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**REPORT TO GANGES SEWER LOCAL SERVICE COMMISSION  
MEETING OF FRIDAY 03 JUNE 2011**

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**SUBJECT      GANGES SEWER SERVICE AREA DEVELOPMENT COST CHARGE STUDY**

**ISSUE**

As a 2010 Capital Plan project, the Ganges Sewer Local Service Commission (GSLSC) authorized staff to undertake a study of alternatives for imposing a Development Cost Charge (DCC) or similar cost structure.

**BACKGROUND**

The GSLSC approved funding of up to \$15,000 to study whether a Development Cost Charge (DCC) bylaw could be created to charge fees when property rezoning or infilling occurs within the sewer service area. In order to accommodate an increase in sewer flows, facility planning is necessary to identify costs of expansion of capacity in the system.

Bylaw No. 3262 levies capacity purchase charges for inclusion of a property in the service area; however, there is currently no revenue means available to assess fees to a property already within the sewer service area requesting an increase in density through re-zoning or infill development.

Development cost charges (DCC's) are monies that municipalities and regional districts collect from land developers to offset that portion of the costs related to infrastructure capacity improvements required as a direct result of new development. Routine capital upgrades such as replacement of aged infrastructure where no upsizing of equipment is required cannot be funded from DCC's.

RCL Consulting Ltd. (RCL) of Victoria was selected to study alternatives, and make recommendations regarding DCC's or other means of cost recovery to fund infrastructure works related to capacity improvements. In a final report dated February 28, 2011 (Attachment 1), RCL concludes that there is insufficient data available regarding the surplus or deficit capacity of various components of the sewer system to produce a defensible DCC. To meet the objective of the Ganges Sewerage Service Area having a defensible DCC formula for cost recovery, RCL recommends the following action plan:

1. Prepare an Asset Management Plan, identify key components of the sewer system, their operating capacities, the need to upgrade components based on age and/or capacity, and associated costs;
2. Establish a forecast for growth in the GSLSA and Ganges Village Development Permit Area, in consultation with the Islands Trust;
3. Decide whether or not to implement a DCC based on an Asset Management Plan and growth forecast;
4. Adopt a conservative approach to cost recovery through a DCC; perhaps based on 4% population growth, or 15 dwelling unit equivalents per annum; and
5. Communicate with service area participants when Asset Management Plan and growth forecast are complete, including options for recovering the costs of accommodating growth in the GSLSA.

In 2009, a sanitary sewer model was produced by Stantec Consulting Ltd to help identify current and anticipated capacity shortfalls within the sewer service area. The approved 2011 Capital Plan includes an asset condition evaluation and engineering study to determine the quantity, age, condition and approximate life expectancy of the sewer infrastructure, estimate the cost to renew or replace components and develop a long term financial plan to fund infrastructure renewal or replacement as required to maintain an acceptable level of service and stable annual cost of service. It is anticipated that the combination of the two completed studies would provide sufficient data to support the establishment of a defensible cost recovery formula for a DCC bylaw through an identified long term infrastructure replacement and upgrade program and budget. A final phase of the DCC study will be necessary to complete the creation of a Development Cost Charge Bylaw.

**ALTERNATIVES**

1. That the Ganges Sewer Local Service Commission receive this report for information.
2. That the Ganges Sewer Local Service Commission receive this report for information and request further information from staff.

**CONCLUSION**

In order to implement a DCC, the asset condition evaluation and engineering study must be completed. The engineering study by Stantec Consulting Ltd. is underway and a final report is anticipated by August 2011. Further work is also recommended to establish a forecast of growth in the Ganges Village area in consultation with the Islands Trust. A final phase of the DCC study will be necessary to complete the creation of a Development Cost Charge Bylaw.

Revenue generated from Development Cost Charges would be used to fund infrastructure capacity improvements required as a result of increased sewer flows generated through current service area property re-zoning, infilling or expansion of the service area.

**RECOMMENDATION**

That the Ganges Sewer Local Service Commission receive this report for information.

  
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GPTR:ls

Attachments: 1 RCL Development Cost Charge Study Final Report SPDoc# 807839 and #811437)



**Making a difference...together**

**Final Report**

**DESIGN OF DEVELOPMENT COST CHARGE STRUCTURE**

**GANGES SEWER LOCAL SERVICE**

**RFP 10-1670**

**February 28, 2011**

**RCL File No.: 132-01**



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## EXECUTIVE SUMMARY

The Capital Regional District (CRD) has retained RCL Consulting Ltd. (RCL) to review the use of a development cost charge (DCC) for the Ganges sewer local service area to recover or offset the costs of increased sewer capacity requirements arising from further development within the sewer service area. The Ganges Sewer Local Sewer Area (GSLSA) commission and CRD staff are anticipating additional growth within the area and do not wish to place the burden of funding for infrastructure upgrades arising from this development on the rate payers of the sewer service area. A development cost charge (DCC) bylaw is the primary tool available to local government for capital cost recovery of this nature.

Specifically, RCL has agreed to review the OCP and bylaws of the Islands Trust to determine potential growth scenarios, review legislation for DCC implementation and potential alternatives for raising capital funds, provide a model for a DCC bylaw, and evaluate whether the suggested structure will work and will be defensible. RCL was not requested to determine the extent of capital works upgrade required to service the anticipated growth, however some analysis was needed in this area for the consultant to formulate an opinion on the practicality of adopting a DCC bylaw.

To implement a workable DCC Bylaw at this time requires some basic questions to be posed:

1. How many new housing or commercial units will connect to the sewer over a fixed time period of say 5 to 15 years?
2. What is the present capacity of the various components of the wastewater system and which components will need to be upgraded or replaced in the 5 to 15 year planning window to provide for the anticipated growth in housing units connected to the system?
3. What is the cost of the needed improvements?

RCL has struggled with answering these questions given the information available and has recommended additional works be carried out in the form of two studies, one, a Sewer Area Development Plan to address item 1 and a second, an Asset Management Plan to address items 2 and 3, prior to implementation of a DCC.

### Sewer Area Development:

Unlike a typical regional district or municipal sewer function, the GSLSA is somewhat unique in that planning and zoning decisions which occur within its boundary are a responsibility of the Islands Trust. In a municipal setting, the approval of development would include requirements to provide the necessary parks, roads water and sewer servicing. While the Local Trust Committee maintains ongoing dialogue with CRD and other servicing agencies there remains a potential disconnect between the two groups on issues of servicing. As the approach to development to date in the service area has been cautious, due to the OCP and Trust policies and as much of the development to date has been accommodated by the existing infrastructure,

without major cost to the tax payers of the GSLSA, the arrangement has so far been satisfactory.

As originally stated, identifying how many new housing units remain to be added to the sewer system is difficult. An initial assessment can be made based on current zoning and vacant parcels, resulting in a modest increase in housing units connected and likely limited system upgrade. There are a number of policies in the OCP which suggest that the number of housing units which could be constructed in the sewer area are potentially higher than the initial assessment. These include policies where the Local Trust Committee might consider:

- amending zoning to require that on-site staff accommodation be provided for larger new commercial developments.
- Changing zoning to allow small, affordable homes to be located above commercial buildings in villages.
- In zones where single family dwellings are presently allowed, the Local Trust Committee should consider changing local zoning to also allow (as an alternative to a single family dwelling unit) a flexible dwelling unit that could contain between one and three dwelling units.
- Flexible unit dwellings could also be allowed in zones in the Industrial and Commercial Services Land Use Designation.
- Amending the Land Use Bylaw to allow secondary suites in dwellings as affordable housing under certain circumstances.
- Seasonal cottages should continue to be allowed wherever they are allowed by current zoning. The Local Trust Committee may also consider amending the Land Use Bylaw to allow in certain areas the use of seasonal cottages as full time affordable rental housing units. This section suggests cottages would be limited to those parcels of between 1.2 and 2 hectares in area.

The actual number of units constructed based on these policies might again be quite limited however each unit added in this manner further erodes surplus capacity in the system. The GSLSA and the Trust Committee have supported a number of projects in the past which are seen to be of importance to the growth and well being of Salt Spring. These projects include higher density developments for seniors housing, assisted living, affordable housing and recreational projects. Having broad support of the public and approving agencies, there will continue to be demand for these types of projects within the Ganges Village. The proposed study will try to project the growth in housing units associated with the current direction and policy of the Local Trust Committee and the OCP. The project, like all such projects which involve actual land use decisions, is expected to receive considerable public input and scrutiny.

#### Asset Management Plan:

The CRD has been involved in developing asset management plans for most of its utilities. The plans are structured to comply with federal legislation requiring local government to proceed with the development of plans for the orderly replacement of critical infrastructure. The plan would look at the various components making up the wastewater system, collection, pumping, treatment, disposal and associated systems and would determine a life cycle for the equipment, a cost of repair or replacement and a timing for same. RCL would suggest this process be expanded to also consider the need to upgrade or replace the component for reasons of

capacity deficit. The information received in this regard can then be utilized in the establishment of reasonable and supportable DCC rates.

On completion of this additional works, the GSLSC and CRD, having now more supportable projections for growth within the service area, and associated costs for increasing the capacity of some or all of the sewer system components, can effectively determine whether or not a development cost charge bylaw can be implemented.

#### DCC Assistance

The legislation for establishing DCC's provides for an assist factor to be implemented. Such a factor is the percentage of the upgrade costs which might be paid for by the GSLSA. The factor might be as little as 1%, meaning development would be expected to pay the full cost of the upgrade, or some higher percentage, recognizing that the GSLSA benefits to some extent from the upgrade or replacement of its infrastructure. The decision on whether such an assist factor will be provided, and how the assistance is funded, is also a financial consideration to be resolved prior to implementation of the DCC.

## **1.0 INTRODUCTION**

### **1.1 Background**

The Capital Regional District (CRD) has retained RCL Consulting Ltd. (RCL) to review the use of a development cost charge (DCC) for the Ganges sewer local service area to recover or offset the costs of increased sewer capacity requirements arising from further development within the sewer service area. The Ganges Sewer Local Sewer Area (GSLSA) commission and CRD staff are anticipating additional growth within the area and do not wish to place the burden of funding for infrastructure upgrades arising from this development on the rate payers of the sewer service area. A development cost charge (DCC) bylaw is the primary tool available to local government for capital cost recovery of this nature.

Specifically, RCL has agreed to review the OCP and bylaws of the Islands Trust to determine potential growth scenarios, review legislation for DCC implementation and potential alternatives for raising capital funds, provide a model for a DCC bylaw, and evaluate whether the suggested structure will work and will be defensible. RCL was not requested to determine the extent of capital works upgrade required to service the anticipated growth, however some analysis was needed in this area for the consultant to formulate an opinion on the practicality of adopting a DCC bylaw.

### **1.2 Salt Spring Island –General Demographics and Growth Projections**

There has been steady population growth on Salt Spring Island for the past several years and this growth is projected to continue at a rate of around 4% per annum for some years to come. (source Islands Trust SSI Housing Needs Assessment Phase 11 report). This same report suggests some 2,350 additional housing units will be needed on Salt Spring Island over the next 30 years. To be consistent with the Official Community Plan (OCP) objectives, which favour growth in the three village areas on the island, it is expected that Ganges Village (GV), with the most services and servicing in place, could be expected to receive a significant portion of the new housing units. New or expanded services in the village would also be expected.

While demand for single family housing may remain strong, it is likely that demand for affordable living accommodation will continue to increase. While this may be in the form of single family units, costs may dictate the construction of rental or multifamily units leading to higher density on some parcels than was envisioned in the past. Several projects to provide housing for seniors who wish to remain on the island, but are unable to maintain their single family dwelling have been undertaken in the recent past and future projects are expected. There have been a number of affordable housing projects proposed for construction within or on parcels to be included in the sewer area to meet the needs of those who can no longer afford to purchase a single family dwelling on the island. Projects in progress include one on Norton Road and a second on the Ganges Hill. With the increase in construction and servicing costs over the past several years, the completion of these types of projects as envisioned will be increasingly difficult. One way to reduce unit costs to be more affordable is to increase density. In this manner the village area may see public pressure to rezone parcels for higher density than envisioned by planners or considered during design of the sewer system.



If suitable vacant land within the GV is not available for such projects, there may be continued pressure to expand the boundaries of the planning and sewer area or redevelop existing properties.

### **1.3 Sewer Service Area Growth – Official Community Plan**

Unlike many municipalities, the Regional District has no responsibility for changes to zoning, development or density increases within its GSLSA. The Islands Trust provides this leadership and is sensitive to the requirements of the various servicing agencies. There is however a heightened need to harmonize future growth anticipated to occur in the Ganges Village area with the provision of services such as sanitary sewer, roads, rainwater management and water in that planning area.

The GSLSA boundary is set by bylaw of the Capital Regional District (CRD). The OCP identifies a boundary for lands included within the Ganges Village. Within Ganges Village, the lands in the downtown area are known as the village core and those outside the downtown are referred to as village upper. For purposes of this report the combined area included in the core and upper village areas will be referred to as the Ganges Village (GV)

The GSLSA boundary is similar, though not the same as the containment boundary for the GV. There has been movement of the Trust and the GSLSC in the past to harmonize the boundary however the discrepancy creates some ambiguity in assessing potential development within the GSLSA. Within the GSLSA, it would be expected that development and increases in density and therefore wastewater flows, would arise from one or more of the following:

1. Development of existing vacant parcels
2. Further subdivision of parcels as permitted under existing zoning

The discrepancy between the GV boundary and GSLSA boundary has implications. CRD will in some cases be requested to extend sewer service to a property in the service area with full knowledge that the parcel is not considered part of the development plan for the Village. On the other hand, there are a significant number of parcels not in the sewer area, some of which have zoning for a significant number of housing units, and which appear to be intended to be connected to sewer by virtue of being included in the OCP GV containment boundary.

Given the objectives of the Trust, espoused in the OCP, to accommodate growth in the three village areas rather than the rural island, it is anticipated that further population growth may be realized in the GSLSA arising from rezoning or alternate land use beyond that which is highlighted above. The Trust has, through the OCP process, suggested it would consider application of certain policy to allow:

- the addition of a single residential unit to a commercially zoned parcel,
- an accessory unit or secondary suite on residential parcels
- increases in density in Ganges arising from transfer of density from other areas of the island,
- rezoning of existing parcels to provide for additional density, if such a process was deemed in the greater interest of the Island.

The OCP reflects the desire of the public to manage and control growth and ensure when change is needed that there is provision to consider alternatives. This approach, while cautious, unfortunately makes it difficult to predict with any certainty, wastewater flow increases arising from growth in the GSLSA. Without these projections it will be difficult to plan for and construct the necessary sewer works to ensure capacity is available when needed.

For purposes of this study a density analysis was undertaken to identify the potential increase in housing units which might be anticipated in the sewer area and by simple expansion of the area to include parcels consistent with the GV boundary. The analysis is considerate of development limited by present zoning, however it also considers example projects involving rezoning or alternate land use that might have some support in future if the demand for higher density multi family, affordable or seniors projects increases. The purpose of this process is to highlight to the commission the potential variability in wastewater flows the system may one day experience. It is not recommended to establish a DCC based on these projections without further study.

#### **1.4 Capacity Purchase Charge**

For those properties currently outside of the area, that wish to obtain sewer service, the CRD has implemented a means to recover funds toward future infrastructure improvements by way of a Capacity Purchase Charge for each housing unit proposed to be added to the sewer system. The charge is used as a basis of negotiation with a landowner wishing to have properties included into the sewer area. The Ganges Sewer Local Service Commission (GSLSC) , which reviews all such applications, is not obligated to support inclusion of any further lands into the service area, but has recommended extension of the boundary for specific projects in the past if such projects are seen as providing benefit to the community and if the projects are supported by the Islands Trust.

#### **1.5 Development Cost Charges (DCC)**

##### **1.5.1 General**

DCC fees may be based on several criteria:

- each unit developed
- square footage of development
- assessed value of the development
- water demand/sewer flows

DCC's are collected at the time of subdivision or on issuance of building permits. As much of the works in Ganges will involve redevelopment, it is recommended the charge be unit based. Charges based on square footage of development, encourage the construction of smaller, lower cost units than larger rambling single family homes.

##### **1.5.2 Calculation of DCC's**

Provisions for DCCs are found in sections 932 through 937 of the *Local Government Act*. DCCs are intended to assist the Regional District to pay the costs of infrastructure upgrades or expansion triggered by new development or redevelopment in a service area. DCC's are

typically payable by a developer or individual requesting approval of a subdivision (often for single family lots) or at the time a building permit is issued for the alteration or extension of a building or construction of a new unit, for commercial or multi-family developments.

### 1.5.3 DCC Base Calculations

The legislation provides for calculation of DCC's based on various development factors including subdivided lots, construction of single family dwelling units, multifamily development based on number of housing units, commercial development based on floor area, or institutional development based on equivalent contribution as derived from sewer flow data. The commission will need to consider whether rates for community projects such as affordable housing and seniors housing will be different from conventional development and whether higher density development, which may provide a better use of other infrastructure will be encouraged with different rates than single family residential subdivisions. To provide these options it is likely some rates will require an assist factor. This factor, which can vary from 1%, would suggest that the residents of the sewer area, by borrowing or through the operating budget, would support a joint approach to development, or certain kinds of development by providing some assistance to projects.

### 1.5.4 Assist Factor

The Local Government Act, Section 933 (2) states the purpose of DCC's is to provide funds to "assist" local government to cover the costs of municipal infrastructure upgrade. By not allowing 100% of the development related costs to be charged to new development, the legislation implicitly requires the local government to assist in the cost. This "assist factor" satisfies the Ministry requirement that the Regional District has provided some level of financial assistance. The Ministry's Best Practices Guide for DCCs suggests there is no guidance from the Ministry as to magnitude of the assist factors. Research into some municipal DCC's indicate rates vary widely, from 1% to well over 50%. The local service could probably set aside funds in reserve to fund a 1% factor, but would likely need to establish a borrowing if there is a requirement for a larger assist factor. Unlike the situation in Ganges, some municipalities are seeking to encourage development, and may establish a higher assist factor to soften the cost of the development process. In the Ganges service area, where growth is being accommodated rather than encouraged, it is possible a higher assist factor may be necessary to help balance the anticipated cost of capital works with the relatively low number of fees collected.

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## **2.0 SEWER SERVICE AREA – DENSITY ANALYSIS**

### **2.1 General**

Residential growth projections have been isolated into sections or scenarios including density possible with the development on vacant parcels in the current sewer area boundary, the subdivision potential of larger parcels as allowed under present zoning, opportunities for additional housing units accessory to current usage, possible changes in land use (industrial to residential) and zoning to permit higher density development and finally expansion of the sewer area boundary to take in parcels already identified as being part of the GVC. The data for this analysis is summarized following. The data is preliminary at this time. Some effort has been made to review the projections with staff from the Trust, however at this stage it is evident that considerable work will be necessary between CRD and IT staff to agree on likely growth projections for the immediate future. The growth of the commercial sector has not been evaluated. CRD does have an inventory, through their billing system, of total commercial floor space dating back many years. The DCC could consider commercial growth on an area basis, or could use an equivalency calculation, based on occupancy or water usage.

### **2.2 Density Increase – Vacant Parcel Development**

There are some 29 vacant parcels of varying sizes remaining to be developed within the sewer area. There are some additional vacant parcels in the area, however they are currently included within park dedication or school district lands and have not been considered for the analysis. The zoning of the available vacant parcels is predominantly residential with a few commercial or industrial. It is estimated that a further 86 Single Family Equivalent (SFE) housing units could be constructed on these parcels under present zoning. A few of these parcels are currently used as parking lots or transient businesses and may not be developed for some time. One large parcel on Jackson, which is not in the Ganges Village Core plan, is an agricultural parcel and zoned as such, and may be difficult to rezone for higher density than at present unless the proposed project included a significant public benefit such as a seniors or low cost housing component. If a successful formula could be found to develop the property it might yield between 2 and 22 single family housing units or equivalents (SFE).

Total projections including this latter parcel would amount to 108 SFE. This number does not include housing units to be constructed on lands on the Ganges Hill recently included in the sewer area. A further 53 units are proposed for construction, but have already been assessed a capacity purchase charge therefore there will be no further option for a DCC taxation unless the lands again were rezoned for higher density.

### **2.3 Density Increase – Subdivision As Permitted By Current Zoning**

A few parcels, currently occupied with a single residence or other usage are of sufficient area to be further subdivided under present zoning. One large parcel in this category, which could have a significant impact on the sewer system would be the Brinkworthy Estates trailer park. It is understood the parcel is currently before the Islands Trust for rezoning. It is also understood the proposal is to convert the rental park to a strata parcel rather than to increase density. Assuming no increase in density at Brinkworthy, it is estimated that a further 13 SFE could be created in the area in this manner,

## 2.4 Housing – Additional Residential Units

The Trust, under Sections B.2.2.2.6 -.15 of the OCP, sets out policy which could have significant impact on wastewater flows in the sewer area. Most appear designed to encourage construction of affordable accommodation to address a pressing community need. Whether these policies will result in construction of significant number of housing units in the short term is questionable, however as the sewer system is of limited size and capacity, any trend to construction of new units in this regard, to satisfy this demand, should be considered in a long term DCC strategy. As a brief summary some of the policies are set out following.

- B.2.2.2.7 The Local Trust Committee may consider amending zoning to require that on-site staff accommodation be provided for larger new commercial developments.
- B.2.2.2.8 Zoning could be changed to allow small, affordable homes to be located above commercial buildings in villages.
- B.2.2.2.10 c In zones where single family dwellings are presently allowed, the Local Trust Committee should consider changing local zoning to also allow (as an alternative to a single family dwelling unit) a flexible dwelling unit that could contain between one and three dwelling units.
- B.2.2.2.12 Flexible unit dwellings could also be allowed in zones in the Industrial and Commercial Services Land Use Designation.
- B.2.2.2.15 The Local Trust Committee may give consideration to amending the Land Use Bylaw to allow secondary suites in dwellings as affordable housing under certain circumstances.
- B.2.2.2.16 Seasonal cottages should continue to be allowed wherever they are allowed by current zoning. The Local Trust Committee may also consider amending the Land Use Bylaw to allow in certain areas the use of seasonal cottages as full time affordable rental housing units. This section suggests cottages would be limited to those parcels of between 1.2 and 2 hectares in area.

The number of additional housing units which could be added to the system through such initiatives could vary considerably. Redeveloping even half of the currently vacant properties as three dwelling unit structures could increase the SFE count from 108 to 122

Excluding large stores or business complexes, there are some 23 commercial or industrial use parcels in the core area which, if additional housing units were added, would provide a further 23 SFE on the sewer system. .

The Islands Trust is also considering supporting additional housing units or secondary suites for existing residential properties. The impact of this policy is much more difficult to project, however there are some 75 parcels on the system showing 1 single family dwelling which if approved, could add 75 suites at some time in the future.

## 2.5 Rezoning / Expansion Or Alteration Of Land Use

It is evident that the largest potential demand on the wastewater system could arise from the rezoning and development of larger parcels in the sewer area. Pressure to develop these parcels may not come from the parcel owners themselves but rather from the Island's residents looking for a place to reside affordably through rental housing or affordable housing projects, or seniors housing. The development of each of these parcels would be debated on an individual basis through the rezoning process. The success of the process could be affected by local site conditions (stormwater management, Swanson's Pond), whether the land resides in the Agricultural land Reserve (ALR), whether the parcel is contained within the OCP designated boundary for the GV or the GSLSA and whether there is public support for the proposed usage. For these reasons the actual timing and success of these projects, and their impact on the sewer system, is difficult to project, but it is unlikely any of the projects would be undertaken for some years.

Examples of potential parcels which might attract applications for redevelopment in this manner might include:

| Description  | Present SFE | Potential SFE | New SFE |
|--|-------------|---------------|---------|
| Rainbow Road, Lumberyard, Rezone, 37 units/ha                                      | 2           | 44            | 42      |
| C4 Parcel, Lower Ganges, 0.8ha subdivide, 0.046 ha/ lot                            | 1           | 17            | 16      |
| Legion Parcel, develop unused land for seniors, currently R12, potential, 20 units | 1           | 21            | 20      |

As a further example, a very large piece of real estate in the town core is currently used predominantly as a parking lot. Maintaining parking on a lower level while accommodating commercial and housing on a newly constructed upper floor, if ever contemplated, would provide considerable additional density. While all projects noted are completely speculative at this time, the examples illustrate the difficulty in obtaining a clear picture of where development might go in the future.

## 2.6 GSLSA and GV Boundary Issues

There are some significant discrepancies between the two administrative areas which provide some ambiguity in assessing development potential, these include:

1. Parcels in GV, but not the GSLSA
  - 103 Bonnet Ave. (Bonnet and Drake), a 1.5 ha parcel
  - Swanson Road and Woodhall Place. Two subdivisions, predominantly developed, consisting of some 26 parcels, with potential for additional.
  - 141, 201 Atkins Rd. Although 2 parcels at present, maximum subdivision could yield 35 lots or be good candidates for seniors or multifamily projects.
  - North West corner of Ganges Harbour, Predominantly on 160 Upper Ganges Road
  - 122, 123, 125, 136, 139 Lakeview Crescent (Lakeview and Kanaka Road)
  - 13 parcels in the 150 Kings Lane Howell Lane area, several with subdivision potential

In all, with subdivision potential considered, an additional 99 single family units and parcels could be added to the system. The parcels on Atkins are of size that rezoning for higher density could be an option, potentially increasing the SFE count over that noted.

## 2. Parcels in the GSLSA but not the GV

- 114 Jackson, a 2.5 ha parcel currently zoned A1
- 135 Brinkworthy Rd. a 14ha parcel, currently a trailer park.

To harmonize the two service areas, it would be necessary to expand both boundaries to include the presently excluded parcels. Those parcels coming in to the GSLSA would be expected to remit a capacity purchase charge for development or alternatively, a DCC if one was in place. A drawing is appended to this study which shows the parcels in question.

## 2.7 Density Analysis Summary

While the GSLSA has relatively few vacant parcels remaining for development it is evident that redevelopment in the area and expansion of the area could have a very significant effect on the total housing units connected to the wastewater system. Table 1 below summarizes the type of development which might be anticipated to occur in future and the resulting housing units which might be added to the system.

**Table 1.**

| Sec. | Description  | Potential New SFE | Cumulative SFE |
|------|--|-------------------|----------------|
| 1    | Vacant Parcels (28) max units possible under present zoning .  | 86                | 86             |
| 1A   | Rezone ALR parcel, Jackson                                     | 22                | 108            |
| 1B   | Rezone for 3 unit flexible housing                             | 14                | 122            |
| 1C   | Units having paid Capacity Purchase Fee *                      | 53                |                |
| 2    | Potential redevelopment of larger parcels to max density       | 13                | 135            |
| 3    | Add 1SFE ea commercial   | 23                | 158            |
| 3A   | Add 1 Secondary suite to 75 single family parcels              | 75                | 233            |
| 4    | Major redevelopment, rezone existing parcels                   | 135               | 368            |
| 5    | Add parcels not in GSLSA but in GV, max density current zoning | 99                | 467            |
| 6    | Parcels in progress of inclusion to area                       | 31                | 498            |

Details for Table 1 follow below. Some of the information is presented graphically on a drawing entitled Service Area Land Evaluation at the end of this Section.

Section Description:

- 1 There are some 28 parcels which are not connected to the system and can be developed at this time. The parcels are of limited area but could accommodate 1 or more units without rezoning.
- 1A There is a large parcel on Jackson, approximately 2.5 hectares in size which is in the sewer area, but is ALR land. To be developed it would need to be removed from the ALR and rezoned. Support for development of this property might only be secured if it was used for affordable or seniors housing or another community use.
- 1B The Islands Trust has indicated a willingness to rezone for 2 or 3 unit flexible housing which would increase density for vacant properties over that shown in Section 1.
- 1C The CRD has received a capacity purchase charge in lieu of a DCC from these parcels. They are shown as they need to be considered in capacity calculations but would not be part of any sewer DCC.
- 2 There are a number of larger parcels in the area which could be redeveloped to a higher density under current zoning.
- 3 The Islands Trust has suggested it would support a rezoning to allow construction of a housing unit on an upper floor of commercial use property. There are a number of downtown properties where this policy might be applied.
- 3A To provide affordable housing opportunities the OCP provides for the addition of a secondary suite to a single family dwelling. This could add a significant number of units to the system if promoted.
- 4 Over time, as buildings age or properties are sold, some redevelopment of key parcels in the village area is likely. As each development would be assessed at the time on its merits, density and other attributes, it is difficult to determine how many additional housing or commercial units could be created. The study looked at a few larger parcels, such as the parking area on Purvis and the lumber yard on Rainbow which could provide considerable additional housing units or commercial/housing if rezoned.
- 5 Harmonizing the sewer area and village area boundaries and extending the sewer system would result in some larger parcels and numerous smaller parcels added to the system.
- 6 CRD and the Ganges Sewer Local Service Commission have included in principle, some parcels, subject to successful rezoning by the Islands Trust. The proposals typically involved construction of an affordable housing project.

The analysis was not exhaustive and in many cases speculative. The intent was not to suggest that development as shown will take place, but rather that considerable development potential in the sewer area and surrounding the sewer area remains. It is understood the CRD has recently received interest from residents on the Ganges Hill to also connect to the new sewer main installed for the Three Point Development. There are a number of large parcels in this area which are not currently in the GC, nor the GSLSA, which may in future make application for sewer service. These parcels were not considered in this analysis.

## **2.8 Density for DCC Calculation**

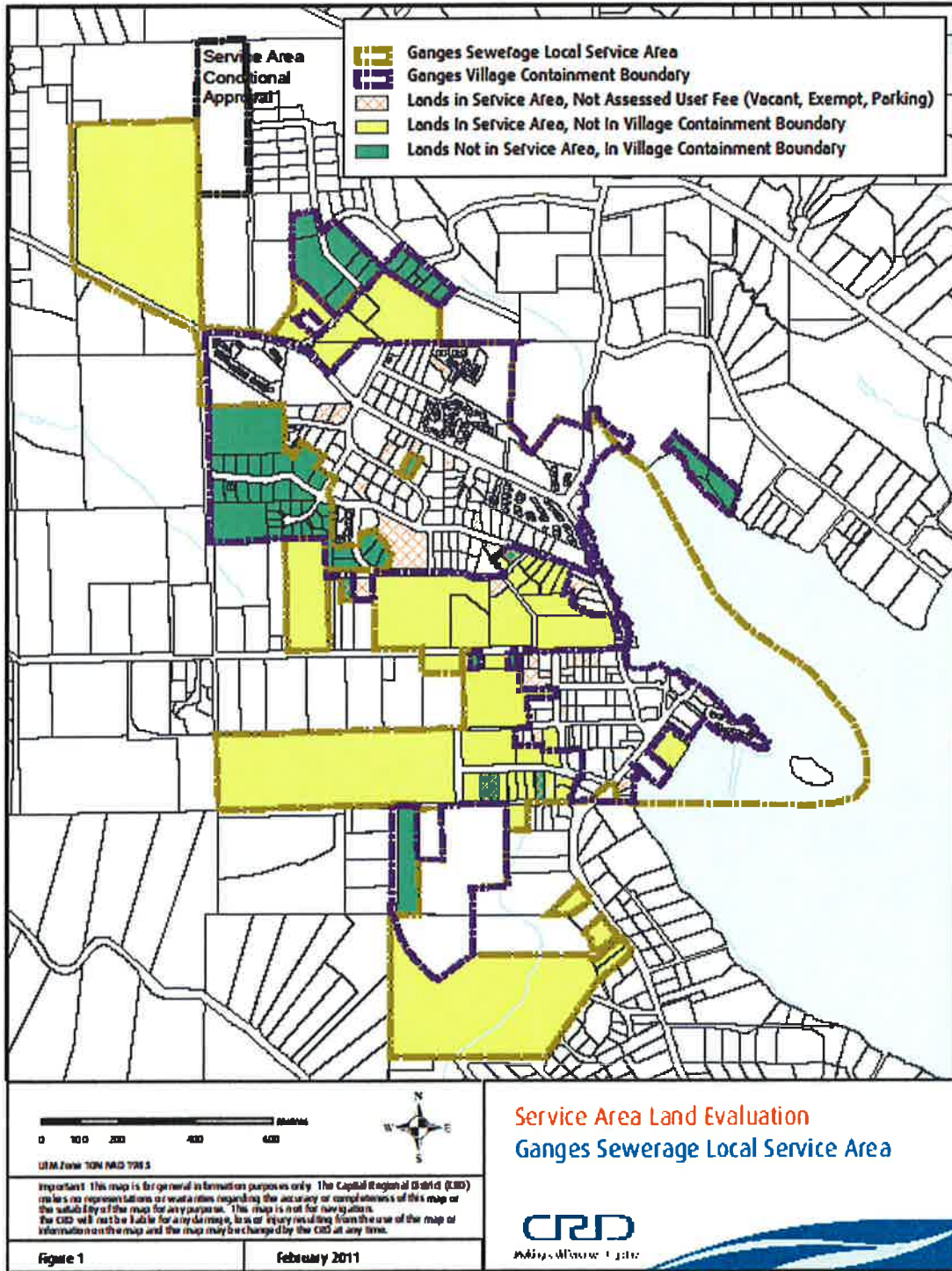
To establish a DCC rate or rate system, it is necessary to marry up required capital improvements with anticipated density increases over a certain time period. Given the uncertainty of density projections it is recommended that a conservative approach be taken to project housing increases when calculating the DCC. This approach, together with a short term for the DCC say five years would allow the District to continue to work with Islands Trust to firm up long term objectives for development in the Ganges Village.

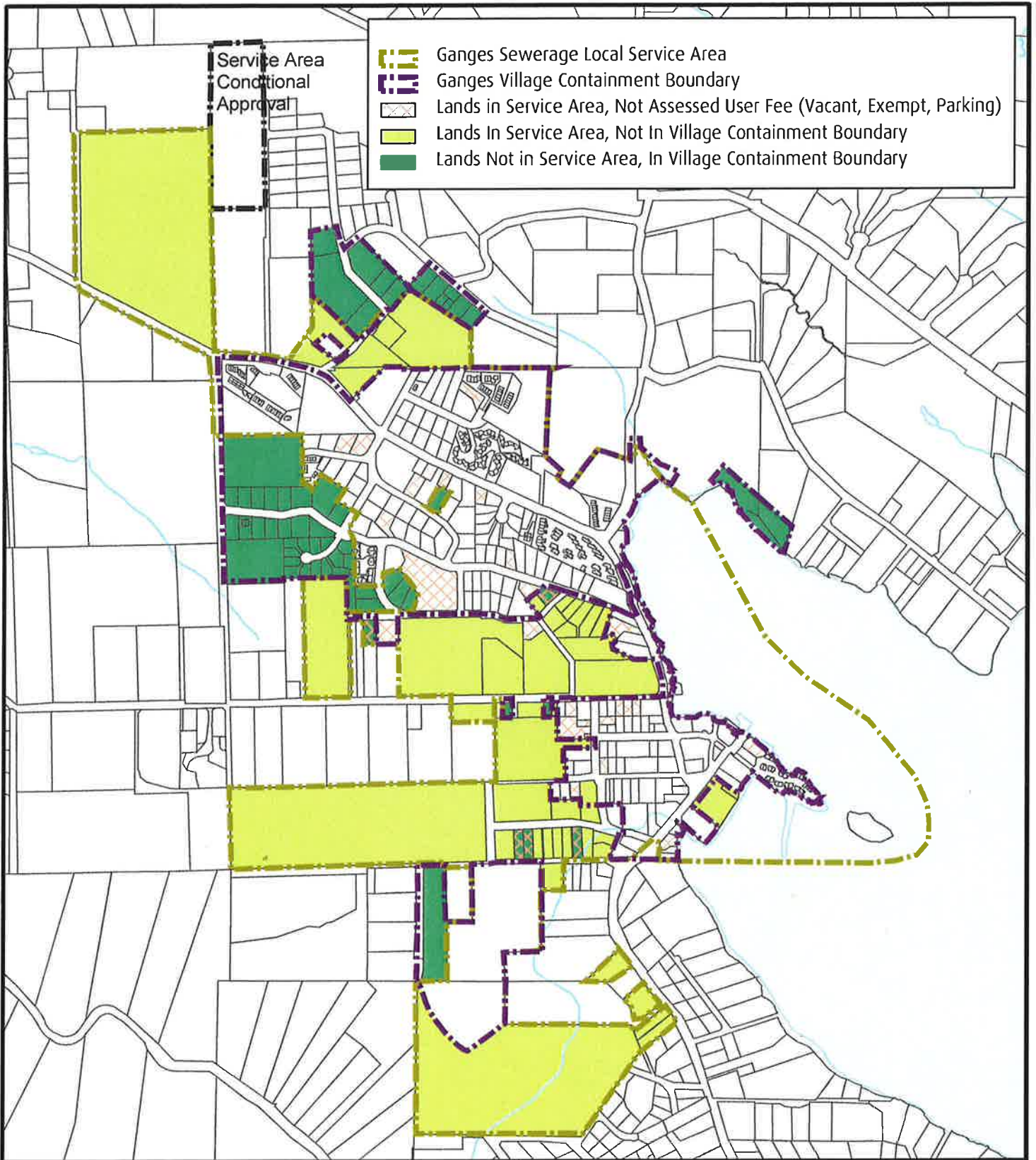


The most recent data for the Ganges sewer budget indicates new connections are added to the system at a rate of approximately 13 per year ( 2006 – 2009, 52 SFE). Following this trend the development period to realize buildout as suggested in Table 1 would be in excess of 35 years.

To initiate a DCC process, it is recommended an annual density increase of 15 SFE/year be used yielding a 75 SFE increase over a 5 year budget plan period.

## 2.9 Service Area Land Evaluation Map





0 100 200 400 600 Metres



UTM Zone 10N NAD 1983

Important This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

## Service Area Land Evaluation Ganges Sewerage Local Service Area



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### **3.0 EXISTING SEWER SYSTEM INFRASTRUCTURE**

#### **3.1 General**

In simple terms, the Ganges sewer system includes a gravity collection system with three lift stations, constructed in the 1980's, a wastewater treatment plant with influent and effluent pump stations, flow equalization, membrane bioreactor treatment technology, ultraviolet disinfection for effluent and waste sludge concentration. Sludge removed from the system is further processed on the island at the Salt Spring liquid waste facility. Effluent from the plant is disposed of by way of ocean outfall, extending some 4.8 km offshore.

#### **3.2 Sewer Area Growth, Densification And Capacity**

The sewer system was designed many years in the past, likely based on relatively low density projections. The capacity of the wastewater treatment plant has been expanded and effluent quality improved significantly in recent years, which has allowed redevelopment of some properties within the local service area boundary but has also allowed the CRD Board to expand the sewer area boundary to take in new parcels. The inclusion of the Brinkworthy mobile home park, with its 136 units, inclusion of a parcel to facilitate construction of a seniors housing complex on Atkins, inclusion of a parcel for the community recreation centre on Rainbow and inclusion of a large subdivision on the Ganges Hill, which also provided the community with a serviced site for future affordable housing construction are examples of this expansion. The CRD now is concerned that the available capacity remaining in some components of the system may be inadequate to meet the long term demands of the service area, especially if the service area continues to redevelop to provide additional density beyond that which was originally provided for in the design of those components. Further, the service area, having already paid the initial costs of the system installation and upgrade, is not expected to be particularly supportive of further costs to upgrade the system components to accommodate new development or redevelopment. The CRD seeks a solution where, if capital upgrade is required, such costs are funded by future development rather than by borrowing paid for by existing area property owners. Normally, this funding would be raised by way of a development cost charge (DCC).

#### **3.3 Capital Works Required To Set A DCC Rate**

It is beyond the scope of this report to identify and cost the potential capital works improvements which may be needed to accommodate further development in the service area. That said, some discussion on capital costs is necessary to evaluate whether a DCC can be recommended to recover all capital costs anticipated to be needed in future. If the cost of the capital works required is high, and the number of housing units to which a DCC would be applied is low, the value of the DCC charge may be higher than development realistically can pay. Under such a situation it is conceivable that further development would be impeded. The service area may need to agree to support a portion of the upgrade cost to mitigate this problem.

### **3.4 Sewer System Component Capacity**

Capacity issues in the Ganges sewer system are most likely to involve one or more of the following components:

1. Gravity sewer mains
2. Pumping systems
3. Treatment systems
4. Disposal outfall

### **3.5 Capital Upgrade Costs To Resolve Capacity Issues**

Generally, the capital costs associated with the upgrade or replacement of the components detailed will follow the same order as listed above.

It is unlikely all of the gravity sewer mains will require a capacity upgrade, rather, certain key sections of main in the areas closest to the treatment works will likely require replacement, while those sections in the upper reaches of the system may have adequate capacity for the foreseeable future.

Sewer pump stations can often be upgraded with the addition of new pumps, making a relatively affordable capital works upgrade.

The wastewater treatment system at Ganges has already been upgraded on several occasions, with the most recent upgrade within the past five years. Certain components of the wastewater plant process can be replaced with larger components, again at relatively low capital cost. Mechanical components such as screens, membrane filter assemblies, blowers, pumps and ultraviolet disinfection units fit into this category. Tankage, needed to hold the daily volume of wastewater received at the plant must be of sufficient volume to allow the biological processing to take place. While this tankage volume is understood to be adequate for the current daily processing, it has been reported that increased inflow and infiltration to the system has resulted in a capacity deficit under peak storm conditions. Construction of a new concrete wastewater tank, with all the mechanical and electrical equipment support systems to make it functional, will be a significant capital cost. Additional flow equalization tankage may also be required, to reduce stormwater peaks, arising from increased inflow and infiltration to the system, which is expected to increase somewhat as the gravity sewer system ages. The provision of new concrete tankage on the site will be challenging owing to the limited site footprint, proximity to Ganges Creek and current site utilization and layout. The construction of tankage does not lend itself to be undertaken easily on a modular basis, although the mechanical treatment equipment installed within the tankage does. On a shorter term basis, steel or polyethylene tankage treatment modules could be considered as an alternative to concrete tankage, although maintenance costs associated with these temporary structures will be higher than concrete and design life will be less.

The wastewater disposal outfall extends some 4.8km out to sea. All water, treated by the plant to a very high quality, is discharged from the plant through the pipe by pumping. The outfall, due to its length and diameter, has a maximum discharge rate. This discharge rate is reduced during periods of high tide. While the outfall is reported to have sufficient capacity under all

favourable conditions (regular tide variations and average wet weather flows), the outfall capacity was insufficient during a peak storm event in the winter of 2007/2008 where a snow melt resulting in extraordinary stormwater flows in the system was combined with a winter high tide situation. The result was a need to bypass flows around the outfall for a few hours until tides returned to normal. This latter event serves simply to illustrate that the outfall, at some future time will need to be modified or twinned to increase capacity. As with doubling the treatment capacity, twinning of the outfall will be a very significant cost.

The provision of additional treatment and equalization tankage, as noted above, may delay the need for outfall works as peak flows from the collection system may be somewhat mitigated.

### **3.6 Sewer System Extension**

To provide service to those parcels identified as part of the GV, but not yet in the GSLSA, several sewer extensions will be necessary. Such an extension would be required along Swanson Road, possibly with a lift station, to provide service to that area. Similarly, an extension along Kings and Howell, again likely with a lift station, would be required to service parcels in this area. Typically, these sewer extensions would be funded by one developer, possibly with a latecomer fee applied for the developer to possibly recover costs as others connect to the extension. Given that in these instances there would be a series of property owners rather than one developer to deal with and that many of the parcels are already developed with on site systems, residents would need to agree to fund the new works, likely through a new service area. Alternatively, the DCC bylaw could include the works needed as components of the expanded Ganges system. The latter may provide a more acceptable solution as obtaining agreement for a small service is expected to be a challenge.

### **3.7 Increased Capacity by Wastewater Flow Reduction**

In setting up the billing system for the Ganges sewer area, the CRD and GSLSC agreed that billing based on water consumption would provide an impetus for residents and business to conserve water to reduce their unit costs for sewer service. The billing system has been in use for many years now and while average residential sewer system flows are quite respectable, technology, in the form of low flush toilets, waterless urinals, low flush shower heads, and automatic shut off for commercial faucets, is available which has potential to further reduce flows to the sewer system, especially from commercial institutions. While conversion of these facilities to use the new technology may not eliminate the need for capacity upgrade of other sewer system components, it may reduce the need or extent of capacity increase in some of the components and therefore may be well worth supporting with capital funds. These improvements would also serve to reduce water consumption in the village area, which is not a responsibility issue for the CRD or the Ganges sewer local service area at this time but certainly is of concern to the North Salt Spring Water district and Saltspring island residents in general.

It should be noted that water saving technology is already required by code in new construction or renovation. On this basis it may not be fair to include costs for a water conservation capital upgrade program in a DCC. Additional analysis is recommended to develop project costs and benefits of a water conservation fixture replacement strategy. Such a program would also benefit the existing users and as such this benefit would need to be considered in the calculation.

### 3.8 Infrastructure Analysis Summary

Just as it is difficult to project maximum design capacity required in future for the GSLSA, it is also difficult to project the extent and cost of infrastructure improvements that will be needed to accommodate future growth. If growth were limited to completion of servicing to existing vacant properties under present zoning, the current wastewater system may need only minor upgrade. Accepting wastewater flows in addition to those arising from this infilling may require a considerable redesign and upgrade of the system. There is insufficient capacity information available at this time to project what improvements may be needed and what capital costs will result. This information will be critical prior to implementing a DCC.

In advance of the CRD adopting a DCC bylaw it is recommended the following tasks be completed:

- Identify the specific limitation in capacity of the various components of the wastewater system. Components will include the collection system, pumping equipment, treatment systems (electrical, control, aeration, ultraviolet disinfection, screening and MBR) and disposal outfall.
- Liaise with Islands Trust and the community to agree on more concrete projections of future growth, increased capacity requirements, and timing to determine future wastewater flows anticipated to be handled by the system.
- Develop a plan to increase the capacity of undersized components to provide for the anticipated capacity requirements.
- Identify a strategy to extend services to those areas of the GV which are not in the GSLSA.
- Identify a term for the analysis and the DCC. A 15 year term would be in keeping with CRD borrowing, however a 5 year term, in keeping with a 5 year budget plan is likely more reasonable.
- Investigate the cause of excess flows during heavy storm events.

For purposes of this study, the planning period selected is five years.

## 4.0 DCC CALCULATIONS

There are a number of criteria on which to base DCC fees. Fees may be imposed at the time of subdivision or on issuance of a building permit. In this study the initial density analysis considered all housing units as being equal. In this regard a secondary suite in an existing house would be expected to contribute the same wastewater flow as a single housekeeping room in a seniors complex, a three bedroom townhome or a single family home. Fees could be charged on the basis of size of unit, making smaller more compact multifamily units more affordable than a large single family house. Commercial parcels could be charged on unit equivalency or gross area. Provision to bill DCC's on the basis of a combined commercial / residential use should be included.

The CRD currently assesses annual sewer charges on the basis of water consumption. The CRD has many years of data of consumption available from three sectors, residential, commercial and institutional and has accumulated commercial floor area data. With some interpretation of available consumption data and estimates of occupancy from planning data, there should be sufficient information to allow further breakdown of charges as follows:

- Single family household
- Multi family townhouse unit
- Trailer home unit
- Seniors housing unit
- Commercial (per m<sup>2</sup>)
- Institutional (per m<sup>2</sup>)

Example schedules are provided based on the authors understanding of the sewer system design limitations and potential requirements for upgrades. Schedules are as follows:

|            |  |
|------------|--|
| Schedule 1 | Calculation of capital cost requirements by year for a five year budget plan |
| Schedule 2 | Calculation of DCC and local service recoverable costs                       |
| Schedule 3 | DCC fee calculation  |

Schedule 1 identifies a proposed capital works program to be completed or implemented over a DCC term of 5 years. The improvements noted are provided as an example only and may not be represented in the actual DCC calculation. It is intended that a summary of actual works to be completed over the term will be determined following a more detailed review of the components of the wastewater system. The work program includes expenditures to be made on a year to year basis. As the magnitude of the improvements required for the first five year period may be limited, much of the proposed expenditure may occur in the latter few years of the program rather than be completed on a year by year basis.

Schedule 2 shows the intended calculations needed to determine the total cost to be recovered by the DCC over the DCC term, to carry out the works intended. An explanation of the schedule is provided following:

- Column (1) indicates the total construction cost for the proposed term.
- Column (2) is provided to identify any grants received for the work. Given the nature of the works to be completed in the initial term of the DCC, it is unlikely that infrastructure grants will be a factor. If the infrastructure analysis suggests a major upgrade of the



plant is required, and an infrastructure grant is received for the work, the value of the grant must be considered in the DCC calculation.

- Columns (3) (4) identify whether each component of the upgrade work is needed to service only new capacity or whether there is a benefit to existing users. In the example, it is likely that a new UV disinfection unit would be provided, given the age of the existing, which provides a benefit to existing users, as well as provide additional capacity for new development. Information is shown as a percentage benefit and benefit value.
- Column (5) is the net cost of improvements (1) - (2) – (4)
- Column (6) is the assist factor. The DCC assist factor may be 1%, where development would essentially pay for the entire upgrade cost, or higher. To reduce the cost to promote more affordable housing, a higher factor could be contemplated. Higher costs to the community, arising from the assist factor would need to be provided by way of a borrowing. In the example an assist factor of 25% has been arbitrarily selected.
- Column (7) indicates the cost to the community to cover the cost of the assist factor.
- Column (8) is the remainder of the cost which would be recovered by the DCC.

Schedule 3 derives the DCC fee, based on the recoverable amount in Schedule 2 recovered by way of a single charge to each single family dwelling unit or equivalent anticipated to be constructed during the term. In the example, 75 units are expected to be added to the system during the five year DCC term. Should the CRD wish to breakdown the DCC rate further it could create additional categories for fees. Different fees for different classes of housing unit would recognize the potential of less wastewater flow from a seniors complex over that from a large single family dwelling. The CRD billing data could also be used to calculate a relationship between water consumption / wastewater flows and commercial building size which might also be used in the calculation which would be in keeping with the current billing approach. To maintain a simple approach may also be acceptable. For the \$100,000 project identified, the cost to a housing unit for a DCC, using a 25% assist factor, would amount to around \$1,060. Under this example, for each additional \$100,000 added to the construction cost would add a further \$1,060 to the total DCC charge. Schedule 3 data would form Schedule "A" in the DCC bylaw.

## 5.0 FURTHER STUDY WORKS

The development potential for the Ganges Village, in relation to the existing treatment and disposal works capacity, is significant, yet the certainty and timing of such development is unknown and difficult to predict. Recent history for the utility shows a growth of new connections to be only in the order 13/year. A single large multi family project however could increase the demand on the system significantly.

To implement a successful DCC requires a good understanding of how increases in connections, and hence wastewater flows, will be accommodated by the system. The DCC example provided indicates a relatively low DCC rate to perform say a \$100,000 program of upgrade works over the DCC term. This analysis might be extrapolated to suggest that a million dollar expansion program is possible with a \$10,000 DCC, which might remain manageable for developers. If, however a comprehensive design review concludes major capacity deficiencies in treatment components, collections system mains and a new disposal outfall, the actual upgrade cost may be well in excess of the million dollar amount, yielding a DCC which is unworkable. Under such a scenario, even a 25% assist factor would be inadequate to maintain an affordable DCC. Asking the community to support a borrowing for the service area share of costs, whether 25% or higher or lower may be equally difficult.

Given the cost to increase capacity of the Ganges sewer may be considerable and the annual increases in density to fund the increased cost limited, the relationship between increases in flow, upgraded capacity required and the cost of the upgrades becomes very important. It is recommended CRD carry out additional works to more fully understand this relationship prior to implementation of a DCC.

In advance of consideration of the first DCC for the service area, it is recommended that a sewer area development plan be initiated to project the increase in housing units anticipated in the service area over time. It is also recommended that a proposed asset management plan be initiated. This plan would identify which wastewater system components require replacement in future, due to operating age, performance inefficiency or capacity limitations and would enable CRD to identify budget funding needed for the orderly replacement of such critical components when required. If the component upgrade was driven in whole or in part by capacity deficiency, the cost of replacement would be best offset by a DCC.

The work under the proposed Sewer Area Development Plan would include:

- In concert with the Islands Trust, identify potential development scenarios for Ganges Village, considering present OCP objectives, and past and present policy. The scenarios should consider development potential of parcels currently serviced but not in the GV boundary, those in the GV Boundary but not in the GSLSA and parcels which afford opportunities for significant increase in density over that contemplated in the current zoning.
- Meetings with the public to initiate dialogue on the potential development scenarios.
- Projection of wastewater flows per time necessary to accommodate each scenario.
- Coordination of the development scenarios with other service agencies, such as the North Salt Spring Waterworks District which operates the potable water system.
- Identification of a reasonable growth strategy over say 5 10 and 15 years which can be used to guide the expansion or upgrade of the wastewater system.

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Those tasks recommended to be carried out under an Asset Management Plan include the following:

- Determination of present operating capacity of primary components of the system including service main sections, pumping stations, components of the treatment system (electrical, control, pumping, flow equalization, screening, air delivery and MBR system) and disposal outfall.
- Identification of system components which require replacement due to age, wear, spare parts availability or inefficiency and when. Identify those components which will require upgrade or replacement to provide additional capacity to meet demand for infilling, expansion and densification.
- Identify a five year strategy for asset upgrade or replacement in accordance with the above criteria, ie arising from age and operating history or arising from need for additional capacity.
- Identify unit costs for asset upgrade or replacement, summarized annually for budget purposes, to be expended on a five year plan basis.
- Summarize unit costs associated with development scenarios, considering whether a DCC can be employed to offset all or a significant portion of the upgrade works required. If an assist factor is required, estimate the cost of the assist factor to the GSLSA, assuming a loan authorization is required to raise the necessary funds.
- Discuss with the community the recommended strategy to determine if there is support for a borrowing to assist with the renewal and expansion of the wastewater system to facilitate orderly system component upgrade and replacement where required to enable additional the development of the Ganges Village

**6.0 DRAFT DCC BYLAW**

A sample DCC bylaw is provided for information, in Appendix A.

## 7.0 OTHER FUNDING OPTIONS

Prior to introduction of DCC legislation, many municipalities used Impost fees to collect funds from developers. With a desire to make the process more fair to all parties the ability to collect funds in this manner was terminated with the repeal of legislation and in its place DCC legislation was introduced. In review of the *Local Government Act (LGA)* and the *Community Charter* it is apparent that a service of the Regional District, outside of a DCC, is limited to raising funds through fees and charges as provided by Section 363 of the *LGA*. Section 363 (3b) of the act prohibits the regional district from levying a fee “in relation to any other matter for which another provision of this *Act* specifically authorizes the imposition of a fee or charge”. It is taken that this section would preclude the Regional District from imposing a fee which would be used for capital improvements when collection of such a fee is already set out in the DCC legislation pursuant to Section 932 of the *Act*.

The GSLSA has by bylaw, imposed a connection fee for connecting the building sewer to the sanitary system. Section 363 ( c ) allows for fees to be established for different classes of persons, property, businesses and activities and different fees or charges for different classes. With respect to connection fees, presumably a base fee could be charged for a standard 100mm connection suitable for a single housing unit with a higher fee for increasing sized connections or for a connection serving more than one SFE.

A cursory review of collection fee bylaws from other BC municipalities indicates a wide variation in fees for new sewer connections. The CRD may wish to revisit the actual costs of administration of the sewer connection approval and installation process to ensure the greater service area is not subsidizing the cost of a connection.

CRD may also wish to review their Capacity Purchase Surcharge rates which are charged to new parcels entering the GSLSA to ensure the fees are sufficient to fund future upgrade works necessary to accommodate the additional wastewater flows from these sources.

## 8.0 CONCLUSIONS

The following conclusions are drawn with respect to the CRD implementing a DCC for the Ganges Sewer Local Service Area.

1. The OCP for Salt Spring Island supports growth in the village areas of Salt Spring rather than in rural areas. Policy statements suggest the Local Trust Committee would consider rezoning in the Ganges Village for projects which provide for affordable housing or other projects which consider the greater good. While the decision process is considerate of the servicing (water and sewer) it will be difficult for the CRD to develop a long term sewer servicing plan without more concrete development estimates. The Ganges Sewer Local Service Commission, CRD and Islands Trust staff and the Local Trust Committee should meet to consider how to bring servicing plans and the OCP together.
2. A recent study looking at housing on the island identified growth rates for a number of years past and into the future of 4% – 5%. If this can be applied to the Ganges sewer area, it would suggest a further 15 units connected per year. Actual data on new connections to the system, maintained by CRD correlate fairly well to this figure with the average annual connections added to the system in the past several years being 13 units.
3. If a term for a DCC were set at 5 years, to be undertaken with the 5 year capital plan, up to 75 new units could be added. This growth could be accounted for on vacant parcels, without further rezoning or redevelopment.
4. The housing study indicated an additional affordable housing (to buy and rent) and other special category housing will be needed. As there appears to be a shift in demographics, with an increase in the seniors age group, it is projected additional seniors housing will also be required.
5. Implementation of affordable or seniors housing projects through rezoning of a larger parcel in the sewer area, could increase the 5 year projection significantly.
6. Implementation of a DCC is seen as important by the GSLSC to ensure that development, rather than the community, funds capital works needed to extend capacity of the sewer system. The imposition of a DCC however, may make seniors and affordable housing projects more costly and less viable.
7. Using the OCP, zoning bylaws and other Trust documents, some scenarios have been developed in this study which project growth of the Ganges Village, and more specifically the growth in the number of housing units which ultimately could be connected to the sewer.
8. The projections detailed in Table 1 in this report consider growth potential from development of existing vacant parcels, growth arising from rezoning and creative redevelopment of existing parcels, provision of new housing units by addition of secondary suites or additional housing units to candidate properties to growth in connections resulting from expanding the boundary of the sewer service area. These are projections only and are provided to show the wide variation of housing units which could ultimately be connected to the sanitary sewer system.
9. The projections yield numbers of housing units to be yet connected to the sewer of between 100 and almost 500 units. At the present time some 385 users are on the system.
10. The capacity requirements and impact on the system of 100 new connections is much different from a scenario that may in the long term add 500.

11. Given the uncertainty of the number of development units which could ultimately connect to the system, it is difficult to project and cost the infrastructure upgrade which would ultimately be recovered by a DCC,
12. In advance of developing a DCC, it will be necessary to develop various growth scenarios for the GSLSA. A sewer area development plan is recommended which would, in concert with the Islands Trust, identify development options based on the present OCP. It would consider the impact of extending the GSLSA boundary to match the GV boundary and extending the GV boundary to include lands already in the GSLSA. It would also assess redevelopment potential of larger properties within the GV. The development scenarios would project total housing units, resulting wastewater flows, and timing.
13. There is insufficient understanding of the capacity limits of the various components of the sewer system. Some work has been done in past on plant and outfall capacity and a recent study of the collection system indicated some potential pinch points, however if a DCC is contemplated, there will need to be a much more thorough understanding of the costs associated with replacement or upgrade of wastewater system components to accommodate additional development. It is understood that an asset management plan is under consideration for the sewer area. It is recommended the plan be modified to include the identification of system components that are presently at or near capacity in addition to those that are in need of replacement due to age or other requirement.
14. The asset management plan as well as determining capacity limitations, should identify annual costing for wastewater component replacement and should differentiate the portion of the costs associated with new development from those necessary for age based or normal equipment renewal.
15. A decision as to whether or not sewer extensions to areas not currently in the GSLSA should be part of the DCC may enhance or limit development of some key parcels. As an example, extending the system along Swanson Road would provide for development of larger parcels on Atkins Rd which are in the GV.
16. A sample calculation has been provided to guide development of a DCC following the completion of the proposed study works.
17. Initial funding of works is expected to require a source of funds outside of the DCC. A borrowing bylaw is recommended which would provide funds for a five year cycle. Approval for the borrowing would be required by the GSLSA. The actual borrowing of funds would be on an as required basis. The authority would expire at the end of the five year term and would need to be renewed.
18. Once the additional study work is completed a DCC could be prepared to accommodate growth and expand the system as needed. The suggested design horizon would be 15 years with a revolving DCC term to be set at 5 years in keeping with the 5 year capital plan.
19. The DCC bylaw would need approval of the Board and the Inspector of Municipalities. An accompanying borrowing bylaw would require the approval of the electors.
20. Following completion of the asset management plan, CRD may wish to reevaluate the fees recovered by way of their Capacity Purchase Charge, for new parcels entering the GSLSA, to determine if the fees are sufficient or need to be increased.

## 9.0 RECOMMENDATIONS

The following action plan is recommended:

1. There is insufficient information available on the surplus or deficit capacity of the various components of the wastewater system. This information is critical to establish the future cost of upgrade of the system which is proposed to be offset by a DCC. It is recommended that information be captured through a proposed Asset Management Plan. The plan would identify present operating capacity of key components of the wastewater system, identify system components which will in future need to be upgraded or replaced owing to age, operating inefficiency or other issue, identify system component upgrade necessary to accommodate future growth of the GSLSA and identify annual costs associated with the upgrade works.
2. There is insufficient information available to pin down the anticipated growth in the GSLSA (and the GV area) to a level necessary to establish a representative DCC rate. It is recommended that a Sewer Area Development Plan be completed to refine land use and development information. The plan would be carried out with direction from Islands Trust staff and the Local Trust Committee to project various growth scenarios for the GV over time. The growth potential within the GSLSA and potential growth which might seek inclusion into the GSLSA as well as redevelopment within the sewer area would be explored in detail.
3. Delay a decision to adopt a DCC Bylaw until the recommended asset management plan and sewer area development plan provide sufficient information to calculate a defensible DCC charge.
4. Unless growth forecasts suggest otherwise, consider a conservative approach to growth and revenue from a DCC. New housing units to be added to the system over five years, should likely follow a 4% or 15 units per year growth rate.
5. Present to the community the results of the asset management plan and the sewer area development plan. Identify options to fund upgrade works arising from the two documents, including the use of DCC's to recover funds from new development.



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## **SCHEDULES**



**SCHEDULE 2  
RECOVERABLE COSTS - ASSIST FACTOR 25%**

| Example only                                  | (1)        | (2)         | (3)                         | (4)                       | (5)                   | (6)           | (7)                               | (8)             |
|---|------------|-------------|-----------------------------|---------------------------|-----------------------|---------------|-----------------------------------|-----------------|
| Description                                   | Total Cost | Gov/t Grant | % Benefit to Existing Users | Benefit to Existing Users | Remaining Expenditure | Assist Factor | Total Service Area Responsibility | DCC Recoverable |
| <b>Sewer Mains</b>                            |            |             |                             |                           |                       |               |                                   |                 |
| Upgrade Main, Desmond / Kanaka                | \$10,000   | \$          | 0%                          | \$0                       | \$10,000              | 25%           | \$2,500                           | \$7,500         |
| Upgrade Main, Kanaka / Rainbow to Jackson     | \$10,000   | \$          | 0%                          | \$0                       | \$10,000              | 25%           | \$2,500                           | \$7,500         |
| Upgrade Main, Hereford, Jackson to McPhillips | \$10,000   | \$          | 0%                          | \$0                       | \$10,000              | 25%           | \$2,500                           | \$7,500         |
| Upgrade Main, McPhillips to Treatment Plant   | \$10,000   | \$          | 0%                          | \$0                       | \$10,000              | 25%           | \$2,500                           | \$7,500         |
| <b>Treatment Plant</b>                        |            |             |                             |                           |                       |               |                                   |                 |
| Replace/ increase capacity, UV disinfection   | \$10,000   | \$          | 50%                         | \$5,000                   | \$5,000               | 25%           | \$1,250                           | \$8,750         |
| Increase output, effluent pump station        | \$10,000   | \$          | 25%                         | \$2,500                   | \$7,500               | 25%           | \$1,875                           | \$8,125         |
| Provide interim 100m3/day MBR                 | \$10,000   | \$          | 0%                          | \$0                       | \$10,000              | 25%           | \$2,500                           | \$7,500         |
| Upgrade air supply blowers                    | \$10,000   | \$          | 50%                         | \$5,000                   | \$5,000               | 25%           | \$1,250                           | \$8,750         |
| Electrical / Control upgrade                  | \$10,000   | \$          | 50%                         | \$5,000                   | \$5,000               | 25%           | \$1,250                           | \$8,750         |
| Evaluate existing plant site, alternatives    | \$10,000   | \$          | 0%                          | \$0                       | \$10,000              | 25%           | \$2,500                           | \$7,500         |
|   | \$100,000  |             |                             | \$17,500                  | \$82,500              | 25%           | \$20,625                          | \$79,375        |

**SCHEDULE 3  
DCC CALCULATION  
25% ASSIST FACTOR**

**Example Only**

| <b>Description</b>             | <b>Cost</b> |
|--------------------------------|-------------|
| DCC Recoverable Amount         | \$ 79,375   |
| Adjustments for Reserve        | \$ -        |
| Net Amount to be paid by DCC's | \$ 79,375   |

**DCC**

|  |    |             |
|--|----|-------------|
| Single Family Dwelling Unit Equivalent | 75 | \$ 1,058.33 |
|--|----|-------------|

**Optional**

|                               |    |
|-------------------------------|----|
| Single Family Dwelling Unit   | \$ |
| Multi family Dwelling Unit    | \$ |
| Singles Unit, Seniors Complex | \$ |
| Trailer Park Unit             | \$ |
| Commercial (m2)               | \$ |
| Institutional (m2)            | \$ |

**APPENDIX A: SAMPLE DCC BYLAW**

**CRD Logo**

**CAPITAL REGIONAL DISTRICT (CRD)  
BYLAW NO.**

**A BYLAW TO IMPOSE DEVELOPMENT COST CHARGES FOR THE GANGES SEWER  
LOCAL SERVICE AREA**

**CAPITAL REGIONAL DISTRICT  
BYLAW NO.**

**A BYLAW TO IMPOSE DEVELOPMENT COST CHARGES FOR THE GANGES SEWER  
LOCAL SERVICE AREA**

**WHEREAS:**

- A. Under section 933 of the *Local Government Act*, the District may impose development cost charges for the purposes of providing funds to assist the District to pay the capital costs of providing, constructing, altering or expanding sewer facilities;
- B. The development cost charges established by this bylaw will be used for the purpose of providing funds to assist the District to pay the capital costs of providing, constructing, altering or expanding sewer facilities within the Ganges sewer local service area;
- C. In setting the development cost charges for this bylaw, the Board has considered the future land use patterns and development and the phasing of works and services in the service area;
- D. The Board is of the opinion that the development cost charges imposed by this bylaw:
  - a. Are not excessive in relation to the capital costs of prevailing standards of service;
  - b. Will not deter development
  - c. Will not discourage the construction of reasonably priced and affordable housing within the Ganges sewer local service area.

**Now Therefore** the Board of the Capital Regional District, in open meeting assembled, enacts as follows:

**1.0 DEFINITIONS**

**“Approving Officer”** means the person appointed under the Land Title Act within the Electoral Area of Salt Spring Island to perform the duties and responsibilities of that position

**“Board”** means the Board of the District.

**“Building Permit”** means any permit authorizing the construction, alteration, or extension of a building or structure in the electoral area of Salt Spring Island.

**“Commercial”** means any land zoned for commercial uses under a zoning bylaw enacted by the Islands Trust.

**“Developer”** means a person liable to pay development cost charges under this bylaw.

**“Development Cost Charges” or “DCC”** means the applicable rates prescribed in Schedule “A”

**Dwelling Unit or Unit”** means a room, a suite of rooms, or a building or structure that is used or intended to be used as a self-contained private residence for one household that may contain eating, living, sleeping and sanitary facilities and includes a secondary suite.

**“Floor Area”** means the total floor area of all floors in a building measured in accordance with Ganges sewer local service area Bylaw No. xxxx.

**“Ganges Sewer Local Service Area”** means the local service area established by CRD Bylaw No. xxxx

**“Ganges Sewer System”** means the system of collection mains, pump stations, treatment facilities and disposal facilities that service the Ganges sewer local service area as established by CRD Bylaw No. xxxx.

**“Industrial”** means land zoned for industrial use under a zoning bylaw enacted by the Islands Trust.

**“Institutional”** means any development providing for the assembly of persons for religious, charitable, philanthropic, cultural, civic or recreational purposes including but not limited to auditoriums, private schools, youth centres, child care centres, hospitals, social halls, group camps and churches.

**“Islands Trust”** means the planning authority for the electoral area of Salt Spring Island.

**“Secondary Suite”** has the same meaning as under the British Columbia Building Code, 1998.

## **2.0 DEVELOPMENT COST CHARGES**

2.1 A person who obtains:

- (a) Approval of subdivision; or
- (b) Issuance of a building permit

Shall pay the applicable development cost charges set out in this bylaw to the CRD at the time of approval of the subdivision or the issuance of the building permit, as required under Schedule “A”

2.2 Development cost charges shall not be payable under this bylaw if:

- (a) the development does not impose new capital cost burdens on the District for wastewater facilities.
- (b) a development cost charge for sewer facilities has previously been paid for the same development unless, as a result of further development, new capital cost burden will be imposed on the District
- (c) the building permit authorizes the construction, alteration or extension of a building or structure or a part of a building or structure that is or will be after the construction, alteration or extension, exempt from taxation under section 339(1)(g) of the *Local government Act*.

2.3 Development cost charges imposed under this bylaw shall be calculated in accordance with the rates prescribed in Schedule A”.

2.4 In the case of a comprehensive development, development cost charges shall be calculated separately for each use that is part of that comprehensive



development, in accordance with Schedule "A" and the developer shall pay the sum total of the development cost charges calculated for each separate use.

- 2.5 The development cost charges under this bylaw may not be paid by installments unless permitted by a regulation under the *Local government Act*.

### **3.0 AUTHORIZATION**

The District may prescribe any form, statement, notice, practice, procedure or other administrative requisites required under this bylaw.

### **4.0 SEVERABILITY**

If any portion of this bylaw is held to be invalid by a court of competent jurisdiction, the invalid portion shall be severed and the remainder of the bylaw shall be deemed to have been enacted without the invalid portion.

### **5.0 EFFECTIVE DATE**

This bylaw shall come into effect thirty days after the date of final adoption of this bylaw.

### **6.0 GENERAL**

- 6.1 The following schedules attached to this bylaw form an integral part of this bylaw and are enforceable in the same manner as this bylaw:

(a) Schedule "A" – Amount of Sewer Development Cost Charges

- 6.2 Subject to the provisions of Section 2.2, this bylaw applies to all applications for subdivision and for issuance of a building permit for parcels located in the Ganges Sewer Service area.
- 6.3 This bylaw may be cited for all purposes as the " Ganges Sewer Local Service Area Development Cost Charges Bylaw No. 1, 200x.

**SCHEDULE "A" BYLAW #**  
**GANGES SEWER LOCAL SERVICE AREA**  
**DEVELOPMENT COST CHARGES**

**AMOUNT OF SEWER DEVELOPMENT COST CHARGES**

**Land Use Designation**

**DCC Rate**

**When Payable**