN staff. Construction cost estimates were prepared and updated from earlier studies as appropriate, together with consideration of recent project unit costs provided by the RDN. Proposed expenditures total about \$9.2 million. An assist factor of 1% is applied.

The DCC Function Table (Appendix A), describes each project name, along with a numbering system containing a notation of anticipated year and project number for that year. All anticipated projects within the 20-year revolving period are included. The Water System Improvements Schematic (Appendix B) shows the location of applicable projects on a plan view of the service area, showing numbering and location of the various projects wherever applicable. Overall system projects, such as instrumentation covered under Supervisory Control and Data Acquisition (SCADA) projects, installation of Radio-read meters, and periodic DCC update studies are shown on the function table but not on the schematic drawing.

As detailed earlier in this report, much of the future development lands are owned by the Fairwinds Development. Several trunk watermains are required in the initial years of the 20-year revolving DCC period to suit the Fairwinds requirements for servicing adjacent lands in the Lakes District and Schooner Cove neighbourhoods. It is anticipated that these trunk mains will require being in service prior to sufficient DCC funds being generated, and therefore, in accordance with the BPG the RDN plans to have the trunk mains installed by the developer. As shown on the function table, a DCC rebate would be paid to the

developer for the incremental portion of the costs beyond the local requirement. This would occur following acceptance of the completed trunk works and registration of the applicable portion of subdivision lands. The cost estimate for such projects shown in the function table is the applicable portion of the total cost beyond the local requirement only, with the developer paying the remaining project costs. In such cases, the rebate amount could exceed the DCCs payable during the initial subdivision phases. The trunk watermains are the Collingwood Drive Loop Main (N2014-4), the Bonnington Drive Loop Main (N2016-4 and N2017-5), and the Schooner Cove Drive Loop Main (N2018-2 and N2020-4). In addition to serving the new development, these mains supply improved flow and some redundancy to the adjacent existing residences along Dolphin Drive and in earlier phases of Fairwinds Community, where the water system has been in service for approximately 10 to 25 years or longer. Based on these mains servicing in the range of 1,800 new units and 600 existing services, for 2,400 total, the benefit to existing is assessed at 25%. On this basis, 25% of the developer's cost for design and installation of the trunk watermains would be rebated, based on certified cost provided by the developer's Professional Engineer of Record.

For each project, an engineering assessment of the benefit to existing users is made and shown for the specific project. As an example, year 2013 project number N2013-4, Harlequin/Sea Lion Loop and Footbridge, is assessed 75% to existing users as it is a system improvement, leaving 25% benefitting new development through improved flow capability for the relatively small potential additional development or redevelopment it serves. Projects such as the West Bay PRV and Building Upgrade, N2015-3 and N2017-1, provide some improvement to existing users and a much larger design capacity to suit growth, and are assessed at 25% benefit to existing users. Project N2022-4, Arbutus Reservoir Replace/Enlarge, is assessed at 50% benefit to existing users, as this involves replacement of an outdated and under-designed existing reservoir with a new, larger water storage reservoir of increased size to meet development needs to system build-out.

Local projects, mostly involving replacement of aged distribution system and service connection piping, some with upsizing to meet current design flow needs, have most of the costs allocated to existing users. The small benefit to new development allows for some infill subdivision and potential redevelopment/small rezonings on such local streets.

Studies and SCADA projects are assessed at a rounded 50%. This considers new development equivalent population approximately doubling, as it increases from the present 5,085 people to 9,971 plus additional commercial and institutional building loading.

Radio-read meters are estimated to have a 90% benefit to existing users, with 10% benefit to new development through anticipated improved system capacity. It is expected that this will be achieved through the anticipated leak detection and water conservation monitoring and improvements available with radio-read metering, using improved water-use tracking.

### 2.3 COST CHARGE CALCULATIONS

Waterworks DCCs are established for the five land use categories. The charges are based on the relative consumption according to equivalent population demand, as detailed in Table 3, Equivalent Population Calculation.

Table 3. Equivalent Population Calculation

Land Use Category	Estimated New Development	Equivalent Population Factor	Equivalent Population
Single Family Residential	775 units	2.2	1,705
Multi-Family Residential	390 units	1.9	741
Congregate Care Facility	25 units	1.0	25
Commercial	9,125 m <sup>2</sup>	0.01	91
Institutional	11,520 m <sup>2</sup>	0.005	58
Industrial & Public Utility	n/a	n/a	n/a
<b>Total Equivalent Population</b>			<b>2,620</b>

Equivalent population is used to assess future burden and is estimated by multiplying the approximated new development for single family, multi-family, congregate care, commercial and institutional by an equivalent population factor. For single-family and multi-family, the equivalent population factor is assumed to be equal to the average population per unit as anticipated by RDN staff. Congregate care is based on the assumption that a single person would be accommodated in a single unit.

Equivalent population factors for the commercial and institutional categories were reviewed initially by comparing the 2010 water consumption data provided by RDN staff and dividing it by the per-capita average daily consumption and approximate building footprint areas. These calculations assist in producing an estimated equivalent population factor. For the commercial category, a value of 0.005 persons per square metre equivalent was obtained. For the new development it is anticipated that smaller floor-space commercial units will be built compared to existing, where an approximate doubling of the load is likely. As this would closely match the 0.009 p/m<sup>2</sup> of the City of Nanaimo sanitary sewer standards, an equivalent population demand for commercial of 0.01 p/m<sup>2</sup> has been used in the calculations. Similarly for the institutional category, the City of

Nanaimo standard of 0.005 p/m<sup>2</sup> is considered to be appropriate for use in the projections. These equivalent population demand factors should be monitored against actual demand experienced as new development in these categories become operational, and appropriate adjustments made in future major DCC updates.

The DCC Function Table (Appendix A) lists all applicable water distribution projects and costs, and generates the net DCC recoverable amount of \$2,292,004. This is divided by the total equivalent population of 2,620 from Table 3, to obtain the DCC charge per person of \$874.86. Multiplying the charge per person by the equivalent population demand factor for each land use category produces the DCC charge.

DRAFT



### **3.0 SUMMARY OF DEVELOPMENT COST CHARGES**

---

#### **3.1 SUMMARY**

In order to receive expedient approval of the DCC bylaw by the Ministry of Community Services, their publication 'Development Cost Charge - Best Practices Guide' should be followed in the bylaw preparation. The 'Ministry Submission Summary Checklist' (draft enclosed as Appendix C) should be completed and forwarded with the bylaw for review.

The DCCs are established on a 20-year "revolving" basis for calculation of cost charges.

As detailed earlier in this report, much of the future development lands are owned by the Fairwinds Development. Several trunk water mains are required in the initial years of the 20-year revolving DCC period to suit the Fairwinds requirements for servicing adjacent lands in the Lakes District and Schooner Cove neighbourhoods. It is anticipated that these trunk mains will require being in service prior to sufficient DCC funds being generated, and therefore, in accordance with the BPG the RDN plans to have the trunk mains installed by the developer. As shown on the function table, a DCC rebate would be paid to the developer for the incremental portion of the costs beyond the local requirement. This would occur following acceptance of the completed trunk works and registration of the applicable portion of subdivision lands.

With the introduction of DCCs, instream protection is to be provided to any complete subdivision applications, provided that the application fees have been paid. Such instream protection is conditional, and among other reasons expires if the subdivision is not completed within the one-year period from bylaw adoption. There are no Local Government Act provisions governing those DCCs where collection is tied to building permit applications, so no instream protection is available for development types so charged.

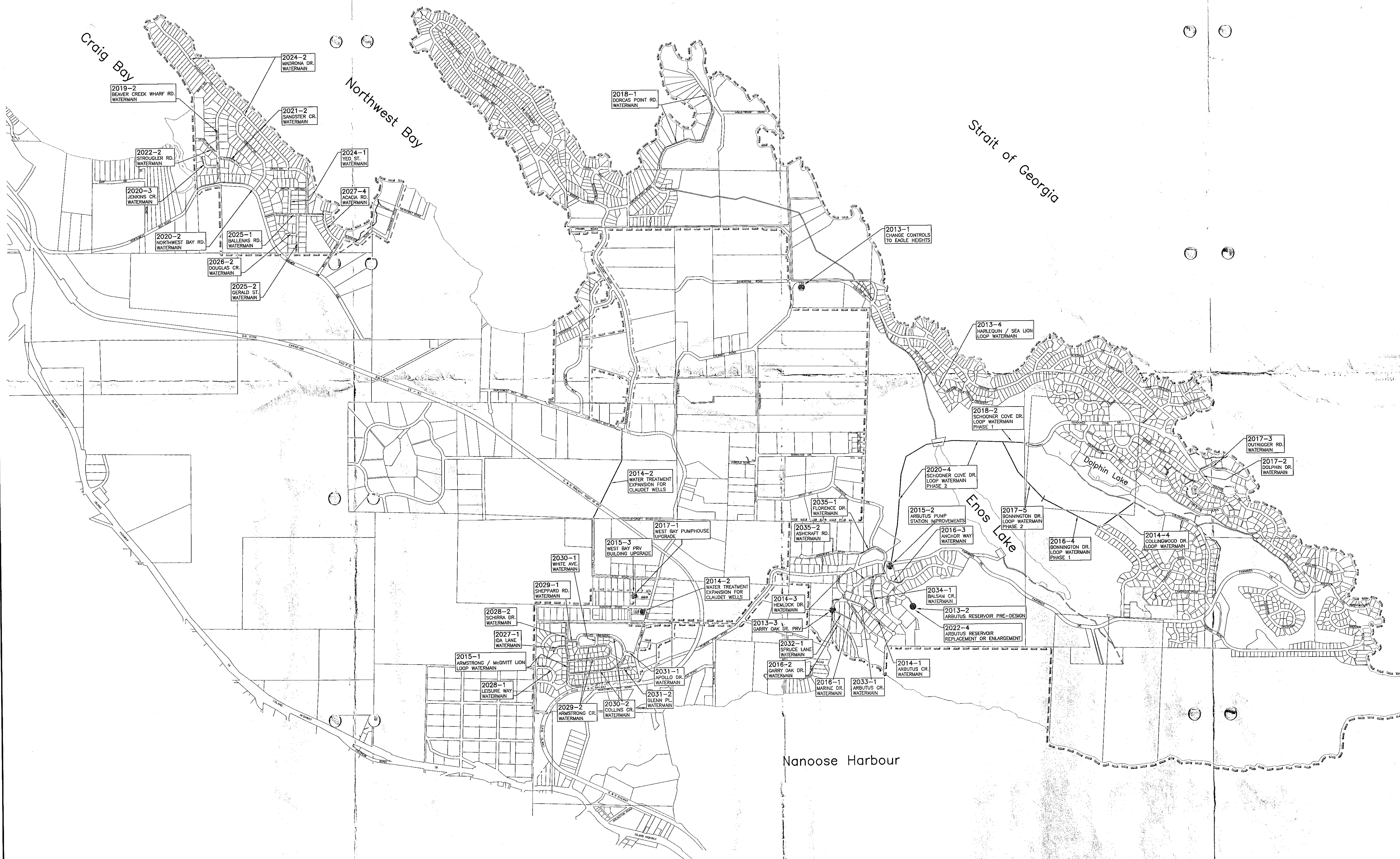
Minor amendment of the DCC bylaw should occur every two to three years, to accommodate inflationary costs. This should be regularly assessed as projects and time proceeds, particularly in view of the recent construction cost escalation, which may result in a need for more frequent inflationary revisions to the DCC bylaw. A major bylaw amendment with a full review of the DCC methodology should be completed once every five years.

**LEGEND**

- SERVICE AREA BOUNDARY
- WATERMAIN CONSTRUCTION OR REPLACEMENT
- STRUCTURE OR COMPONENT CONSTRUCTION OR MODIFICATION
- PROJECT YEAR & NUMBER, AND DESCRIPTION. (TYP.)

2017-3  
OUTRIGGER RD.  
WATERMAIN

Salish Sea



RECORD OF REVISIONS

REV	DATE	BY	ENG	DESCRIPTION
-----	------	----	-----	-------------

ISS	DATE	BY	ENG	DESCRIPTION
-----	------	----	-----	-------------

RECORD OF ISSUE

SEAL

PROJECT NO.	1059
DRAWN	CACH/PB
DESIGNED	DS
CHECKED	DS
APPROVED	DS
DATE	APRIL 2012
SCALE	1:15,000

CLIENT

**REGIONAL DISTRICT OF NANAIMO**

PROJECT  
**NANOOSE PENINSULA WATER SYSTEM DCC STUDY**

TITLE  
**WATER SYSTEM IMPROVEMENTS SCHEMATIC (TO BUILD OUT)**

DRAWING No.	1059 - Fig. 1	REV.	-	SHEET	1/1
-------------	---------------	------	---	-------	-----

DCC FUNCTION TABLE REGIONAL DISTRICT OF NANAIMO Nanoose Peninsula Water System DCCs											
Project No. (Year-#)	Project Description (for Replacements, Year reaching end of life is shown in brackets)	Cost Estimate (2011) (A)	Gov't Grant (B)	% Benefit to Ex. Users (C)	Net Expenditure (D) = (A)-(B)	Benefit to Existing Users (E) = (D)*(C)	Benefit to New Development (F) = (D)-(E)	1% Municipal Assist Factor (G) = (F)*1%	User (Regional District) Fees (H) = (E)+(G)	DCC Recoverable (I) = (D)-(H)	
N2013-1	Change Controls to Eagle Heights	56,650	0	100%	56,650	56,650	0	0	56,650	0	
N2013-2	Arbutus Reservoir Pre-design Study	13,200	0	100%	13,200	13,200	0	0	13,200	0	
N2013-3	Garry Oak Drive PRV	50,050	0	100%	50,050	50,050	0	0	50,050	0	
N2013-4	Harlequin/Sea Lion Loop & Footbridge (System Improvements)	227,425	0	75%	227,425	170,569	56,856	569	171,137	56,288	
<b>TOTAL 2013-13</b>		<b>347,325</b>							<b>291,037</b>	<b>56,288</b>	
N2014-1	Arbutus Crescent Main (System Improvements)	160,050	0	90%	160,050	144,045	16,005	160	144,205	15,845	
N2014-2	Water Treatment Expansion for Claudet Wells (225 igpm of 425 igpm benefits development)	2,000,000	0	47%	2,000,000	941,176	1,058,824	10,588	951,765	1,048,235	
N2014-3	Hemlock Drive Main (System Improvements)	74,690	0	90%	74,690	67,221	7,469	75	67,296	7,394	
N2014-4	Collingwood Drive Loop Main (Fairwinds Installs with 25% DCC Rebate)	48,125	0	100%	48,125	48,125	0	0	48,125	0	
<b>TOTAL 2014</b>		<b>2,282,865</b>							<b>1,211,390</b>	<b>1,071,475</b>	
N2015-1	Armstrong / McDivitt Loop (System Improvements)	192,060	0	90%	192,060	172,854	19,206	192	173,046	19,014	
N2015-2	Arbutus Pump Station Improvements	121,000	0	75%	121,000	90,750	30,250	303	91,053	29,948	
N2015-3	West Bay PRV Building Upgrade	12,100	0	25%	12,100	3,025	9,075	91	3,116	8,984	
<b>TOTAL 2015</b>		<b>325,160</b>							<b>267,214</b>	<b>57,946</b>	
N2016-1	Marine Drive Watermain Replacement (2016)	148,555	0	90%	148,555	133,700	14,855	149	133,849	14,707	
N2016-2	Garry Oak Drive Main (System Improvements)	229,405	0	90%	229,405	206,465	22,940	229	206,694	22,711	
N2016-3	Anchor Way Watermain Replacement (2016)	220,000	0	50%	220,000	110,000	110,000	1,100	111,100	108,900	
N2016-4	Bonnington Drive Loop Main, Phase 1 (Fairwinds Installs with 25% DCC Rebate)	62,500	0	100%	62,500	62,500	0	0	62,500	0	
<b>TOTAL 2016</b>		<b>660,460</b>							<b>514,142</b>	<b>146,318</b>	
N2017-1	West Bay Pump House Upgrade	110,000	0	25%	110,000	27,500	82,500	825	28,325	81,675	
N2017-2	Dolphin Drive Main	32,175	0	90%	32,175	28,958	3,218	32	28,990	3,185	
N2017-3	Outrigger Road Main (System Improvements)	117,370	0	10%	117,370	11,737	105,633	1,056	12,793	104,577	
N2017-4	DCC Major Update Study	11,000	0	50%	11,000	5,500	5,500	55	5,555	5,445	
N2017-5	Bonnington Drive Loop Main, Phase 2 (Fairwinds Installs with 25% DCC Rebate)	75,000	0	100%	75,000	75,000	0	0	75,000	0	
<b>TOTAL 2017</b>		<b>345,545</b>							<b>150,663</b>	<b>194,882</b>	
N2018-1	Dorcas Point Rd Main (System Improvements)	586,850	0	90%	586,850	528,165	58,685	587	528,752	58,098	
N2018-2	Schooner Cove Drive Loop Main, Phase 1 (Fairwinds Installs with 25% DCC Rebate)	37,500	0	100%	37,500	37,500	0	0	37,500	0	
<b>TOTAL 2018</b>		<b>624,350</b>							<b>566,252</b>	<b>58,098</b>	
N2019-1	SCADA - Initial System	220,000	0	50%	220,000	110,000	110,000	1,100	111,100	108,900	
N2019-2	Beaver Creek Wharf Rd Northwest Bay to Madrona Drive (2012)	70,125	0	95%	70,125	66,619	3,506	35	66,654	3,471	
<b>TOTAL 2019</b>		<b>290,125</b>							<b>177,754</b>	<b>112,371</b>	
N2020-1	SCADA - Continue Expanding/Programming	55,000	0	50%	55,000	27,500	27,500	275	27,775	27,225	
N2020-2	Northwest Bay Rd #1665 to Ballenas (2012)	328,103	0	95%	328,103	311,697	16,406	164	311,861	16,241	
N2020-3	Jenkins Crescent Watermain Replacement (2012)	70,125	0	95%	70,125	66,619	3,506	35	66,654	3,471	
N2020-4	Schooner Cove Drive Loop Main, Phase 2 (Fairwinds Installs with 25% DCC Rebate)	210,000	0	100%	210,000	210,000	0	0	210,000	0	
<b>TOTAL 2020</b>		<b>663,228</b>							<b>616,290</b>	<b>46,937</b>	
N2021-1	SCADA - Continue Expanding/Programming	55,000	0	50%	55,000	27,500	27,500	275	27,775	27,225	
N2021-2	Sangster Crescent Watermain Replacement (2012)	76,890	0	95%	76,890	73,046	3,845	38	73,084	3,806	
<b>TOTAL 2021</b>		<b>131,890</b>							<b>100,859</b>	<b>31,031</b>	
N2022-1	SCADA - Continue Expanding/Programming	55,000	0	50%	55,000	27,500	27,500	275	27,775	27,225	
N2022-2	Strouger Rd Watermain Replacement (2012)	70,125	0	95%	70,125	66,619	3,506	35	66,654	3,471	
N2022-3	DCC Major Update Study	11,000	0	50%	11,000	5,500	5,500	55	5,555	5,445	
N2022-4	Arbutus Reservoir Replace/Enlarge	550,000	0	50%	550,000	275,000	275,000	2,750	277,750	272,250	
<b>TOTAL 2022</b>		<b>686,125</b>							<b>377,734</b>	<b>308,391</b>	
N2023-1	SCADA - Continue Expanding/Programming	55,000	0	50%	55,000	27,500	27,500	275	27,775	27,225	
<b>TOTAL 2023</b>		<b>55,000</b>							<b>27,775</b>	<b>27,225</b>	
N2024-1	Yeo Street Watermain Replacement (2012)	81,813	0	95%	81,813	77,722	4,091	41	77,763	4,050	
N2024-2	Madrona Drive W/main Replacement (2012)	376,922	0	95%	376,922	358,076	18,846	188	358,264	18,658	
<b>TOTAL 2024</b>		<b>458,735</b>							<b>436,027</b>	<b>22,707</b>	
N2025-1	Ballenas Road Watermain Replacement (2012)	155,128	0	95%	155,128	147,371	7,756	78	147,449	7,679	
N2025-2	Gerald Street Watermain Replacement (2012)	126,225	0	95%	126,225	119,914	6,311	63	119,977	6,248	
<b>TOTAL 2025</b>		<b>281,353</b>							<b>267,426</b>	<b>13,927</b>	
N2026-1	Radio Road Water Meters - Initial System	330,000	0	90%	330,000	297,000	33,000	330	297,330	32,670	
N2026-2	Douglas Crescent Watermain Replacement (2012)	46,173	0	95%	46,173	43,864	2,309	23	43,887	2,286	
<b>TOTAL 2026</b>		<b>376,173</b>							<b>341,217</b>	<b>34,956</b>	
N2027-1	Ida Lane Watermain Replacement (2014)	53,763	0	95%	53,763	51,074	2,688	27	51,101	2,661	
N2027-2	Radio Road Water Meters - Continue System Conversion	110,000	0	90%	110,000	99,000	11,000	110	99,110	10,890	
N2027-3	DCC Major Update Study	11,000	0	50%	11,000	5,500	5,500	55	5,555	5,445	
N2027-4	Acacia Road Watermain Replacement (2012)	126,225	0	95%	126,225	119,914	6,311	63	119,977	6,248	
<b>TOTAL 2027</b>		<b>300,988</b>							<b>276,743</b>	<b>24,245</b>	
N2028-1	Leisure Way Watermain Replacement (2014)	107,525	0	95%	107,525	102,149	5,376	54	102,203	5,322	
N2028-2	Schirra Drive Watermain Replacement (2014)	140,250	0	95%	140,250	133,238	7,013	70	133,308	6,942	
N2028-3	Radio Road Water Meters - Continue System Conversion	110,000	0	90%	110,000	99,000	11,000	110	99,110	10,890	
<b>TOTAL 2028</b>		<b>357,775</b>							<b>334,620</b>	<b>23,155</b>	
N2029-1	Sheppard Road Watermain Replacement (2014)	32,725	0	95%	32,725	31,089	1,636	16	31,105	1,620	
N2029-2	Armstrong Crescent Watermain Replacement (2014)	287,513	0	95%	287,513	273,137	14,376	144	273,281	14,232	
N2029-3	Radio Road Water Meters - Continue System Conversion	110,000	0	90%	110,000	99,000	11,000	110	99,110	10,890	
<b>TOTAL 2029</b>		<b>430,238</b>							<b>403,496</b>	<b>26,742</b>	
N2030-1	White Avenue Watermain Replacement (2014)	32,725	0	95%	32,725	31,089	1,636	16	31,105	1,620	
N2030-2	Collins Crescent Watermain Replacement (2014)	322,575	0	95%	322,575	306,446	16,129	161	306,608	15,967	
N2030-3	Radio Road Water Meters - Continue System Conversion	110,000	0	90%	110,000	99,000	11,000	110	99,110	10,890	
<b>TOTAL 2030</b>		<b>465,300</b>							<b>436,823</b>	<b>28,477</b>	
N2031-1	Apollo Drive Watermain Replacement (2014)	18,700	0	95%	18,700	17,765	935	9	17,774	926	
N2031-2	Glenn Place Watermain Replacement (2014)	44,165	0	95%	44,165	41,957	2,208	22	41,979	2,186	
N2031-3	Radio Road Water Meters - Complete System Conversion	27,500	0	90%	27,500	24,750	2,750	28	24,778	2,723	
<b>TOTAL 2031</b>		<b>90,365</b>							<b>84,531</b>	<b>5,834</b>	
<b>Total</b>		<b>\$9,172,997</b>	<b>\$0</b>		<b>\$9,172,997</b>	<b>\$6,857,841</b>	<b>\$2,315,156</b>	<b>\$23,152</b>	<b>\$6,880,993</b>	<b>\$2,292,004</b>	
<b>Total Development Cost</b>										<b>\$2,292,004</b>	
<b>Equivalent Population Demand, (EPD)</b>		<b>775</b>	<b>390</b>	<b>25</b>	<b>11,520</b>	<b>9,125</b>	<b>0</b>		<b>Total (EPD)</b>	<b>2,620</b>	
<b>DCC Charge per Person (DCC / EPD)</b>										<b>\$874.86</b>	
								<b>CATEGORY EQUIVALENT POP.</b>	<b>X</b>	<b>DCC/EPD</b>	<b>DCC CHARGE</b>
<b>DCC Charge for Single Family Unit</b>								<b>2.20</b>	<b>X</b>	<b>\$874.86</b>	<b>\$1,924.69</b>
<b>DCC Charge for Multi-Family Unit</b>								<b>1.90</b>	<b>X</b>	<b>\$874.86</b>	<b>\$1,662.24</b>
<b>DCC Charge for Congregate Care Facility Unit</b>								<b>1.00</b>	<b>X</b>	<b>\$874.86</b>	<b>\$874.86</b>
<b>DCC Charge for Commercial, per m<sup>2</sup> of Gross Building Area</b>								<b>0.0100</b>	<b>X</b>	<b>\$874.86</b>	<b>\$8.75</b>
<b>DCC Charge for Institutional, per m<sup>2</sup> of Gross Building Area</b>								<b>0.0050</b>	<b>X</b>	<b>\$874.86</b>	<b>\$4.37</b>
<b>DCC Charge for Industrial, per ha of Gross Site Area</b>								<b>0.0000</b>	<b>X</b>	<b>\$874.86</b>	<b>\$0.00</b>

DRAFT

**APPENDIX B**

**Water System Improvements Schematic**

DRAFT

**APPENDIX C**

**Ministry Submission Summary Checklist**

**MUNICIPALITY/REGIONAL DISTRICT  
MINISTRY OF COMMUNITY SERVICES  
SUBMISSION SUMMARY CHECKLIST**  
*(to be completed by local government)*  
**DCC BYLAW(S) NO.(S)**

- Is this bylaw a     New DCC Bylaw  
                            Major DCC Bylaw Amendment  
                            Minor DCC Bylaw Amendment

*Please complete checklist by marking the appropriate boxes, and providing references to background material and other requested information. If DCCs are established on a basis other than the DCC Best Practices Guide, provide a brief explanation for the approach used. If space is insufficient, reference pages in submission where this is covered or append additional pages.*

	<b>DCC RECOMMENDED BEST PRACTICE</b>	<b>Submission Page reference</b>
1.	Did the development of this DCC bylaw include: <input checked="" type="checkbox"/> a full public process? Yes <input checked="" type="checkbox"/> input from stakeholders? Yes <input type="checkbox"/> Council input only?	2
	Why? Local developers and the general public have been kept advised of the proposed DCC bylaw implementation. They were also specifically invited to attend at a staff meeting where the DCC Report was presented. Following this, they were able to comment on the function tables and other information in the report.	2
2.	Are the Road DCCs established: Not applicable <input type="checkbox"/> on a municipal-wide basis? <input type="checkbox"/> on an area specific basis?	
	Why? This is in accordance with the BPG.	
3.	Are the Storm drainage DCCs established: Not applicable <input type="checkbox"/> on a municipal-wide basis? <input type="checkbox"/> on an area specific basis?	
	Why? This is in accordance with the BPG.	
4.	Are the Sanitary sewer DCCs established: Not applicable <input type="checkbox"/> on a municipal-wide basis? Yes <input type="checkbox"/> on an area specific basis?	
	Why? This is in accordance with the BPG.	

	<b>DCC RECOMMENDED BEST PRACTICE</b>	<b>Submission Page reference</b>
5.	Are Water DCCs established: <input checked="" type="checkbox"/> on a municipal-wide basis? Yes <input type="checkbox"/> on an area specific basis?	15, 17
	Why? This is in accordance with the BPG.	15
6.	Are Parkland and parkland improvement DCCs established: <input type="checkbox"/> on a municipal-wide basis? Not applicable <input type="checkbox"/> on an area specific basis?	
	Why? This is in accordance with the BPG.	
7.	Is the DCC time frame: <input checked="" type="checkbox"/> a revolving program ( <u>20</u> Years)? Yes <input type="checkbox"/> a build out program ( _____ Years)? <input type="checkbox"/> other?	8, 11, 17, 21
	Why? DCC program is tied into the anticipated 20-year capital expenditure plan, for improvement works determined from established studies.	17
8.	Are residential DCC categories established on the basis of: <input checked="" type="checkbox"/> density gradient? Yes <input type="checkbox"/> building form? <input type="checkbox"/> other?	11
	Why? This is the traditional approach, with established records of average population per unit available to assist in the projection estimates.	11, 19
9.(a)	Are residential DCCs imposed on the basis of: <input checked="" type="checkbox"/> development units? Yes <input type="checkbox"/> floor space? <input type="checkbox"/> other?  If single-family residential DCCs are imposed on the basis of floor space, does the local government have a bylaw in place allowing DCCs to be levied at the building permit stage on fewer than 4 self-contained dwelling units? Yes	11, 19       4
	Why? Unit projection information is available.	11, 19

	<b>DCC RECOMMENDED BEST PRACTICE</b>	<b>Submission Page reference</b>
9.(b)	Are commercial and institutional DCCs imposed on the basis of: <input checked="" type="checkbox"/> floor space? Yes, per square metre of gross building floor space. <input type="checkbox"/> other?	12
	Why? Reliable, as records of equivalent to residential impacts are available.	12
9.(c)	Are industrial DCCs imposed on the basis of: Not applicable. <input type="checkbox"/> gross site area? <input type="checkbox"/> other?	12, 13
	Why? No industrial or public utility zoned lands presently exist in the service area or OCP. Should this change in the future, charges would be reviewed, and included in a DCC bylaw update.	12, 13
10.	Is the DCC program consistent with: <input checked="" type="checkbox"/> the <i>Local Government Act</i> ? Yes <input checked="" type="checkbox"/> Regional Growth Strategy? Yes <input checked="" type="checkbox"/> Official Community Plan? Yes <input checked="" type="checkbox"/> Master Transportation Plan? N/A <input checked="" type="checkbox"/> Master Parks Plan? N/A <input checked="" type="checkbox"/> Liquid Waste Management Plan? N/A <input type="checkbox"/> Affordable Housing Policy? <input checked="" type="checkbox"/> Five Year Financial Plan? Yes	1, 2, 3, 4 7, 9 9      17
	Why not? Other plans are not applicable to this DCC bylaw.	
11.	Are DCC recoverable costs, consistent with Ministry policy, clearly identified in the DCC documentation: <input checked="" type="checkbox"/> Cost allocation between new and existing? Yes <input checked="" type="checkbox"/> Grant Assistance? Yes <input checked="" type="checkbox"/> Developer Contribution? Yes <input checked="" type="checkbox"/> Municipal assist Factor? Yes <input checked="" type="checkbox"/> Interim Financing? Yes <input checked="" type="checkbox"/> Other: No – Long-term debt not allowable under the act. No – Inflation not allowable under the act.	13, 18, 19 14 19 13 6 6, 15 6, 15
	Why? To conform to the BPG.	
	Is capital cost information provided for: <input checked="" type="checkbox"/> Roads? N/A <input checked="" type="checkbox"/> Storm Drainage? N/A <input checked="" type="checkbox"/> Sanitary Sewer? N/A <input checked="" type="checkbox"/> Water? Yes <input checked="" type="checkbox"/> Parkland? N/A <input checked="" type="checkbox"/> Parkland improvements? N/A	Ref.17, 20



	<b>DCC RECOMMENDED BEST PRACTICE</b>	<b>Submission Page reference</b>																		
12.	<p>Are DCC recoverable costs which include interest clearly identified in the DCC documentation as follows:</p> <p><input checked="" type="checkbox"/> Interest on long-term debt is <i>excluded</i>? Yes  <input type="checkbox"/> For specific projects, interest on long-term debt is <i>included</i>?  <input type="checkbox"/> Other?</p> <p>If interest on long-term debt is included for specific projects, does the DCC submission include:</p> <p><input type="checkbox"/> A council/board resolution authorizing the use of interest?  <input type="checkbox"/> Confirmation that the interest applied does not exceed the MFA rate <u>or</u> if borrowing has already been undertaken, the actual rate providing it does not exceed the MFA rate?  <input type="checkbox"/> Confirmation that the amortization period does not exceed the DCC program time frame?  <input type="checkbox"/> Evidence that the current DCC reserve fund balance is insufficient for the work in question?  <input type="checkbox"/> Demonstration that the project is an exceptional circumstance (fixed capacity, out-of-sequence, or Greenfield)?  <input type="checkbox"/> Evidence of public consultation and disclosure in the financial plan and DCC report regarding inclusion of interest?</p>	15																		
13.	<p>Does the municipal assist factor reflect:</p> <p><input checked="" type="checkbox"/> the community's financial support towards the financing of services for development? Yes  <input type="checkbox"/> other?</p>	13, 14																		
	<p>Why? Low assist factor is considered appropriate at this time, with the healthy development climate anticipated in the Nanoose Peninsula Water System service area, and large Local Area Neighbourhood Plans having been recently approved for new development to proceed.</p>	13, 14																		
	<p>Has a municipal assist factor been provided for:</p> <table style="width: 100%; border: none;"> <tr> <td><input checked="" type="checkbox"/> Roads? N/A</td> <td>Assist factor</td> <td style="text-align: right;">_____ %</td> </tr> <tr> <td><input checked="" type="checkbox"/> Storm Drainage? N/A</td> <td>Assist factor</td> <td style="text-align: right;">_____ %</td> </tr> <tr> <td><input checked="" type="checkbox"/> Sanitary Sewer? N/A</td> <td>Assist factor</td> <td style="text-align: right;">_____ %</td> </tr> <tr> <td><input checked="" type="checkbox"/> Water? Yes</td> <td>Assist factor</td> <td style="text-align: right;">1 _____ %</td> </tr> <tr> <td><input checked="" type="checkbox"/> Park land? N/A</td> <td>Assist factor</td> <td style="text-align: right;">_____ %</td> </tr> <tr> <td><input checked="" type="checkbox"/> Park land improvements? N/A</td> <td>Assist factor</td> <td style="text-align: right;">_____ %</td> </tr> </table>	<input checked="" type="checkbox"/> Roads? N/A	Assist factor	_____ %	<input checked="" type="checkbox"/> Storm Drainage? N/A	Assist factor	_____ %	<input checked="" type="checkbox"/> Sanitary Sewer? N/A	Assist factor	_____ %	<input checked="" type="checkbox"/> Water? Yes	Assist factor	1 _____ %	<input checked="" type="checkbox"/> Park land? N/A	Assist factor	_____ %	<input checked="" type="checkbox"/> Park land improvements? N/A	Assist factor	_____ %	13
<input checked="" type="checkbox"/> Roads? N/A	Assist factor	_____ %																		
<input checked="" type="checkbox"/> Storm Drainage? N/A	Assist factor	_____ %																		
<input checked="" type="checkbox"/> Sanitary Sewer? N/A	Assist factor	_____ %																		
<input checked="" type="checkbox"/> Water? Yes	Assist factor	1 _____ %																		
<input checked="" type="checkbox"/> Park land? N/A	Assist factor	_____ %																		
<input checked="" type="checkbox"/> Park land improvements? N/A	Assist factor	_____ %																		
14.	<p>Are DCCs for single family developments to be collected:</p> <p><input checked="" type="checkbox"/> at the time of subdivision approval? Yes  <input checked="" type="checkbox"/> other? Building permit stage for construction, alteration, or extension of residential buildings with less than four but more than one unit.</p>	11 4																		
	<p>Why? Recommended by the BPG. Subdivision approval collection creates an orderly flow of funds to allow for completion of the required works in a timely schedule, to achieve the necessary level of service. Redevelopment of existing developments with less than 4 dwelling units will require DCCs.</p>	11 4																		

	<b>DCC RECOMMENDED BEST PRACTICE</b>	<b>Submission Page reference</b>
15.	Are DCCs for multi-family land uses to be collected: <input type="checkbox"/> at the time of subdivision? <input checked="" type="checkbox"/> at the time of building permit issuance? Yes	11
	Why? As the BPG. Charges related to the exact number of units, which are easily calculated at the building permit stage.	11
16.	Is a DCC monitoring and accounting system to provide a clear basis for the tracking of projects and the financial status of DCC accounts: <input type="checkbox"/> in place? <input checked="" type="checkbox"/> to be set up? Yes	6
	Why? This is a new DCC bylaw. System will be set up once bylaw is implemented.	
17.	Is a suitable period of notification before a new DCC bylaw is in effect, known as a grace period: <input checked="" type="checkbox"/> provided for? Yes <input type="checkbox"/> other?	2, 21
	Why not?	
18.(a)	Does the DCC bylaw set out the situations in which a DCC credit or rebate are to be given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4, 5, 18, 21
18.(b)	If no, has Council adopted a policy statement that clearly identifies situations in which a DCC credit or rebate should be given or would be considered by Council? Not applicable <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, a copy of the policy statement is included with this submission.	Ref. _____
	If no, why not?	

MUNICIPALITY

SUMMARY OF DCCs - BYLAW NO(S).

	<b>Residential</b> (per single family <SF>, multi- family <MF>, or congregate care <CC> dwelling unit)	<b>Commercial</b> (per square metre)	<b>Institutional</b> (per square metre)	<b>Industrial</b> (per hectare)
Roads				
Storm Drainage				
Sanitary Sewer				
Water	\$1,924.69 <SF> \$1,662.24 <MF> \$874.86 <CC>	\$8.75	\$4.37	N/A
Park Land				
Park Land Improvements – Included in Park Land				
<b>Total</b>	<b>\$1,924.69 &lt;SF&gt;</b> <b>\$1,662.24 &lt;MF&gt;</b> <b>\$874.86 &lt;CC&gt;</b>	<b>\$8.75</b>	<b>\$4.37</b>	<b>N/A</b>

Note: If not on a municipal-wide basis, please indicate minimum and maximum charges.

For amendment bylaw, please indicate nature of change	Existing	Proposed
• New DCC service added		
• Time horizon		
• Capital costs		
• Weighting of types of development (residential, commercial, industrial, etc.)		
• Potential development		
• Allocation of benefit between existing and potential units of development		
• Assist factor		
• Inclusion of Specific Interest Charges		
• Provide that a charge is payable where there is fewer than 4 self-contained dwelling units		
• Establish an amount higher than the \$50,000 minimum provided for in the <i>Local Government Act</i> .		
• Is a suitable period of notification before a new DCC bylaw in effect, known as a grace period?		
Other: (please list) • •		