



***DCC RATES EFFECTIVE
JANUARY 1, 2006***

**20 YEAR SERVICING PLAN
and
FINANCING STRATEGY
2020**



DCC PROGRAM AREAS

ARTERIAL ROADS

WATER SYSTEMS

WASTEWATER COLLECTION & TREATMENT

PARKLAND ACQUISITION

January 1, 2006

CITY OF KELOWNA UPDATED 20 YEAR SERVICING PLAN AND FINANCING STRATEGY

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I. INTRODUCTION

The **purpose** of the **2005 Updated 20 Year Servicing Plan and Financing Strategy** is to provide an updated program that reflects changes in construction costs, changes in land costs, updated completed projects, scope & funding source changes and more detailed engineering. The **2020 Updated Plan** is being considered as a **cost update to the 2020 Plan** as the ending population figures and the growth locations remain the same.

In addition to measuring the **financial impact of the major services** a **10 year Capital Plan** has been developed for infrastructure that will be required to satisfy **operational, recreational, cultural and safety** demands of a growing community. A further element of a long term financial strategy is the measurement of the **general taxation and utility rate impacts of the growth plan** and formulating policies and direction for Council and the Community to effectively deal with future service level alternatives. This element is covered in the annual Financial Plan document for a five year period.

1. Purpose of a Servicing Plan and Financing Strategy

In order to **accommodate continuing growth in Kelowna**, construction of new services or expansion of existing services will be required.

Integration of a servicing plan and financing strategy with the growth plan, developed as a part of the Official Community Plan, is necessary to ensure that the plan is **affordable** in the form that the City Council and the community is being asked to support and adopt as a blueprint for future development.

The purpose of the Financing section of the Community Plan is to provide an overview of the general principles and methodologies which have been applied when apportioning costs of new growth **between different land uses** in future development areas. Different land uses place a **different level of demand** on new infrastructure needs and cost-sharing methodologies must reflect the different levels of demand to the extent possible and practical.

There is a general recognition that the cost of provision of new infrastructure, to accommodate new growth, should **primarily be the responsibility of new growth**. However, there must also be some recognition given to the fact that **some portion of new infrastructure will also be of benefit to present taxpayers** and cost-sharing methodologies should reflect this principle.

A municipality's ability to finance new infrastructure, to accommodate new growth, is limited to powers granted by the Local Government Act. The Provincial Government, **through legislation**, has empowered municipalities with the right to impose Development Cost Charges for major services such as arterial and collector roads, water systems, sanitary sewer systems, drainage systems, parkland acquisition and development.

Development Cost Charges, although a useful mechanism for financing new infrastructure, do have some limitations and do require that Council give consideration to whether the charges:

- (a) are excessive in relation to the capital cost of prevailing standards of service
- (b) will deter development, or
- (c) will discourage the construction of reasonably priced housing or the provision of reasonably priced serviced land

Development of a 20 year capital improvement plan to match infrastructure needs with a projected growth plan is based on the best information available at the time of formulation of the plan.

It should be recognized that the plan is dynamic and the assumptions which drive the plan are subject to ongoing change.

If growth develops in a different form from that which was assumed to occur, and formed the basis for developing a servicing plan and financing strategy, there will be a need to re-examine the servicing requirements and measure the financial impacts of these changes.

2. Other Capital Expenditure Requirements

Although major services such as arterial roads, water systems, sewage systems, drainage systems and park acquisition and development form the framework within which the city ultimately develops, there are many other infrastructure needs that will be required in order to satisfy **operational, recreational, cultural and safety** demand within a growing community:

- ➔ Operations buildings such as public works facilities
- ➔ Major new equipment such as snow removal equipment
- ➔ Recreation buildings
- ➔ Parks and playing field development
- ➔ Community theatres and art galleries
- ➔ New fire halls and new or expanded police facilities

As servicing standards have evolved over the years, there is a significant part of the city which has developed at **a service standard which is less than that which exists today** and there is a need to put together a strategy and cost-sharing plan to bring those service standards to current standards.

Not only must the municipality ensure that future growth is adequately serviced in accordance with prevailing service standards, there is a need to ensure that **existing infrastructure is maintained to a standard** which will extend the useful life in a cost-effective manner. **Infrastructure preservation** is critical for existing and future buildings as well as the transportation and utility networks.

Although the Province has not provided municipalities with the authority to assess new growth directly with this type of required infrastructure, there are a variety of other financing mechanisms which are specifically provided in other sections of the Local Government Act.

A combination of these **financing mechanisms** will be necessary in order to achieve the objectives outlined in the Official Community Plan:

- Long Term Borrowing authorized by an alternative approval process or a Community referendum
- Grants or cost sharing programs provided by Senior levels of Government
- Developer Construct - Latecomer Agreements - recovery from benefiting property owners
- Formation of Benefiting (Specified) Areas - a form of direct user pay
- Short Term Borrowing - Five year maximum term/Statutory limits
- Public/Private partnerships
- Reserve Funds - funds put away in prior years for specific future purposes (parking, equipment replacement, landfill improvements)
- Pay-as-you-go (Taxation and Utility user rates)

Any of the funding mechanisms identified above which do not recover costs directly from the user will be recovered in the form of taxation or utility user rates from property owners in existence at the time the expenditure is incurred.

The major focus of this document is to provide an overall financing strategy for major infrastructure needs for which the municipality can assess a Development Cost Charge.

II. FINANCING STRATEGIES - COST SHARING PRINCIPLES

The **purpose of this section** of the **Updated** 20 Year Servicing Plan and Financing Strategy is to provide an overview of the **financing options** available to the City when developing a Financial Plan to support the objectives of the Official Community Plan and to outline the **general overall principles** which were applied in the development of the financing strategies for the current plan.

A detailed explanation **Development Cost Charge concept** has been included in this section including the purpose of a DCC Bylaw and the process which has been applied to the development of development cost charge rates.

1. Financing Options/Mechanisms

A municipality is empowered, by authorization of the Local Government Act, with a number of funding mechanisms to finance capital expenditure needs resulting from a combination of new growth demands and the provision of facilities to existing taxpayers.

Property Taxes/Utility Rates

Revenue from increased property taxes is a method used to raise general funding for capital and operating needs which will be of general benefit to the entire community.

This type of funding might be used for capital expenditures such as roads overlay programs, sidewalk network programs, civic facilities, recreation facilities and cultural facilities for which funds cannot be directly imposed on new development.

Property taxes can also be used as a means to raise additional operating funds and debt financing to fund new or expanded programs resulting from an increase in population or a desire from the community for new and improved levels of service.

Property taxes, based on the assessed value of a property, are a very **general levy for services provided** and do not bear a direct relationship to the services actually received or used by property owners.

Debt Financing

Debt Financing is available to each municipality as a means of financing major capital expenditures such as land purchases, water and sewer facilities, recreation facilities, civic buildings and cultural buildings which **cannot normally be financed on a pay-as-you-go funding basis.**

In some cases, it may be necessary to borrow funds to pay for major infrastructure improvements such as roadways and trunk mains which cannot be financed on a pay-as-you-go basis or where inflow of revenue from Development Cost Charges does not match the capital improvement program.

There are **three (3) forms** of debt financing available to the municipality:

(a) *Long Term Debenture Borrowing*

Generally requires an alternative approval process, assent of benefiting property owners or a referendum to incur a liability for the borrowing. A loan authorization bylaw is required and the borrowing can be for any purpose of a capital nature.

The City currently has a policy of limiting the **debt repayment period to 15 years** unless the borrowing is on behalf of directly benefiting property owners, in which case the repayment period can be extended to 20 years.

(b) *Agreements*

Council may incur a liability, under an agreement, if the liability is not a debenture debt and the liability period is not longer than the reasonable life expectancy of the service. An alternative approval opportunity must be provided if the agreement is for more than 5 years (including rights of renewal that could exceed 5 years).

(c) *Short Term Borrowing*

Can be used to finance almost any type of capital expenditure; however, a municipality is limited to a gross borrowing of **\$50 per capita**. The term of repayment cannot exceed 5 years and simply requires a short-term borrowing bylaw.

Provincial Grants/Federal Grants

A municipality may apply to the Province for **unconditional or one-time grants** to assist in the financing of specific capital projects. The funding available is almost always based on a percentage of the estimated cost of the project with a fixed maximum grant.

Provincial Grants, for growth-related expenditures, have been **steadily declining over the past five to ten years**. The major grants received in recent years have been to assist with construction of sewer related facilities.

Specified Area Levies/Local Improvements/Developer Construct

Property owners, by petition of Council, are able to request that the city consider upgrading services on their local street such as roads, sidewalks, curb & gutter and drainage. Property owners can also request that new services be provided such as water and sanitary sewer service, again by **petition to Council or by Council initiative**.

In return for these services, benefiting property owners must contribute their proportional share of the cost of these services either in the form of an “up-front” payment or by making annual debt repayment payments on their property taxes.

Services which are required for a specific new development must be paid for directly by the developer and would include services such as water, sewer, subdivision roads and drainage works within a subdivision as well as other improvements to roadways abutting the subdivision. In many cases these major services must be extended from their existing termination point to the subdivision to be serviced.

When a developer extends services which are of benefit to other “fronting” property owners, the Local Government Act makes provision for a **recovery mechanism to the developer extending services**.

Public-Private Partnerships

Public-Private Partnerships are relatively new in Canada and provide an alternative to the traditional manner in which major projects are funded and operated.

Public-Private partnerships offer a new approach to the delivery of public services, however, they also require new forms of evaluation.

Public-Private partnerships, as well as offering a vehicle for substituting private for public investment, may also encourage innovative, more comprehensive solutions, as well as long term and more complex benefits, especially risk transfer.

Reserves-on-Hand

Reserves that a municipality may have available for capital project financing are generally **levied on an annual basis and have been set aside for a specific future purpose**. Reserves may also be set aside on a one-time basis if unexpected funds become available such as year-end surplus.

Examples of reserve funding set aside on a regular basis to fund future capital expenditures are the public works and fire equipment replacement fund, landfill reserve fund and the parking reserve.

Development Cost Charges

Development Cost Charges are those levies, **adopted by bylaw**, which are required to be paid by new development to assist with the financing of major off-site services required to accommodate new growth.

Development Cost Charges are currently limited to arterial/collector roads, water and sewer systems, parks acquisition and development, and storm drainage facilities.

A more detailed explanation of the Development Cost Charge methodology and process is provided in the next section of this document.

2. General Principles Applied to the Proposed Financing Plan

The 2020 - 20 Year Servicing Plan was developed by the City's Works & Utilities and Parks & Leisure Services departments in response to the land use plan and growth projections provided by the City's Planning department.

Each major service was analyzed in detail to determine the new infrastructure requirements and the costs of providing this infrastructure was developed from the best engineering information available. **In some cases this information was readily available from previous engineering work and studies and in other cases it was necessary to estimate costs based on a conceptual level of engineering work.**

In terms of process, it was necessary to develop cost sharing methodologies which properly allocated program costs between existing taxpayers and new growth based on general overall financing principles. **The following are some of the general principles applied in developing a financing strategy for this plan:**

- Quantification of the **level of funding assistance** from senior levels of government which for the most part was limited to funding already approved. An exception to this general principle is in the roads program and details of projected funding assistance are included in Section V - Analysis of Cost Sharing.
- Existing **Land Use obligations**, which deal specifically with off-site servicing issues, are quantified and limited to the Dilworth Mountain development.
- **Existing deficiencies**, as identified through analysis, will be paid for through the general taxation process or from utility revenues and not recovered from new growth.
- Some infrastructure improvements which **provide capacity beyond the 20 year** planning horizon will be financed from general taxation or utility rates until such time as a new growth plan is developed which utilizes the capacity.
- Infrastructure improvements which provide a **city-wide benefit** and are of benefit to both existing taxpayers and new growth have been cost-shared on the ratio of existing to projected total population at the end of the planning horizon at the year 2020. This principle has specifically been applied to:
 - Swamp 1 – Dehart to Casorso

- McKinley 1 - Glenmore Road to Highway 97
- Beaver Lake Road – Railway tracks to City Limits
- Rutland 1 & 2 – Leathead – Old Vernon
- Highway 97 1 & 2 – Gordon to Sexsmith
- All two lane rural roads being improved to two lane urban roads
- One half of bridge costs where there is an existing bridge in place
- Sidewalks on arterial roads
- Bicycle paths on arterial roads

For infrastructure costs which are **primarily growth related**, and are to be borne by new growth over the 20 year planning horizon, it was necessary to establish new cost sharing methodologies where appropriate or to affirm the cost sharing methodologies which had previously been adopted by Council.

- **Retain the sector approach to allocation of individual service costs to the extent practical and defensible.** Utilizing the sector approach for cost sharing simply recognizes that off-site servicing costs, on a per unit basis, may be more costly in outlying areas than in the inner urban areas of the city.
- Develop **differential rates which reflect a different level of demand on certain types of services by different land uses.** The application of this cost sharing principle will result in a lower Development Cost Charge rate for apartments than for a single family residential lot.

It is important to ensure that the rates for commercial, industrial and institutional development are proportional to the Single Family rate to reflect demand.

- The **cost sharing methodology is different for each service** and is reflective of how the demand on the service is measured. Using the same unit to measure impact for roads as sewer trunks would result in a totally inequitable sharing of costs.
- Establishing a **level of assist** on new growth projects which is reflective of the benefit of new growth infrastructure to existing taxpayers. The established assist factor must be financed from general taxation or from utility rates.

The following is an identification of the major overall methodology and cost sharing changes which were incorporated into the 2020 Plan:

- Provision of a **4 step density gradient to provide differential rates for residential units.** This is to reflect the lower level of demand for most services as density of development increases.
- **Cancellation of the storm drainage Development Cost Charge** and addition of the complete roadway drainage requirements in the roads program.
- Separation of Roads Sector D into 2 sectors with Highway 33 as the dividing line. Sector D is north and east of the highway and Sector F south and west.

- Funding for the Roads standard change, requiring an additional 1” of asphalt, is paid for by taxation for all roads sectors except on developer construct roadways.
- Funding for road enhancements (stamped asphalt, median treatment, boulevard trees and irrigation) is from taxation for all non-developer construct roads in the inner city sector (Sector I). This includes the South Mission roads that are physically within the Sector I area.
- No local improvement funding is anticipated in the cost sharing strategy.

3. The Development Cost Charge Concept

Development Costs Recovery is legislative **authority provided by Section 932** of the Local Government Act as a means of assisting local government to pay the capital cost of providing, constructing, altering or expanding sewage, water, drainage and highway facilities and providing park land to service, directly or indirectly, the development for which the charge is being imposed.

(a) Purpose of a Development Cost Charge Bylaw

The purpose of a Development Cost Charge Bylaw is to set forth the general conditions under which D.C.C. levies would apply, generally in concert with the municipality's **zoning bylaw**.

In addition, the bylaw would provide **detailed schedules** of the rates which would apply for different services, different land uses and in different areas of the city.

Where **different sectors** attract a different levy, a map which provides specific boundaries in which different rates apply must be approved as a part of the bylaw.

(b) Approach to Preparation of a Development Cost Charge Bylaw_

- Develop **growth projections** identifying factors such as population growth by year, housing mix (single family vs. apartments), estimate commercial, industrial and institutional growth.
- Identify **growth areas**, project housing mix within those growth areas and project the level of growth on an annual basis.
- Develop **major servicing needs** to match the growth plan including the arterial road network, sewage collection/treatment/disposal systems, water supply/distribution/storage systems, drainage improvements and park land requirements.
- **Develop costs** for major servicing needs
- Develop **cost sharing methodologies** that reflect level of benefit to existing taxpayers and new growth.

- Develop cost sharing methodologies that reflect the level of benefit for different **new growth land uses**.

4. Development Cost Charges - Enabling Legislation

Sections (932 - 937) of the Municipal Act along with Regulations regarding terms of payment have been paraphrased for clarity. The purpose of this section is to provide the legal framework for the imposition of Development Cost Charges:

- The capital costs to which Development Cost Charges apply
- When Development Cost Charges are payable
- When Development Cost Charges are not payable
- Conditions for Installment Payments
- How Development Cost Charges may vary by land use and area of the city
- Council's obligations when considering a Development Cost Charge Bylaw
- How Development Cost Charges reserves are handled

Development Cost Charges may be imposed, by bylaw, to assist the local government to pay the capital costs of:

- Sewage Facilities
- Water Facilities
- Drainage Facilities
- Highway Facilities (Except Off-Street Parking Facilities)
- Providing & Developing Park Land

to service, directly or indirectly, the development for which the charge is imposed.

Development Cost Charges are payable by every person who obtains:

- approval of a subdivision, or
- a building permit

but no charge is payable where:

- the building permit is for a church, or
- the building permit is for a building development which, on completion, will contain less than 4 self-contained units, or
- the value of the work authorized by the permit does not exceed \$50,000.

DCC's may be paid by installment if the charge exceeds \$50,000, on the basis of 1/3 down, 1/3 at the end of one year, and the balance at the end of the second year. No interest is charged on the outstanding balance if payments are made on time; however, the developer must deposit security in the form of a letter of credit to guarantee payment.

A DCC is not payable where:

- the development does not impose new capital cost burdens on the municipality, or
- A DCC has been previously paid, unless further development will impose new capital cost burdens on the municipality.

If a developer is required to construct off-site services for which a DCC is payable, the DCC will be reduced by an amount equal to the cost of the off-site works constructed, up to the amount of the DCC for each type of service.

DCC's may vary with respect to:

- different zones or different defined or specified areas,
- different uses,
- different capital costs as they relate to different classes of development,
- and different sizes or different numbers of lots or units in a development.

but the charges in the schedule shall be similar for all developments that impose similar capital cost burdens.

Council, in fixing Development Cost Charges, shall take into consideration future land use patterns and development, the phasing of works and services and the provision of park land in an Official Community Plan and whether the charges:

- are excessive in relation to the capital cost of prevailing standards of service,
- will deter development, or
- will discourage the construction of reasonably priced housing or the provision of reasonably priced serviced land.

Council shall make available, to the public, on request, the considerations, information and calculations used to determine the Development Cost Charges.

Revenues from DCC's must be deposited in a reserve fund established for each purpose, and the funds, together with earned interest, can only be spent for:

- the provision or construction of facilities, or
- principal and interest on debt incurred for facilities, or
- in the case of Parks DCC's, interest earned on funds in the reserve may be used to provide fencing, landscaping, drainage, irrigation, buildings, etc.

III. GROWTH PROJECTIONS - OFFICIAL COMMUNITY PLAN

The **purpose of this section** of the **Updated** 20 Year Servicing Plan and Financing Strategy is to detail growth projections which have been used as a basis for developing the servicing plan and subsequent financing strategy.

Details of the settlement plan including creation of town centres, increasing density to reduce urban sprawl and to increase the efficiency of the city's infrastructure are included in the Official Community Plan document and it is, therefore, not necessary to repeat all of that information again in this document.

1. Residential Growth Assumptions - Land Use Plan

The development of a comprehensive servicing plan and financing strategy is **directly linked to the growth assumptions** contained within the Official Community Plan.

Population is projected to increase, from the January 1, 2001 estimate of 96,000, by just under 60% during this current 20 year planning horizon resulting in a population of 153,220 by the end of the year 2020.

In order to adequately address the impact of this level of growth on existing infrastructure it is also necessary to project the **annual growth rate** over that same planning horizon as well as the areas of the city in which this growth will occur.

The development of this plan is based on an annual percentage increase in population of 2.60% for the first 5 years of the plan, 2.45% for the next 5 years, 2.30% for the third 5 years and reducing to 2.15% over the last 5 years of the plan. This is equivalent to a 2.35% growth rate assumption over the full 20 year period.

The **number of housing units required** to service the projected population over the 20 year planning horizon is directly impacted by the estimated population per household.

The average population per household for this plan has been estimated at 2.2 persons per household. Single family households have been estimated to contain an average of 2.8 persons per household while high density households have an estimated household population of 1.5 persons per household.

The **annual percentage population growth**, the **estimated number of persons per household** and the **housing mix of single family versus multi-family dwelling units** are used to determine the number of residential units that will be required over the 20 year planning horizon and will share in the costs of new infrastructure requirements.

Based on all of the factors provided within the growth plan, the estimated number of residential dwelling units required over the 20 year planning horizon is 25,539.

2. Residential Growth Assumptions - Density Gradient

The 2020 - 20 Year Servicing Plan & Financing Strategy has four categories of residential density and is based on the density of development rather than on the type of dwelling unit. Density gradient based residential DCC's are established based on the relative impact of the dwelling unit on municipal services. The four categories were developed based on engineering data and planning analysis to reflect local considerations. The four categories, including a typical building form, are:

- **Residential 1** – developments with a density of not more than 15 units per net hectare (single family, secondary suite, duplex)
- **Residential 2** – developments with a density greater than 15 and less than or equal 35 units per net hectare (small lot single family, row housing)
- **Residential 3** - developments with a density greater than 35 and less than or equal to 85 units per net hectare (row housing and up to four storey apartment buildings)
- **Residential 4** - developments with a density greater than 85 units per net hectare (apartments greater than four storeys)

Equivalency factors are established to reflect the relative impact on infrastructure for each service. The land use category, residential 1, serves as the baseline for the assessment of impacts on infrastructure of the other three residential land uses.

	<u>Roads</u>	<u>Water</u>	<u>Sewer</u>
Residential 1	100%	100%	100%
Residential 2	80%	67%	83%
Residential 3	55%	48%	56%
Residential 4	52%	34%	54%

The impact for parkland requirements is considered to be the same for each residential category. Although there could be an argument to use a different parkland rate for the different residential categories based on density it is also true that parkland requirements in multi-family areas is more expensive than in single family areas.

3. Commercial/Industrial/Institutional Growth Assumptions

The servicing plan and financing strategy must also consider the demand that will be placed on services by **commercial, industrial and institutional growth** over the 20 year planning horizon. The additional non-residential growth is required to service the additional population which will take up residence in the city over that same 20 year horizon.

Estimated Commercial Growth ***5,977,000 sq. ft***

Estimated Industrial Growth ***200 acres***

Estimated Institutional Growth ***2,713,000 sq. ft***

The development of a **cost-sharing model** which reflects the **relative demand on services of one type of land use to another**, it is necessary to convert commercial, industrial and institutional growth to an equivalent residential unit for each service.

Commercial - Roads	1,000 sq. ft = .31 of a residential unit
- Water	1,000 sq. ft = .38 of a residential unit
- Sewer	1,000 sq. ft = .38 of a residential unit
Industrial - Roads	1 acre = 1.0 residential units
- Water	1 acre = 2.8 residential units
- Sewer	1 acre = 2.8 residential units
Institutional - Roads	1,000 sq. ft = .31 of a residential unit
- Water	1,000 sq. ft = .38 of a residential unit
- Sewer	1,000 sq. ft = .38 of a residential unit

High School developments to Grade 12 and residential student housing units on college and university campus would be exempt from a Roads charge.

4. Unit Equivalent Considerations - Explanation of the D.C.C. Unit Calculation

The purpose of a Development Cost Charge is to recover some of the investment the City is forced to make in extending and upgrading a service to accommodate population growth and the development which accompanies it. **There is a relatively direct correlation between population growth and the impacts to water, sanitary sewer, roads and parks services.**

Since it is not feasible to charge a DCC directly on population, the City has adopted a system based on **equivalent units**.

Equivalent units are an **indirect but effective way of representing population**. To facilitate DCC calculations, the Planning staff projects population growth in terms of both residential and non-residential development. Since the unit of development for each land use category differs (houses for single family residential, apartments for multi-family residential and floor area for commercial and institutional), each Development Unit is converted to a common reference unit called an Equivalent Unit.

Currently, the impact of one (1) Equivalent Unit on a service is defined to be equivalent to the impact of one (1) single family residence. That is:

One (1) Equivalent Unit = 1 S.F. Residential Unit

Development Units for land use categories other than Single Family Residential are converted to Equivalent Units according to the overall average impact of each different type of Development Unit.

Expressing projected population growth in terms of Development Units, and then converting these to Equivalent Units has worked reasonably well for the **water, sanitary sewer, roads and parks services.**

5. Table of Growth by Development Area - By Service Type

The number of growth units, when converted to the single family residential equivalent, differ for different services for the following reasons:

- Not all of the growth units as projected by the Planning Department will be serviced by **sanitary sewer services**. Sanitary sewer services are based on the assumption that growth in the South East Kelowna sector will be serviced by septic disposal or by a batch treatment plant (Gallaghers Canyon) with field disposal of effluent.
- **Not all growth units will be serviced by the City's water system.** This plan assumes that Irrigation Districts will service all growth units within their service boundaries. **Irrigation Districts** which will provide water service to support the growth plan are South East Kelowna Irrigation District, Black Mountain Irrigation District, Rutland Water Works and the Glenmore-Ellison Irrigation District.
- As previously detailed, the demand on services as **equated to a single family residential unit**, is different for each service. This will result in a different number of equivalent residential units for purposes of cost-sharing of program costs for each service.

The following is a table detailing the number of **equivalent single family residential units for each service** which have been used to calculate the Development Cost Charge unit cost for program costs which are attributable to new growth:

Land Use	Arterial Roads	Water	Sewer Trunks	Sewer Treatment	Parks
Residential 1	11,180	6,164	10,676	10,676	11,180
Residential 2	3,813	1,915	3,914	3,914	4,766
Residential 3	4,035	2,515	4,108	4,108	7,336
Residential 4	1,174	682	1,219	1,219	2,257
Commercial	1,839	1,398	2,291	2,291	n/a
Institutional	613	547	1,010	1,010	n/a
Industrial	200	182	462	462	n/a
Total Equiv. Units	22,854	13,403	23,681	23,681	25,539

The following tables provide growth details by service type and sector:

**CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
ROADS**

SECTOR 'A' - S.E. KELOWNA

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	504	1.00	504
RESIDENTIAL 2	UNIT	50	0.80	40
RESIDENTIAL 3	UNIT	0	0.55	0
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		554		544
COMMERCIAL	SQ. FT.	30,000	3,250.00	9
TOTAL INSTITUTIONAL	SQ. FT.	20,000	3,250.00	6
LESS: INST. TO GRADE 12	SQ. FT.	(20,000)	3,250.00	(6)
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				553

SECTOR 'B' - SOUTH MISSION

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	3,111	1.00	3,111
RESIDENTIAL 2	UNIT	680	0.80	544
RESIDENTIAL 3	UNIT	0	0.55	0
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		3,791		3,655
COMMERCIAL	SQ. FT.	150,000	3,250.00	46
TOTAL INSTITUTIONAL	SQ. FT.	170,000	3,250.00	52
LESS: INST. TO GRADE 12	SQ. FT.	(170,000)	3,250.00	(52)
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				3,701

SECTOR 'C' - N.E. RUTLAND

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	691	1.00	691
RESIDENTIAL 2	UNIT	111	0.80	89
RESIDENTIAL 3	UNIT	0	0.55	0
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		802		780
COMMERCIAL	SQ. FT.	5,000	3,250.00	2
TOTAL INSTITUTIONAL	SQ. FT.	0	3,250.00	0
LESS: INST. TO GRADE 12	SQ. FT.	0	3,250.00	0
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				781

SECTOR 'D' - E. OF INNER CITY (NE HWY 33)

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	1,000	1.00	1,000
RESIDENTIAL 2	UNIT	0	0.80	0
RESIDENTIAL 3	UNIT	0	0.55	0
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		1,000		1,000
COMMERCIAL	SQ. FT.	0	3,250.00	0
TOTAL INSTITUTIONAL	SQ. FT.	0	3,250.00	0
LESS: INST. TO GRADE 12	SQ. FT.	0	3,250.00	0
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				1,000

SECTOR 'F' - E. OF INNER CITY (SW HWY 33)

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	778	1.00	778
RESIDENTIAL 2	UNIT	0	0.80	0
RESIDENTIAL 3	UNIT	0	0.55	0
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		778		778
COMMERCIAL	SQ. FT.	75,000	3,250.00	23
TOTAL INSTITUTIONAL	SQ. FT.	40,000	3,250.00	12
LESS: INST. TO GRADE 12	SQ. FT.	(40,000)	3,250.00	(12)
NET INSTITUTIONAL	SQ. FT.	0	3,250.00	0
INDUSTRIAL	ACRES	0	1.00	0
TOTAL EQUIVALENT POPULATION				801

SECTOR 'E' - N. OF INNER CITY

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	956	1.00	956
RESIDENTIAL 2	UNIT	398	0.80	318
RESIDENTIAL 3	UNIT	748	0.55	411
RESIDENTIAL 4	UNIT	0	0.52	0
SUB-TOTAL RESIDENTIAL		2,102		1,686
COMMERCIAL	SQ. FT.	280,000	3,250.00	86
TOTAL INSTITUTIONAL	SQ. FT.	1,061,000	3,250.00	326
LESS: INST. TO GRADE 12	SQ. FT.	(40,000)	3,250.00	(12)
NET INSTITUTIONAL	SQ. FT.	1,021,000	3,250.00	314
INDUSTRIAL	ACRES	75	1.00	75
TOTAL EQUIVALENT POPULATION				2,161

SECTOR 'I' - INNER CITY

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	4,140	1.00	4,140
RESIDENTIAL 2	UNIT	3,527	0.80	2,822
RESIDENTIAL 3	UNIT	6,588	0.55	3,623
RESIDENTIAL 4	UNIT	2,257	0.52	1,174
SUB-TOTAL RESIDENTIAL		16,512		11,759
COMMERCIAL	SQ. FT.	5,437,000	3,250.00	1,673
TOTAL INSTITUTIONAL	SQ. FT.	1,422,000	3,250.00	438
LESS: INST. TO GRADE 12	SQ. FT.	(450,000)	3,250.00	(138)
NET INSTITUTIONAL	SQ. FT.	972,000	3,250.00	299
INDUSTRIAL	ACRES	125	1.00	125
TOTAL EQUIVALENT POPULATION				13,856

TOTAL ROADS - ALL SECTORS

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	11,180	1.00	11,180
RESIDENTIAL 2	UNIT	4,766	0.80	3,813
RESIDENTIAL 3	UNIT	7,336	0.55	4,035
RESIDENTIAL 4	UNIT	2,257	0.52	1,174
SUB-TOTAL RESIDENTIAL		25,539		20,201
COMMERCIAL	SQ. FT.	5,977,000	3,250.00	1,839
TOTAL INSTITUTIONAL	SQ. FT.	2,713,000	3,250.00	835
LESS: INST. TO GRADE 12	SQ. FT.	(720,000)	3,250.00	(222)
NET INSTITUTIONAL	SQ. FT.	1,993,000	3,250.00	613
INDUSTRIAL	ACRES	200	1.00	200
TOTAL EQUIVALENT POPULATION				22,854

CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
WATER

SECTOR 'A' - CENTRAL

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	1,315	1.00	1,315
RESIDENTIAL 2	UNIT	1,558	0.67	1,044
RESIDENTIAL 3	UNIT	5,041	0.48	2,420
RESIDENTIAL 4	UNIT	2,007	0.34	682
SUB-TOTAL RESIDENTIAL		9,921		5,461
COMMERCIAL	SQ. FT.	3,450,000	2,600.00	1,327
INSTITUTIONAL	SQ. FT.	1,212,000	2,600.00	466
INDUSTRIAL	ACRES	65	2.80	182
TOTAL EQUIVALENT POPULATION				7,436

SECTOR 'B' - SOUTH MISSION

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	3,111	1.00	3,111
RESIDENTIAL 2	UNIT	680	0.67	456
RESIDENTIAL 3	UNIT	0	0.48	0
RESIDENTIAL 4	UNIT	0	0.34	0
SUB-TOTAL RESIDENTIAL		3,791		3,567
COMMERCIAL	SQ. FT.	150,000	2,600.00	58
INSTITUTIONAL	SQ. FT.	170,000	2,600.00	65
INDUSTRIAL	ACRES	0	2.80	0
TOTAL EQUIVALENT POPULATION				3,690

SECTOR 'D' - CLIFTON

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	1,738	1.00	1,738
RESIDENTIAL 2	UNIT	620	0.67	415
RESIDENTIAL 3	UNIT	199	0.48	96
RESIDENTIAL 4	UNIT	0	0.34	0
SUB-TOTAL RESIDENTIAL		2,557		2,249
COMMERCIAL	SQ. FT.	35,000	2,600.00	13
INSTITUTIONAL	SQ. FT.	40,000	2,600.00	15
INDUSTRIAL	ACRES	0	2.80	0
TOTAL EQUIVALENT POPULATION				2,278

TOTAL WATER - ALL SECTORS

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	6,164	1.00	6,164
RESIDENTIAL 2	UNIT	2,858	0.67	1,915
RESIDENTIAL 3	UNIT	5,240	0.48	2,515
RESIDENTIAL 4	UNIT	2,007	0.34	682
SUB-TOTAL RESIDENTIAL	UNIT	16,269		11,276
COMMERCIAL	SQ. FT.	3,635,000	2,600.00	1,398
INSTITUTIONAL	SQ. FT.	1,422,000	2,600.00	547
INDUSTRIAL	ACRES	65	2.80	182
TOTAL EQUIVALENT POPULATION				13,403

CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
SEWER TRUNKS

SECTOR 'A' - CENTRAL

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	7,565	1.00	7,565
RESIDENTIAL 2	UNIT	4,036	0.83	3,350
RESIDENTIAL 3	UNIT	7,336	0.56	4,108
RESIDENTIAL 4	UNIT	2,257	0.54	1,219
SUB-TOTAL RESIDENTIAL		21,194		16,242
COMMERCIAL	SQ. FT.	5,807,000	2,600.00	2,233
INSTITUTIONAL	SQ. FT.	2,543,000	2,600.00	978
INDUSTRIAL	ACRES	200	2.80	560
TOTAL EQUIVALENT POPULATION				20,013

SECTOR B - SOUTH MISSION

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	3,111	1.00	3,111
RESIDENTIAL 2	UNIT	680	0.83	564
RESIDENTIAL 3	UNIT	0	0.56	0
RESIDENTIAL 4	UNIT	0	0.54	0
SUB-TOTAL RESIDENTIAL		3,791		3,675
COMMERCIAL	SQ. FT.	150,000	2,600.00	58
INSTITUTIONAL	SQ. FT.	170,000	2,600.00	65
INDUSTRIAL	ACRES	0	2.80	0
TOTAL EQUIVALENT POPULATION				3,798

TOTAL SEWER TRUNKS - ALL SECTORS

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	10,676	1.00	10,676
RESIDENTIAL 2	UNIT	4,716	0.83	3,914
RESIDENTIAL 3	UNIT	7,336	0.56	4,108
RESIDENTIAL 4	UNIT	2,257	0.54	1,219
SUB-TOTAL RESIDENTIAL		24,985		19,917
COMMERCIAL	SQ. FT.	5,957,000	2,600.00	2,291
INSTITUTIONAL	SQ. FT.	2,713,000	2,600.00	1,043
INDUSTRIAL	ACRES	200	2.80	560
TOTAL EQUIVALENT POPULATION				23,812

**CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
TREATMENT**

SECTOR 'A' - CENTRAL

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	10,676	1.00	10,676
RESIDENTIAL 2	UNIT	4,716	0.83	3,914
RESIDENTIAL 3	UNIT	7,336	0.56	4,108
RESIDENTIAL 4	UNIT	2,257	0.54	1,219
SUB-TOTAL RESIDENTIAL		24,985		19,917
COMMERCIAL	SQ. FT.	5,957,000	2,600.00	2,291
INSTITUTIONAL	SQ. FT.	2,713,000	2,600.00	1,043
INDUSTRIAL	ACRES	200	2.80	560
TOTAL EQUIVALENT POPULATION				23,812

**CITY OF KELOWNA
GROWTH RECONCILIATION BY SERVICE
PARKS**

SECTOR 'A' - CITY-WIDE

LAND USE	BASE UNITS	GROWTH	EQUIVALENCY PER UNIT	EQUIVALENT UNITS
RESIDENTIAL 1	UNIT	11,180	1.00	11,180
RESIDENTIAL 2	UNIT	4,766	1.00	4,766
RESIDENTIAL 3	UNIT	7,336	1.00	7,336
RESIDENTIAL 4	UNIT	2,257	1.00	2,257
TOTAL EQUIVALENT POPULATION				25,539

IV. MAJOR SERVICING REQUIREMENTS - BY SERVICE TYPE

The **purpose of this section** of the **Updated** 20 Year Servicing Plan and Financing Strategy is to provide a brief overview for each major service providing summary information such as a general description of physical works, general area of the city serviced by the capital works, overall cost of the program along with an overall summary of the cost of all services.

This section also includes a map which details the infrastructure to be added during the 20 year planning horizon.

1. Arterial/Collector Roads Network

The total cost of the Arterial/Collector Roads program is estimated to be **\$405.9 Million**. The program represents an **average** annual expenditure of **\$20.3 Million** over the 20 year planning horizon.

The arterial roads program as developed represents the required infrastructure needs to service the new population growth over the next 20 years.

The following servicing assumptions have been incorporated into the transportation plan:

- A bridge across Okanagan Lake will be **expanded to provide five-lane capacity**.
- **TDM measures** will reduce single vehicle auto travel by **10-15%** by the end of the planning horizon which compares to approximately 4% today.
- The arterial roads will not be upgraded, and their capacity expanded until the traffic congestion has increased to the point where “level of service” has deteriorated from service level “E” to “F”.
- The **Central Okanagan Bypass** will not be constructed to greater than a four lane capacity during the current 20 year planning horizon.
- **Highway 97** will be expanded to a **six lane capacity** from the bridge to Highway 33.
- No traffic growth has been projected outside of municipal boundaries in S.E. Kelowna.
- Every effort will be made to **optimize the Arterial Network capacity** by:
 - Restricted on-street parking
 - Restricted minor street access and private driveway access
 - Raised centre medians to control turning movements and improve safety

- Intersections may include additional traffic lanes and traffic signal treatments.
- **Target quarters** have been provided for arterial roads construction and upgrading, although the actual year of construction will be determined by a combination of **growth, service levels, availability of funds from development and the availability of Provincial funding** where identified in the plan.
- **Development driven roads** identified in the plan will only be constructed if development proceeds and costs are “front-ended” by development within the area. If, for purposes of overall traffic management, it is necessary to construct key roads prior to development occurring it will be necessary to revise the plan accordingly.

New developments will provide the funding, or undertake the following works, without D.C.C. credits:

- If the development flanks an existing arterial, dedicate up to a 20 meter right-of-way and complete road upgrading to the standard indicated in the arterial roads program
- If a new arterial road is required through the development, dedicate a 20 meter right-of-way and construct a two lane road to the standard indicated in the arterial roads program
- **Construction costs** have been estimated on the basis of costs experienced on similar projects undertaken over the past several years and construction contingency of 25% has been added to projects to reflect the level of engineering effort (‘Class C’ estimate) incorporated into the plan. The contingency on projects which have had preliminary engineering design completed (‘Class B’ estimate) will be reduced to 15%. It should be noted that lower levels of contingency do not translate into lower construction cost estimates, but do reflect a higher level of confidence in the cost estimates calculated.

For roads within the Southwest Mission sector the contingency is calculated on each individual cost item versus on the bottom line total for all other roads.

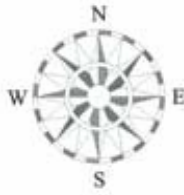
This program primarily covers the Arterial Network improvements and thus is only one element of the City’s roads infrastructure needs. Examples of other programs which must be undertaken over the 20 year planning horizon are:

- Road Rehabilitation/Overlay program
- Local Improvement programs
- Sidewalk network program
- Safety and Operation improvements
- Bike Lane/Shoulder improvement program
- Bridge Rehabilitation not related to new growth
- Street Light/Traffic Signal Upgrades

Details of these programs **will be included in the City’s 10 year capital improvement plan** along with an appropriate financing strategy.

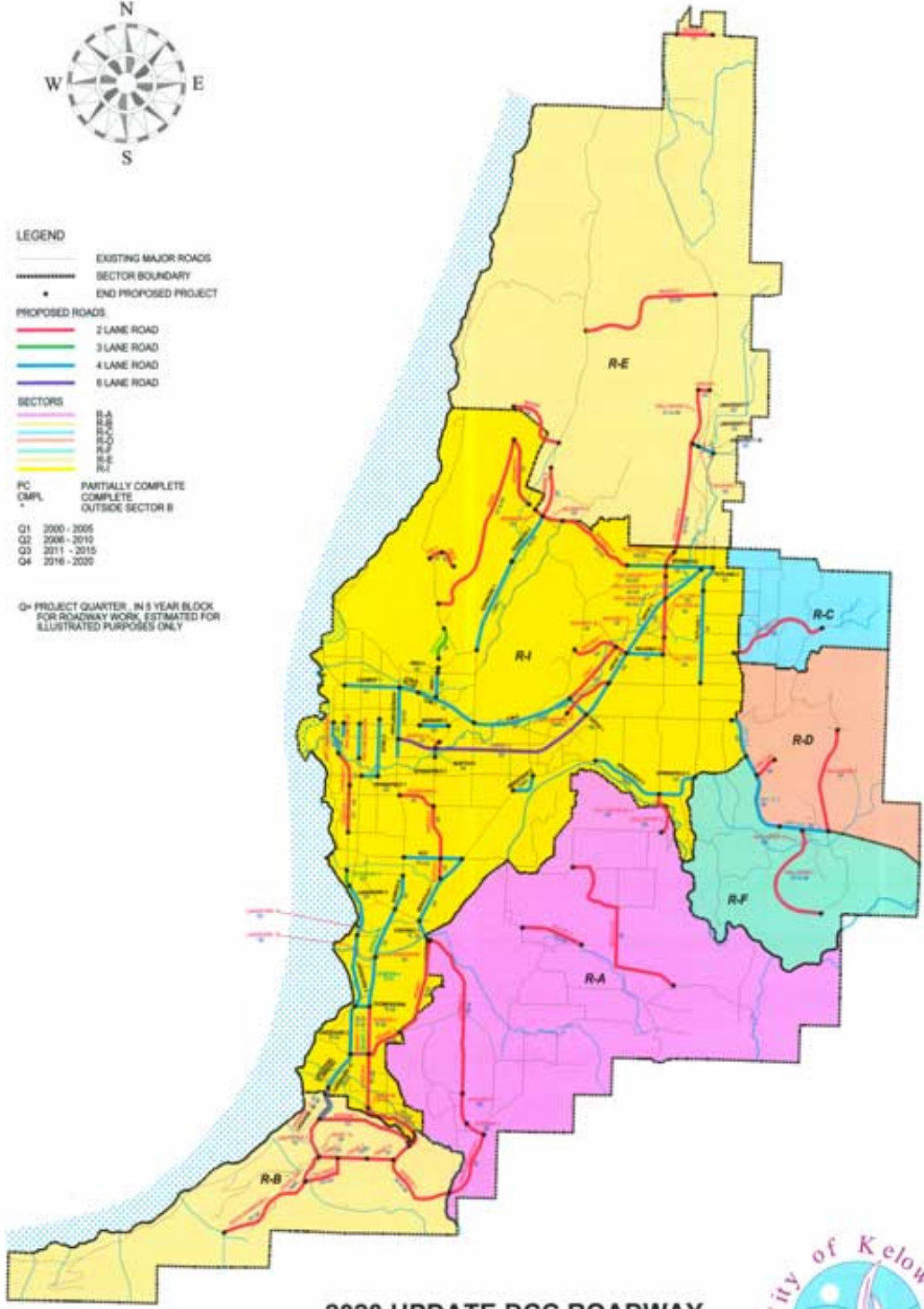
Two maps have been attached, providing the following information:

- **Map R-1** - Roads projects to be completed over the next 20 years
- **Map R-2** - Projected Road network at the end of the 20 year planning horizon



- LEGEND**
- EXISTING MAJOR ROADS
 - SECTOR BOUNDARY
 - END PROPOSED PROJECT
- PROPOSED ROADS**
- 2 LANE ROAD
 - 3 LANE ROAD
 - 4 LANE ROAD
 - 6 LANE ROAD
- SECTORS**
- R-A
 - R-B
 - R-C
 - R-D
 - R-E
 - R-F
- PC** PARTIALLY COMPLETE
OMPL COMPLETE OUTSIDE SECTOR B
- Q1** 2000 - 2005
Q2 2006 - 2010
Q3 2011 - 2015
Q4 2016 - 2020

Q= PROJECT QUARTER, IN 5 YEAR BLOCK FOR ROADWAY WORK, ESTIMATED FOR ILLUSTRATED PURPOSES ONLY



2020 UPDATE DCC ROADWAY NETWORK PLAN

DEC. 2005
KEY PLAN



CITY OF KELOWNA
2020 SERVICING PLAN AND FINANCING STRATEGY UPDATE
ROADS PROJECT LIST
(BY ALPHA)

TARGET QUARTER	SECTOR	PROJECT NAME	FROM - TO	TOTAL COST
Q2	E	Airport	Hollywood Road - Highway 97	994,061
Q2	B	Barnaby 1	Lakeshore to Gordon	2,163,269
Q4	E	Beaver Lake Rd	City Limits - East Connector	2,086,012
Q2	I	Begbie Road	Glenmore Highlands - Glenmore Rd.	1,997,486
Q3	I	Benvoulin 1	Casorso Road - KLO Road	4,773,624
Q1	I	Benvoulin 2	Cooper Road - Springfield Avenue	3,715,783
Q3	I	Bernard 2	Richmond Street - Burtch Road	1,196,539
Q3	I	Burtch 1	Benvoulin Road - KLO Road	913,553
Q3	I	Burtch 2	KLO Road - Byrns Road	3,613,940
Q4	I	Burtch 4	Sutherland Road - Highway 97	986,938
Q1	I	Burtch 5	Highway 97 - Kelglen	213,089
Q4	*B	Casorso 1	Benvoulin Road - Swamp	1,426,729
CPLT	B	Chute Lake 1	Frost Rd to South Perimeter Rd	901,500
Q2	B	Chute Lake 2	Barnaby Rd to Frost Rd	1,331,772
Q1	I	Clement 1	Ellis - Gordon	5,710,519
Q2	I	Clifton 1	MacLeay - Clifton (existing)	2,200,164
Q1	I	COB 1	Cerise - Spall	7,405,820
Q1	I	COB A	Gordon - Cerise	7,862,079
Q2	I	COB2	Spall Road - Highway 33	30,694,887
Q2	I	COB3	Highway 33 - McCurdy Road	5,830,033
Q2	*B	Dehart 1	Lakeshore Road - Gordon Drive	94,801
Q3	*B	Dehart 2	Lakeshore Road - Gordon Drive	1,091,657
Q2	*B	Dehart 3	Gordon Rd to Swamp	2,458,009
Q1	I	Enterprise 1	Banks Road - Leathead Road	4,184,840
Q1	I	Ethel 2	Springfield -Lawson	4,941,419
Q2	B	Frost 1	Chute Lake Road - Kildeer Road	716,685
Q2	B	Frost 1b	Frost - Frost	95,800
CPLT	B	Frost 2	Kildeer to ending of Existing Frost	601,308
Q2	B	Frost 3	End of Existing Frost to Gordon Dr.	634,034
Q1-2	F	Gallagher 1	Existing south end - Highway 33	7,739,113
Q1	F	Gallagher 1b	Creek - Crossing - Crossing	21,838
Q2	D	Gallagher 3	Highway 33 - Treetop Road	6,071,630
CPLT	I	Glenmore 1	High Road - Dallas	5,292,312
Q3	I	Glenmore 2	Dallas Road - Union Road	4,170,260
Q3	I	Glenmore 3	Union Road - Scenic Road	2,139,836
Q2-4	B	Gordon 1	Perimeter to Bellevue Creek	4,212,579
Q2	*B	Gordon 2	Barnaby/Gordon Intersect to Dehart	6,386,904
Q2	*B	Gordon 2b	Crossing - Bellevue Creek	580,700
Q2	*B	Gordon 3	Dehart Rd to Old Meadows Rd	1,932,438
Q1	I	Gordon 4	Old Meadows Rd - Mission Creek	2,149,118
Q2	I	Gordon 5	Mission Creek - Casorso	2,713,061
Q2	I	Gordon 6	Casorso Road - Lanfranco Road	1,885,652
Q2	I	Gordon Bridge	Mission Creek Crossing	2,300,000
Q2	I	Guisachan 2	Gordon Drive - Burtch Road	1,535,885
Q3	A	Gulley 2	Spiers to Hart	952,241

TARGET QUARTER	SECTOR	PROJECT NAME	FROM - TO	TOTAL COST
Q2	I	High 1	North Connector - Mountain Drive	3,067,720
Q2	I	High 2	Mountain Drive - Lynwood Cresent	995,680
Q2	A	Hollywd 2	East Kelowna Road - Springfield	1,974,714
Q2	A	Hollywd 2b	Mission Creek - Crossing	3,319,256
Q3	I	Hollywd 3	McCurdy Road - Stremel	1,565,079
Q3	I	Hollywd 4	Stremel - Highway 97	1,779,125
Q3	I	Hollywd 4b	Francis Creek - Crossing	21,564
Q4	I	Hollywd 5	Highway 97 - Cambrio	1,728,659
Q4	I	Hollywd 5b	Mill Creek - Crossing	546,560
Q4	I	Hollywd 6	extg. South end - Sexsmith Road	706,849
Q4	E	Hollywd 7	Sexsmith Road - Appaloosa	2,477,414
Q1-4	E	Hollywd 8	Lougheed - Lochrem	11,784,368
Q2	I	Hwy 33 1	NEC - Highway 97	4,876,312
Q2	D,F	Hwy 33 2	Mckenzie - Springfield	2,975,923
Q2	D,F	Hwy 33 3	Springfield Road - Garner Road	6,653,608
Q2	D,F	Hwy 33 4	Garner Road - Gallagher Road	4,610,850
Q1	I	Hwy 97 1	Gordon Drive - Highway 33	7,356,695
Q3	I	Hwy 97 2	Highway 33 - Sexsmith	8,196,698
Q2	I	Hwy Link-Ellis	East Approach to Bridge	263,420
Q2	I	Hwy Link-Gordon	Sutherland - Bernard	3,352,140
Q2	I	Hwy Link-Pandosy 3	Lake - Hwy 97	12,951,534
Q2	I	Hwy Link-Pandosy 3B	Mill Creek Bridge	937,500
Q2	I	Hwy Link-Richter	Sutherland - Bernard	2,818,308
CPLT	B	Killdeer	Chute Lake Road - Frost Road	561,906
Q1	I	KLO	Gordon Drive - Benvoulin Road	4,800,066
Q1	B	Lakshr 1A	Vintage Terrace Rd to Barnaby Rd	545,633
Q4	B	Lakshr 1B (4L)	Vintage Terrace Rd to Barnaby Rd	2,264,165
Q3	*B	Lakshr 1C (4L)	Dehart Rd to Vintage Terrace	3,153,378
Q3	*B	Lakshr 1C (Bridge)	Crossing - Bellevue Creek	658,800
Q4	*B	Lakshr 2 (4L)	Old Meadows to DeHart	2,792,683
Q3	I	Lkshore 3	Richter Street - Old Meadows Road	18,301,770
Q3	I	Lkshore 3b	Mission Creek - Crossing	2,818,200
Q3	I	Lkshore 3c	Wilson Creek - Crossing	358,680
Q2	I	Lkshore 4	Lanfranco Road - Richter Street	815,249
Q2	D	Lone Pine	Highway 33 - 500m east	2,936,610
Q2	A	McCulloch	Various	1,500,000
Q4	I	McCurdy 1	Dilworth - NEC	3,970,249
Q2	I	McCurdy 2	NEC - Highway 97	1,365,717
Q4	I	McCurdy 2b	Mill Creek - Crossing	469,700
Q4	I	McCurdy 3	Highway 97 - Hollywood Road	3,985,593
Q2	C	McCurdy 4	Craig Road - Tower Ranch	3,168,641
Q3	E	McKinley 1	Glenmore Road - Highway 97	9,461,849
Q4	*B	OldMws (4L)	Gordon Drive - Lakeshore Road	1,123,354
Part Cmpit	I	Pandosy 1	Raymer - Royal	2,393,432
Q2	I	Pandosy 2	Royal - Lake	2,939,659
Q1-4	I	Ridge	Cara Glen Way - Sexsmith Road	15,448,020
Q2	I	Rio 1	Clifton Road - Highlands	810,698
Q2	I	Rio 2	Highlands - Internal Road C1	1,096,553
Q2	I	Rutland 1	Leathead Road - Cornish Road	11,513,031
Q2	I	Rutland 2	Cornish Road - Old Vernon Road	2,525,042
Q1	B	S. Per. 2 (pc)	Lebanon Creek to Chute 1	2,802,234
Q1	B	S. Perimeter 1	Gordon Dr to Stewart 1	7,217,740
Q1	I	Sexsmith 1	Ridge Road - Millard Road	4,156,319

TARGET QUARTER	SECTOR	PROJECT NAME	FROM - TO	TOTAL COST
Q3	I	Sexsmith 2	Glenmore old - Glenmore Bypass	535,021
Q3	I	Sexsmith 3	Glenmore Bypass - Valley Road	1,624,979
Q4	I	Sexsmith 4	Valley - Longhill	5,867,492
Q3	I	Sexsmith 5	Longhill - Rutland Road	8,349,316
Q3	I	Springfield 1	Richter Street - Ethel Street	4,075,166
CPLT	I	Springfield 2	Ziprick Road -Hollywood Road	3,631,455
Q3	I	Springfield 3	Hollywood Road - Rutland Road	5,939,611
Q1	B	Stewart Rd 1 & 2	Perimeter Rd to WKP R.O.W.	69,000
Q3	*B	Stewart Rd 3	Crawford Rd to Swamp	7,173,391
Q2	*B	Swamp 1	DeHart Rd to Casorso	4,049,013
Q3	E	University 1	Hollywood Road -Highway 97	1,073,537
Q3	E	University 2	Hollywood Road - Bulman Road	8,058,582
Q3	E	University 2b	Mill Creek - Crossing	315,155
Q3	E	University 3	Highway 97 - University Way	1,166,519
			Engineering/Administration	2,134,747
TOTAL				405,897,850
This schedule is conceptual and is subject to revision to meet future needs and conditions.				

CITY OF KELOWNA
2020 SERVICING PLAN AND FINANCING STRATEGY UPDATE
ROADS PROJECT LIST
(BY SECTOR/QUARTER)

TARGET QUARTER	SECTOR	PROJECT NAME	FROM - TO	TOTAL COST
Q2	A	Hollywd 2	East Kelowna Road - Springfield	1,974,714
Q2	A	Hollywd 2b	Mission Creek - Crossing	3,319,256
Q2	A	McCulloch	Various	1,500,000
Q3	A	Gulley 2	Spiers to Hart	952,241
				7,746,212
CPLT	B	Chute Lake 1	Frost Rd to South Perimeter Rd	901,500
CPLT	B	Frost 2	Kildeer to ending of Existing Frost	601,308
CPLT	B	Killdeer	Chute Lake Road - Frost Road	561,906
Q1	B	Lakshr 1A	Vintage Terrace Rd to Barnaby Rd	545,633
Q1	B	S. Perimeter 1	Gordon Dr to Stewart 1	7,217,740
Q1	B	S. Per. 2 (pc)	Lebanon Creek to Chute 1	2,802,234
Q1	B	Stewart Rd 1 & 2	Perimeter Rd to WKP R.O.W.	69,000
Q2	B	Barnaby 1	Lakeshore to Gordon	2,163,269
Q2	B	Chute Lake 2	Barnaby Rd to Frost Rd	1,331,772
Q2	B	Frost 1	Chute Lake Road - Kildeer Road	716,685
Q2	B	Frost 1b	Frost - Frost	95,800
Q2	B	Frost 3	End of Existing Frost to Gordon Dr.	634,034
Q2-4	B	Gordon 1	Perimeter to Bellevue Creek	4,212,579
Q4	B	Lakshr 1B (4L)	Vintage Terrace Rd to Barnaby Rd	2,264,165
				24,117,625
Q2	*B	Dehart 1	Lakeshore Road - Gordon Drive	94,801
Q2	*B	Dehart 3	Gordon Rd to Swamp	2,458,009
Q2	*B	Gordon 2b	Crossing - Bellevue Creek	580,700
Q2	*B	Gordon 2	Barnaby/Gordon Intersect to Dehart	6,386,904
Q2	*B	Gordon 3	Dehart Rd to Old Meadows Rd	1,932,438
Q2	*B	Swamp 1	DeHart Rd to Casorso	4,049,013
Q3	*B	Dehart 2	Lakeshore Road - Gordon Drive	1,091,657
Q3	*B	Lakshr 1C (4L)	Dehart Rd to Vintage Terrace	3,153,378
Q3	*B	Lakshr 1C (Bridge)	Crossing - Bellevue Creek	658,800
Q3	*B	Stewart Rd 3	Crawford Rd to Swamp	7,173,391
Q4	*B	Casorso 1	Benvoulin Road - Swamp	1,426,729
Q4	*B	Lakshr 2 (4L)	Old Meadows to DeHart	2,792,683
Q4	*B	OldMws (4L)	Gordon Drive - Lakeshore Road	1,123,354
				32,921,857
Q2	C	McCurdy 4	Craig Road - Tower Ranch	3,168,641
Q2	D	Gallagher 3	Highway 33 - Treetop Road	6,071,630
Q2	D	Lone Pine	Highway 33 - 500m east	2,936,610
				9,008,241
Q1	F	Gallagher 1b	Creek - Crossing - Crossing	21,838
Q1-2	F	Gallagher 1	Existing south end - Highway 33	7,739,113
				7,760,951

TARGET QUARTER	SECTOR	PROJECT NAME	FROM - TO	TOTAL COST
Q2	D,F	Hwy 33 2	Mckenzie - Springfield	2,975,923
Q2	D,F	Hwy 33 3	Springfield Road - Garner Road	6,653,608
Q2	D,F	Hwy 33 4	Garner Road - Gallagher Road	4,610,850
				14,240,380
Q1-4	E	Hollywd 8	Lougheed - Lochrem	11,784,368
Q2	E	Airport	Hollywood Road - Highway 97	994,061
Q3	E	McKinley 1	Glenmore Road - Highway 97	9,461,849
Q3	E	University 1	Hollywood Road -Highway 97	1,073,537
Q3	E	University 2	Hollywood Road - Bulman Road	8,058,582
Q3	E	University 2b	Mill Creek - Crossing	315,155
Q3	E	University 3	Highway 97 - University Way	1,166,519
Q4	E	Beaver Lake Rd	City Limits - East Connector	2,086,012
Q4	E	Hollywd 7	Sexsmith Road - Appaloosa	2,477,414
				37,417,498
CPLT	I	Glenmore 1	High Road - Dallas	5,292,312
CPLT	I	Springfield 2	Ziprick Road -Hollywood Road	3,631,455
Part Cmpl	I	Pandosa 1	Raymer - Royal	2,393,432
Q1	I	Benvoulin 2	Cooper Road - Springfield Avenue	3,715,783
Q1	I	Burtch 5	Highway 97 - Kelglen	213,089
Q1	I	Clement 1	Ellis - Gordon	5,710,519
Q1	I	COB A	Gordon - Cerise	7,862,079
Q1	I	COB 1	Cerise - Spall	7,405,820
Q1	I	Enterprise 1	Banks Road - Leathead Road	4,184,840
Q1	I	Ethel 2	Springfield -Lawson	4,941,419
Q1	I	Gordon 4	Old Meadows Rd - Mission Creek	2,149,118
Q1	I	Hwy 97 1	Gordon Drive - Highway 33	7,356,695
Q1	I	KLO	Gordon Drive - Benvoulin Road	4,800,066
Q1	I	Sexsmith 1	Ridge Road - Millard Road	4,156,319
Q1-4	I	Ridge	Cara Glen Way - Sexsmith Road	15,448,020
Q2	I	Begbie Road	Glenmore Highlands - Glenmore Rd.	1,997,486
Q2	I	Clifton 1	MacLeay - Clifton (existing)	2,200,164
Q2	I	COB2	Spall Road - Highway 33	30,694,887
Q2	I	COB3	Highway 33 - McCurdy Road	5,830,033
Q2	I	Gordon 5	Mission Creek - Casorso	2,713,061
Q2	I	Gordon 6	Casorso Road - Lanfranco Road	1,885,652
Q2	I	Gordon Bridge	Mission Creek Crossing	2,300,000
Q2	I	Guisachan 2	Gordon Drive - Burtch Road	1,535,885
Q2	I	High 1	North Connector - Mountain Drive	3,067,720
Q2	I	High 2	Mountain Drive - Lynwood Crescent	995,680
Q2	I	Hwy 33 1	NEC - Highway 97	4,876,312
Q2	I	Hwy Link-Ellis	East Approach to Bridge	263,420
Q2	I	Hwy Link-Gordon	Sutherland - Bernard	3,352,140
Q2	I	Hwy Link-Pandosa 3	Lake - Hwy 97	12,951,534
Q2	I	Hwy Link-Pandosa 3B	Mill Creek Bridge	937,500
Q2	I	Hwy Link-Richter	Sutherland - Bernard	2,818,308
Q2	I	Lkshore 4	Lanfranco Road - Richter Street	815,249
Q2	I	McCurdy 2	NEC - Highway 97	1,365,717
Q2	I	Pandosa 2	Royal - Lake	2,939,659
Q2	I	Rio 1	Clifton Road - Highlands	810,698
Q2	I	Rio 2	Highlands - Internal Road C1	1,096,553
Q2	I	Rutland 1	Leathead Road - Cornish Road	11,513,031

Q2	I	Rutland 2	Cornish Road - Old Vernon Road	2,525,042
Q3	I	Benvoulin 1	Casorso Road - KLO Road	4,773,624
Q3	I	Bernard 2	Richmond Street - Burtch Road	1,196,539
Q3	I	Burtch 1	Benvoulin Road - KLO Road	913,553
Q3	I	Burtch 2	KLO Road - Byrns Road	3,613,940
Q3	I	Glenmore 2	Dallas Road - Union Road	4,170,260
Q3	I	Glenmore 3	Union Road - Scenic Road	2,139,836
Q3	I	Hollywd 3	McCurdy Road - Stremel	1,565,079
Q3	I	Hollywd 4	Stremel - Highway 97	1,779,125
Q3	I	Hollywd 4b	Francis Creek - Crossing	21,564
Q3	I	Hwy 97 2	Highway 33 - Sexsmith	8,196,698
Q3	I	Lkshore 3	Richter Street - Old Meadows Road	18,301,770
Q3	I	Lkshore 3b	Mission Creek - Crossing	2,818,200
Q3	I	Lkshore 3c	Wilson Creek - Crossing	358,680
Q3	I	Sexsmith 2	Glenmore old - Glenmore Bypass	535,021
Q3	I	Sexsmith 3	Glenmore Bypass - Valley Road	1,624,979
Q3	I	Sexsmith 5	Longhill - Rutland Road	8,349,316
Q3	I	Springfield 1	Richter Street - Ethel Street	4,075,166
Q3	I	Springfield 3	Hollywood Road - Rutland Road	5,939,611
Q4	I	Burtch 4	Sutherland Road - Highway 97	986,938
Q4	I	Hollywd 5	Highway 97 - Cambrio	1,728,659
Q4	I	Hollywd 5b	Mill Creek - Crossing	546,560
Q4	I	Hollywd 6	extg. South end - Sexsmith Road	706,849
Q4	I	McCurdy 1	Dilworth - NEC	3,970,249
Q4	I	McCurdy 2b	Mill Creek - Crossing	469,700
Q4	I	McCurdy 3	Highway 97 - Hollywood Road	3,985,593
Q4	I	Sexsmith 4	Valley - Longhill	5,867,492
				267,381,697
Engineering/Administration				2,134,747
TOTAL				405,897,850

This schedule is conceptual and is subject to revision to meet future needs and conditions.

2. Water Pumping/Distribution/Reservoirs

The total cost of the Water program is estimated to be **\$36.2 Million**. The program represents an average annual expenditure of **\$1.8 Million** over the 20 year planning horizon.

The water program as developed represents the required infrastructure needs to service the new population growth over the next 20 years. The projected works include the following:

- Improvements to the pumping capacity and pipelines at the **Poplar Point water pumphouse, Eldorado pump station and new Cedar Creek Pump Station**.
- Extension and or improvements of the water distribution system primarily to provide for **increased density** in the Downtown, Skyline and Crawford Road areas.
- Construction of an additional **pumping system to provide capacity to the Clifton Road/Glenmore Highlands area** of the city.

The following servicing assumptions have been incorporated into the water system:

- **Water Improvement Districts**, that operate within the municipal boundaries, will provide water service to growth projected to occur within their service boundaries, to the same design standards as used by the City.
- The City will **purchase bulk water** from **Lake Country** for resale to Industrial lands at the extreme north boundary of the city.
- The major water system for the **South Mission area** of the city has been constructed and financed by developers on a staged basis and recovery for excess capacity provided is to be recovered from benefiting property owners via an **“area” latecomer levy**. Costs for this system **have not** been included in this program.
- The **link between** the South Mission water system and the Poplar Point system will not be achieved until late in the 20 year planning horizon.
- Further expansion of the High Level water system to the Glenmore Highlands will be “front-ended” by development in that area with recovery via D.C.C. credits.
- Additional treatment is expected to be in place for the Kelowna Water Utility by the end of 2006 in the form of ultra violet treatment. Treatment costs will be funded by utility users and are not included in the DCC program.

- **Construction costs** have been estimated on the basis of costs experienced on similar projects undertaken over the past several years and construction contingency of 25% has been added to projects to reflect the level of engineering effort ('Class C' estimate) incorporated into the plan. The contingency on projects which have had preliminary engineering design completed ('Class B' estimate) will be reduced to 15%. It should be noted that lower levels of contingency do not translate into lower construction cost estimates, but do reflect a higher level of confidence in the cost estimates calculated.

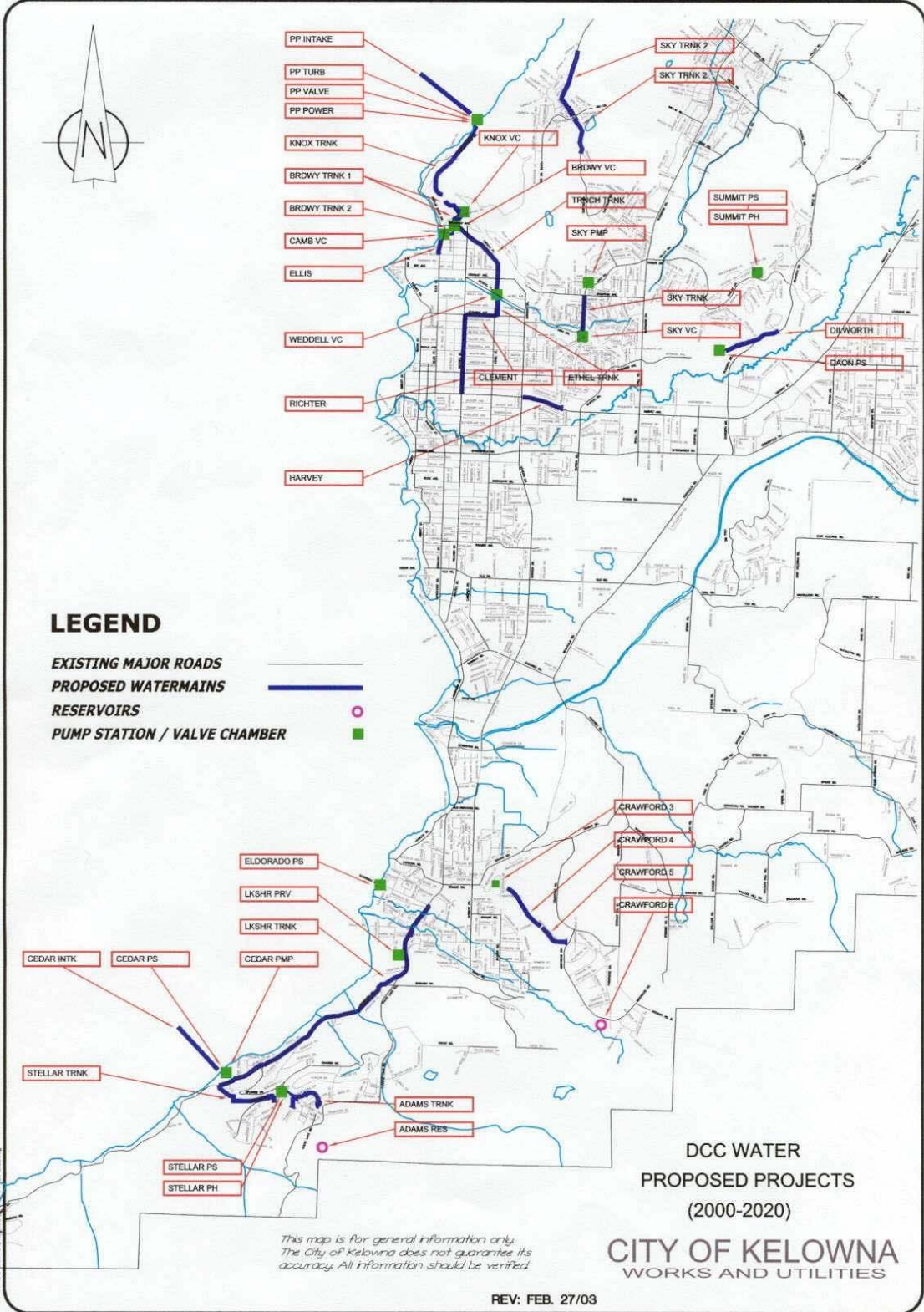
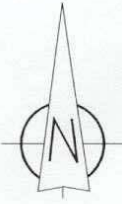
The water program is only one element of the City's water infrastructure needs. Other programs which must be undertaken over the 20 year planning horizon are:

- Replacement of **cast iron water mains** which deteriorate over time.
- Replacement of **undersized water mains** to provide increased fire flow protection
- Provision of water service to **existing developed areas** which would normally be accomplished by formation of a Specified Area.

Details of this program have been included in the City's Water Utility model for the purpose of projecting the impact on rates over the next 10 years.

In addition to a summary listing of the projects included in the water program, the following map has been included in this document:

- **Map W-1** details the water projects which are to be completed over the next 20 years in accordance with the plan.



LEGEND

- EXISTING MAJOR ROADS
- PROPOSED WATERMAINS
- RESERVOIRS
- PUMP STATION / VALVE CHAMBER



DCC WATER
PROPOSED PROJECTS
(2000-2020)

CITY OF KELOWNA
WORKS AND UTILITIES

*This map is for general information only.
The City of Kelowna does not guarantee its
accuracy. All information should be verified.*

REV: FEB. 27/03

**CITY OF KELOWNA
2020 SERVICING PLAN
AND FINANCING STRATEGY UPDATE
WATER PROJECTS LIST
(ALPHA)**

Target Year	PROJECT	DESCRIPTION	TOTAL CAPITAL COST
2010	BRDWY PP	Broadway - P. Pt. Drive	801,360
2009	BRDWY TRNK	Broadway Trunk 1350 mm	405,862
2009	BRDWY VC	Broadway Valve Chamber	441,000
2009	CAMB VC	Cambridge Valve Chamber	499,052
2016	CEDAR PMP	Mission - 2 x 800 hp pumps	7,854,718
2006	CEDAR PS	New Cedar Cr. PS - 2 Pumps & Bldg.	308,700
2011	CLEMENT	Clement Ave pipe -(Ethel-Richter)	616,974
2014	CRAWFORD 3	Crawford - 3x100 hp Pumps	152,069
2014	CRAWFORD 4	Crawford 2 Trunk 300 mm pipe	1,832,267
2014	CRAWFORD 5	Crawford Trunk - 300mm pipe	202,759
2014	CRAWFORD 6	Expand Crawford Reservoir	202,759
2010	DAON PS	125 hp Pump-Daon PS	3,433,764
2010	DILWORTH	Twin Dilworth Trunk-300mm pipe	202,759
2010	ELDRDO PS	Eldorado Pump Stn Refrbsh	2,480,409
2014	ELLIS	North Ellis - Pipe 500 mm	701,469
2011	ETHEL TRNK	Ethel St Trunk-(Weddel-Clement)	526,095
2013	HARVEY	Hwy 97-Gordon -Chandler-Pipe	572,028
2009	KNOX TRNK	Knox Trunk 1200 mm	294,000
2009	KNOX VC	Knox Valve Chamber	410,667
2016	LKSHR PRV	Lakeshore Trunk - PRV Station	650,550
2016	LKSHR TRNK	Lakeshore Trunk 500 mm	73,500
2005	PP INTAKE	1,066 mm intake - Poplar Pt	162,729
2005	PP POWR	Upgrade Power Supply Poplar Pt	253,449
2005	PP TURB	2x 500hp Turbines - Poplar Pt	336,693
2005	PP VALVE	Upgrade Valve Chmbr Poplar Pt	507,069
2011	RICHTER	1085 m 300 mm pipe-Richter	902,005
2007	SKY PMP	Skyline - new 500hp pump	478,852
Comp	Sky PS 1	Skyline/High Booster Pumps	550,894
2007	SKY ST	Skyline Suction Trunk 450 mm	594,240
2010	SKY TRK1	Skyline Trk - 200mm to 350mm	301,641
2010	SKY TRK2	Skyline Trk - 200mm to 300mm	336,814
2007	SKY VC	Skyline Valve Chamber	381,958
2010	SUMMIT PH	Summit PH Extension	1,214,338
2010	SUMMIT PS	2- 50hp pumps @Summit PS	202,759
2009	TRNCH TRNK	Trench Place Trunk 900 mm	5,299,150

**CITY OF KELOWNA
2020 SERVICING PLAN
AND FINANCING STRATEGY UPDATE
WATER PROJECTS LIST
(ALPHA)**

Target Year	PROJECT	DESCRIPTION	TOTAL CAPITAL COST
2010	WEDDELL VC	Weddel Valve Chamber	607,020
Annl	ANNL OS	Annual Oversizing Component	1,200,000
		Engineering/Administration	210,324
TOTAL			36,202,696

This schedule is conceptual and is subject to revision to meet future needs and conditions.

**CITY OF KELOWNA
2020 SERVICING PLAN
AND FINANCING STRATEGY UPDATE
WATER PROJECTS LIST
(BY YEAR)**

Target Year	PROJECT	DESCRIPTION	TOTAL CAPITAL COST
Comp	Sky PS 1	Skyline/High Booster Pumps	550,894
2005	PP INTAKE	1,066 mm intake - Poplar Pt	162,729
2005	PP POWER	Upgrade Power Supply Poplar Pt	253,449
2005	PP TURB	2x 500hp Turbines - Poplar Pt	336,693
2005	PP VALVE	Upgrade Valve Chmbr Poplar Pt	507,069
2006	CEDAR PS	New Cedar Cr. PS - 2 Pumps & Bldg.	308,700
2007	SKY PMP	Skyline - new 500hp pump	478,852
2007	SKY ST	Skyline Suction Trunk 450 mm	594,240
2007	SKY VC	Skyline Valve Chamber	381,958
2009	BRDWY TRNK	Broadway Trunk 1350 mm	405,862
2009	BRDWY VC	Broadway Valve Chamber	441,000
2009	CAMB VC	Cambridge Valve Chamber	499,052
2009	KNOX TRNK	Knox Trunk 1200 mm	294,000
2009	KNOX VC	Knox Valve Chamber	410,667
2009	TRNCH TRNK	Trench Place Trunk 900 mm	5,299,150
2010	BRDWY PP	Broadway - P. Pt. Drive	801,360
2010	DAON PS	125 hp Pump-Daon PS	3,433,764
2010	DILWORTH	Twin Dilworth Trunk-300mm pipe	202,759
2010	ELDRDO PS	Eldorado Pump Stn Refrbsh	2,480,409
2010	SKY TRK1	Skyline Trk - 200mm to 350mm	301,641
2010	SKY TRK2	Skyline Trk - 200mm to 300mm	336,814
2010	SUMMIT PH	Summit PH Extension	1,214,338
2010	SUMMIT PS	2- 50hp pumps @Summit PS	202,759
2010	WEDDELL VC	Weddel Valve Chamber	607,020
2011	CLEMENT	Clement Ave pipe -(Ethel-Richter)	616,974
2011	ETHEL TRNK	Ethel St Trunk-(Weddel-Clement)	526,095
2011	RICHTER	1085 m 300 mm pipe-Richter	902,005
2013	HARVEY	Hwy 97-Gordon -Chandler-Pipe	572,028
2014	CRAWFORD 3	Crawford - 3x100 hp Pumps	152,069
2014	CRAWFORD 4	Crawford 2 Trunk 300 mm pipe	1,832,267
2014	CRAWFORD 5	Crawford Trunk - 300mm pipe	202,759
2014	CRAWFORD 6	Expand Crawford Reservoir	202,759
2014	ELLIS	North Ellis - Pipe 500 mm	701,469
2016	CEDAR PMP	Mission - 2 x 800 hp pumps	7,854,718
2016	LKSHR PRV	Lakeshore Trunk - PRV Station	650,550

**CITY OF KELOWNA
2020 SERVICING PLAN
AND FINANCING STRATEGY UPDATE
WATER PROJECTS LIST
(BY YEAR)**

Target Year	PROJECT	DESCRIPTION	TOTAL CAPITAL COST
2016	LKSHR TRNK	Lakeshore Trunk 500 mm	73,500
Annl	ANNL OS	Annual Oversizing Component	1,200,000
		Engineering/Administration	210,324
		TOTAL	36,202,696

This schedule is conceptual and is subject to revision to meet future needs and conditions.

3. Wastewater Trunk Mains/Lift Stations

The total cost of the Wastewater Trunk Main and Lift Station program is estimated to be **\$27.7 Million**. The program represents an average annual expenditure of **\$1.4 Million** over the 20 year planning horizon.

The sewer trunk and lift station program as developed represents the required infrastructure needs to service the new population growth over the next 20 years.

Some of the more significant works included are as follows:

- **Extension of a major sewer trunk main, South Gordon**, to service new growth units.
- **Extension of a major trunk main** from the sewage treatment plant to the **north and east area** of the city to handle additional flows that cannot be accommodated in the North East Trunk main which runs from the intersection of Highway 33 & Highway 97, back to the treatment plant .

The following servicing assumptions have been incorporated into the sewer trunk and lift station system:

- The **South East Kelowna** and **North McKinley** areas of the city will not be serviced by the city's sanitary sewer system within this planning horizon.
- All development in the **remainder of the city** will be serviced by the city's sanitary sewer system.
- Not all of the improvements to sanitary sewer lift stations are the responsibility of new growth and costs have been apportioned accordingly.
- The **urbanized areas of Rutland** will be totally serviced by the sanitary sewer system within the 20 year planning horizon.
- **Construction costs** have been estimated on the basis of costs incurred on similar projects undertaken over the past several years and construction contingency of 25% has been added to projects to reflect the level of engineering effort ('Class C' estimate) that has been expended to develop the plan. The contingency on projects which have had preliminary engineering design work completed ('Class B' estimate) have been reduced to 15%. It should be noted that lower levels of contingency do not translate into lower construction cost estimates, but do reflect a higher level of confidence in the cost estimates calculated.

The sanitary sewer trunk and lift station program is only one element of the City's sewer infrastructure needs. Other programs which must be undertaken over the 20 year planning horizon are:

- Replacement of **wood stave and clay tile** sanitary sewer mains which have deteriorated over time.
- Upgrade of sanitary **sewer lift stations** which are not directly attributable to new growth.
- Provision of sewer service to **existing developed areas** which would normally be accomplished by formation of Specified Areas.

Details of this program have been included in the City's **Sewer Utility rate model** for the purpose of projecting the impact on rates over the next 10 years.

In addition to a summary listing of the projects included in the sewer program, the following map has been included in this document:

- **Map S-1** details the sewer projects which are to be completed over the next 20 years in accordance with the plan.



CITY OF KELOWNA
2020 SERVICING PLAN AND FINANCING STRATEGY UPDATE
WASTEWATER TRUNKS PROJECTS LIST
(ALPHA)

Target Year	PROJECT	FROM - TO	TOTAL CAPITAL COST
2004	6B CROSS	Glenmore - Valley	560,800
2005	BIRCH ELS	@ Richter	441,000
COMP	BYRNSBAR 1	Ziprick to Burtch	4,189,078
2006	BYRNSBAR 2	Burtch to KPCC	3,783,209
2010	ETHEL 3	Gordon - Richmond- Orchard Dr	902,000
2006	GLENMORE 7C	Yates - 700m North	777,900
2008	GORDON ELS	@ Raymer	441,000
2005	GUY ELS	@ Bay	316,100
2007	GYRO FM	Gyro LS - KPCC	1,109,400
2006	HALL	KLO - Benvoulin	767,000
2005	KLO	KLO - Swordy	611,600
COMP	L. N HARVEY	Ellis - Richter - Leon	529,870
COMP	MF OVERSIZE	Oversize for South Mission Flats	500,000
COMP	O/S GLNMR MSN	Glenmore Trk 5, Mission Trk	550,300
COMP	O/S MS1 LKSHR	Outstanding Credit	492,900
COMP	O/S WATER FM	Outstanding Pymnt	1,350,445
2008	RAYMER ELS	@ Curts	467,300
2015	RUTLAND	Mayden Rd	960,100
2017	SOUTH GORDON	Old Meadows to KPCC	5,110,500
2005	SPRGBLK	Belgo - Hollywood S	1,012,100
COMP	SPRGZIP	Hollywood S- Ziprick - Baron	1,192,382
2008	WATER FM	Pandosy to Ethel	187,100
2001/20	OVERSIZE	Oversize Component - \$60/yr	1,200,000
Engineering/Administration			244,640
SUBTOTAL A			27,696,724

This schedule is conceptual and is subject to revision to meet future needs and conditions.

CITY OF KELOWNA
2020 SERVICING PLAN AND FINANCING STRATEGY UPDATE
WASTEWATER TRUNKS PROJECTS LIST
(BY YEAR)

Target Year	PROJECT	FROM - TO	TOTAL CAPITAL COST
COMP	BYRNSBAR 1	Ziprick to Burtch	4,189,078
COMP	L. N HARVEY	Ellis - Richter - Leon	529,870
COMP	MF OVERSIZE	Oversize for South Mission Flats	500,000
COMP	O/S GLNMR MSN	Glenmore Trk 5, Mission Trk	550,300
COMP	O/S MS1 LKSHR	Outstanding Credit	492,900
COMP	O/S WATER FM	Outstanding Pymnt	1,350,445
COMP	SPRGZIP	Hollywood S- Ziprick - Baron	1,192,382
2004	6B CROSS	Glenmore - Valley	560,800
2005	BIRCH ELS	@ Richter	441,000
2005	GUY ELS	@ Bay	316,100
2005	KLO	KLO - Swordy	611,600
2005	SPRGLBK	Belgo - Hollywood S	1,012,100
2006	BYRNSBAR 2	Burtch to KPCC	3,783,209
2006	GLENMORE 7C	Yates - 700m North	777,900
2006	HALL	KLO - Benvoulin	767,000
2007	GYRO FM	Gyro LS - KPCC	1,109,400
2008	GORDON ELS	@ Raymer	441,000
2008	RAYMER ELS	@ Curts	467,300
2008	WATER FM	Pandosy to Ethel	187,100
2010	ETHEL 3	Gordon - Richmond- Orchard Dr	902,000
2015	RUTLAND	Mayden Rd	960,100
2017	SOUTH GORDON	Old Meadows to KPCC	5,110,500
2001/20	OVERSIZE	Oversize Component - \$60/yr	1,200,000
Engineering/Administration			244,640
SUBTOTAL A			27,696,724

This schedule is conceptual and is subject to revision to meet future needs and conditions.

4. Wastewater Treatment and Disposal

The total cost of the Sewer Treatment and Disposal program is estimated to be **\$50.0 Million**. The program represents an average annual expenditure of **\$2.5 Million** over the 20 year planning horizon.

The sewer treatment and disposal program as developed represents the required infrastructure needs to service the new population growth over the next 20 years.

Some of the more significant works included are as follows:

- **A major expansion** to the existing sewage treatment facility providing capacity for a approximately **145,000 to 150,000 population** which generally matches the projected population to be serviced by the plant by the end of the 20 year planning horizon.
- Further expansion to the City's Sewage Treatment and Disposal program includes the staged construction of a **composting facility** to adequately deal with de-watered sludge from the treatment facility.

Although it is anticipated that the requirement for an **additional sewage treatment facility** site is beyond the 20 year planning horizon, the land purchase is scheduled for 2015. The cost sharing model currently allocates the estimated cost to existing users. When sufficient engineering information is available identifying the year the new site will be needed, a proportionate share will be allocated to new growth and reflected in future DCC revisions.

The following servicing assumptions have been incorporated into the sewer treatment and disposal system:

- The **South East Kelowna** area of the city will not be serviced by the City's sanitary sewer system. The North McKinley area and extreme northern areas of Glenmore, are also not anticipated to be serviced with sewer within 20 years.
- All development in the remainder of the city will be serviced by the City's sanitary sewer system.
- All units, within future sewer area boundaries will be **levied a Sewage Treatment Development Cost Charge levy** on the assumption that they will be connected to the plant within 20 years.
- **Construction costs** have been estimated on the basis of recent engineering studies which have been completed by outside consulting firms. Detailed design has not yet been done on the Stage 2 upgrading of the treatment plant.

**CITY OF KELOWNA
2020 SERVICING PLAN AND FINANCING STRATEGY UPDATE
WASTEWATER TREATMENT PROJECTS LIST
(ALPHA)**

YEAR	PROJECT	DESCRIPTION	PROJECT COST
COMP	Existing Debt Commitments		4,666,600
2005	Compost Facility - Part A	Biosolids Recycling Facility	4,000,000
2012	Compost Facility - Part B	Additional Equipment	1,500,000
2014	Compost Facility - Part C	Additional Equipment	
2015	Compost Facility - Part D	Expansion and Equipment	1,333,300
2015	Land Acquisition		3,625,000
COMP	Stage 1 - Completion	KPCC - Upgrade Plant	749,300
2015	Stage 2 - Completion	KPCC - Miscellaneous Deficiencies	1,540,000
2013	Stage 2 - Construction	KPCC - Construction	13,800,000
2014	Stage 2 - Construction	KPCC - Construction	16,100,000
2012	Stage 2 - Design	KPCC - Pre-design and Detailed Design	2,300,000
	Engineering/Administration		395,612
	TOTAL		50,009,812

This schedule is conceptual and is subject to revision to meet future needs and conditions.

**CITY OF KELOWNA
2020 SERVICING PLAN AND FINANCING STRATEGY UPDATE
WASTEWATER TREATMENT PROJECTS LIST
(BY YEAR)**

YEAR	PROJECT	DESCRIPTION	PROJECT COST
COMP	Existing Debt Commitments		4,666,600
COMP	Stage 1 - Completion	KPCC - Upgrade Plant	749,300
2005	Compost Facility - Part A	Biosolids Recycling Facility	4,000,000
2012	Compost Facility - Part B	Additional Equipment	1,500,000
2012	Stage 2 - Design	KPCC - Pre-design and Detailed Design	2,300,000
2013	Stage 2 - Construction	KPCC - Construction	13,800,000
2014	Compost Facility - Part C	Additional Equipment	
2014	Stage 2 - Construction	KPCC - Construction	16,100,000
2015	Compost Facility - Part D	Expansion and Equipment	1,333,300
2015	Stage 2 - Completion	KPCC - Miscellaneous Deficiencies	1,540,000
2015	Land Acquisition		3,625,000
	Engineering/Administration		395,612
	TOTAL		50,009,812

This schedule is conceptual and is subject to revision to meet future needs and conditions.

5. Storm Drainage Systems

The separate Storm Drainage program has been removed from the 20 Year Servicing Plan. Road drainage requirements have been included in the roadway costs and the remaining drainage requirements will be included in the 10 Year Capital Plan.

There was a policy for receiving “environmental credits” under the previous program. This was for storm drainage water retention and was a maximum of 85% of the per unit storm drainage DCC for the 100 year flow retention and 50% for the 10 year flow retention. Drainage works that are eligible for DCC credits must be completed by December 31, 2003 (with a construction completion inspection). Receipt of the credit value will be available until December 31, 2005 (DCC’s must be paid by that time). Similar to the current program, it is based on the number of units being developed and the previous storm drainage DCC rate. An estimate of the potential credits will be made for December 31, 2003, and that amount will remain in the storm drainage DCC reserve. The remaining reserve balance will be added to the Sector I Roads DCC reserve to help reduce the 2020 rate.

6. Parks/Open Space Acquisition

The total cost of the Parkland Acquisition program is estimated to be **\$87.3** Million. The program represents an average annual expenditure of **\$4.4** Million over the 20 year planning horizon.

The Parkland Acquisition program represents the costs of acquisition of city-wide, district, community and neighbourhood parks required to service the projected additional population over the 20 year planning horizon.

Based on a standard of **2.2 hectares per 1,000 population**, the city will need to acquire **125 hectares** of park over the next 20 years.

The following servicing assumptions have been incorporated into the park land acquisition program:

- In order to accommodate the higher density form of new growth projected in the Official Community Plan, there will be a need to **acquire some land with existing improvements on the land**. This will provide neighbourhood parks in close proximity to growth areas and will increase the average value of land as compared to purchasing vacant land.
- The cost of purchasing some waterfront parkland has been included in the calculations for City Wide park requirements.
- **Acquisition costs** are based on the current values of actual identified properties and estimated future acquisitions, by park type and by growth area.

- The Parks Land Acquisition program **does not include any park development** or provision of park amenities. Parks development costs can be recovered directly from new growth but, consistent with the previous program, has not been included.
- Other park amenities such as **linear parks, creek corridors and natural open space** will be acquired, however costs of these amenities will not form a part of the standard of 2.2 hectares per thousand and will not be recovered directly from new growth.

The inclusion of linear parks and creek corridors would necessitate an increase in the current standard. It has been determined that these spaces relate to urban form and a desire to protect natural features within the community rather than to population growth and it would be impractical to set a standard based on acreages.

7. Overall Summary

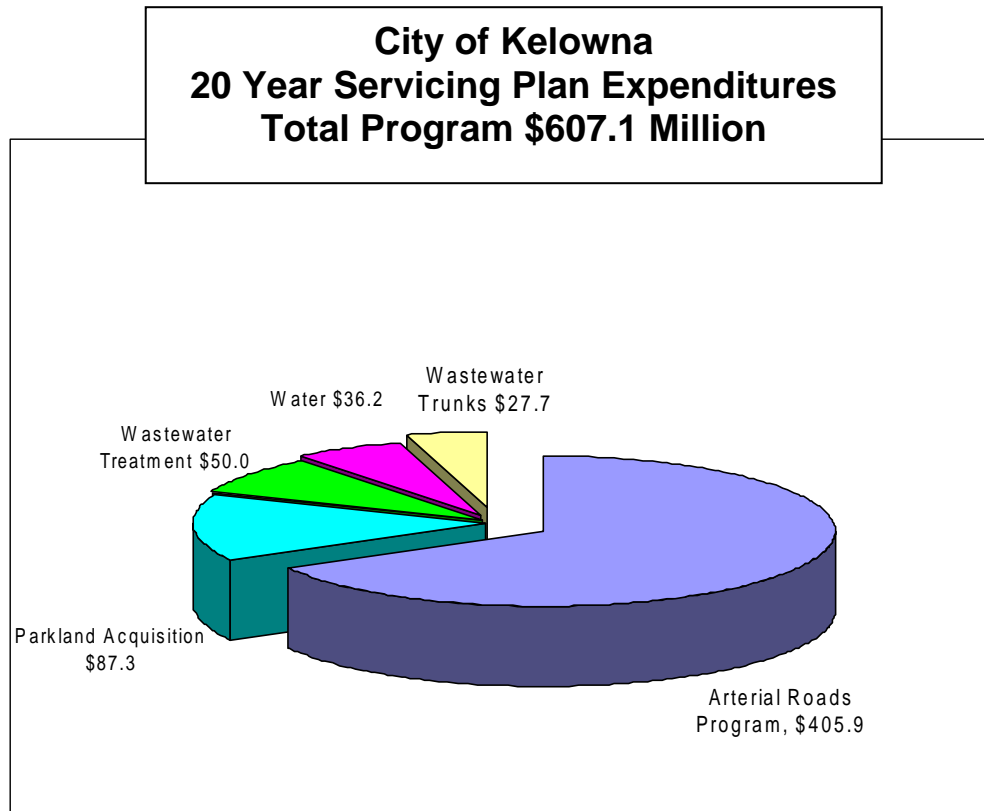
The total cost of the Major Servicing program, as detailed above, is estimated to be **\$607.1** Million.

To summarize, the cost of the program is as follows:

Arterial Roads Program	\$405.9
Water Pumping/Distribution/Reservoir	36.2
Sewer Collection/Lift Station System	27.7
Sewer Treatment/Disposal System	50.0
Parkland Acquisition Program	87.3
	\$607.1

The above costs **do not** reflect the cost of capital improvements to water systems, by the Water Improvement Districts, to accommodate growth which is to occur within their service delivery boundaries.

The servicing costs of individual development improvements such as internal roads, water and sewer collection systems, storm drainage and street lighting **are the responsibility of the developer** and no attempt has been made to estimate the costs of these servicing requirements in this document.



V. ANALYSIS OF COST SHARING - MAJOR SERVICES - BY SERVICE TYPE

The **purpose of this section** is to provide a more detailed **financial impact analysis** of each major service category including the **principles applied in development of the cost sharing methodology for each service** and how those principles differ from those applied in previous plans.

For each service, a **cost sharing model** has been developed which itemizes each capital project included in the plan and how the cost of each project is to be financed over the 20 year planning horizon.

The individual capital project costs have been developed on the best information available and in most cases without the benefit of detailed engineering design work which would be unrealistic for a long range plan of this type.

1. Arterial Roads

Exhibit “A” – Updated 20 Year Off-Site Road Servicing Plan & Financing Strategy - Cost Sharing Model, attached, provides all of the detailed calculations for each capital project and how each project is shared between existing taxpayers and new growth within the 20 year planning horizon.

The model provides a further breakdown of how each new growth project is cost shared between benefiting sectors of the city.

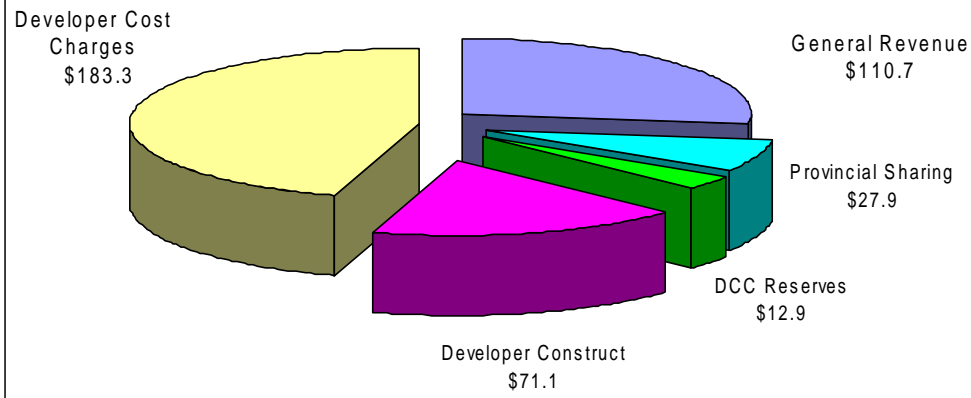
The total cost of the Arterial Roads program, over the 20 year planning horizon, is **\$405.9 Million**. A major cost factor in the program is the purchase of required **rights-of-way** to achieve widening of existing roads as well as the construction of new arterial roads where those roads are not on developable lands.

The cost of rights-of-way acquisition included in this program is **\$72.3 Million**.

The following is a summary of the funding sources for the roads program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for roads:

Total Program Cost	\$405.9	%
Provincial Grants	\$ 27.9	6.9
General Tax (Assist/General Benefit)	110.7	27.3
Development Cost Charge	183.3	45.2
Developer Construct	71.1	17.5
Development Cost Charge Reserves	12.9	3.1

**CITY OF KELOWNA
ARTERIAL ROADS PROGRAM
FUNDING SOURCES
Total Program \$405.9 MILLION**



Cost Sharing Principles and Assumptions

- **Developers will continue to be responsible** for the dedication of 20 meters of right-of-way for arterial roads **through their development lands** and will be responsible for the **construction of two lanes** of the arterial road.
- **Unconditional Provincial Grants** for qualifying projects under Provincial Revenue Sharing have been forecast at \$150,000 per year based on the most recent experience. This is similar to the annual revenue forecast in the previous plan.
- A number of major arterial roads projects have been identified as **requiring Provincial Assistance** before proceeding and those projects are Highway 33, Highway Link (Bridge), Enterprise Road, Highway 97 and University 2. These major roads projects, with the exception of Enterprise Road and Highway Link, reflect program costs that have been reduced by **50% to reflect the level of Provincial funding** included in the program.
- Road improvements which have been identified as providing a **general city-wide benefit** have been cost shared between existing taxpayers and new growth based on the ratio of current population to projected total population at the end of the planning horizon, 2020. This result is a 62.5/37.5% ratio for cost allocation purposes. The principle of applying this ratio to two lane rural roads being improved to two lane urban roads, sidewalks on arterial roads, bicycle paths on arterial roads and one half of bridge costs where there is an existing bridge in place is a continuation of the current Development Cost Charge cost allocation process.

- **Standards changes** since the last Plan result in requirements for an additional 1” of asphalt and this cost is to be paid by taxation for all road sectors but excluding the developer portion (frontage and Bylaw) of road costs.
- **New enhancements** to the roadway (stamped asphalt, median treatment, boulevard trees and irrigation) as requested by the community will also be paid for by taxation for all of the inner city and Sector B (outside the Sector) roads.
- **Additional taxation** cost sharing is included on **Swamp Road, Beaver Lake Road, McKinley 1, and Rutland Road** to reflect the benefit to existing residents from these new or improved roads.
- Road costs will continue to be cost shared using a **sector approach** which recognizes that the cost of providing a road network in one area of the City may be more expensive than in other areas.

The sector approach has been expanded in this plan to seven (7) sectors with the **division of sector D into two** in the east Highway 33 area of the City.

- **Common roads**, classified primarily as roads within the larger **Inner City area**, will continue to be **shared on a prorata basis** by the total number of units projected to be achieved within each sector. **Roads which are specifically required to service growth within each of the outlying areas will be paid for entirely by growth in that sector.**
- **Sector I (Inner City) will contribute** towards Swamp Road, Highway 33, and Sector E Roads (North of Inner City) based on the common use of these roadways by all of the community.
- The **Development Cost Charge rate** for each outlying sector will be comprised of that sector's share of the common roads costs as well as the roads costs within that specific sector.
- **No consideration** has been given for **potential excess capacity** which exists in the arterial road network and conversely no consideration has been given for potential excess capacity which will exist at the end of the current planning horizon.
- Arterial roads costs which are required primarily for new growth, have been reduced by **15%** to reflect the recognized benefit that new or expanded roads will be to existing taxpayers. This is known as the “**assist**” **factor** and has not changed from the previous plan.
- Costs of achieving the arterial road network, which is the responsibility of projected growth in the South Mission Sector, **have been included** in this financial analysis. Developers in this area are responsible for the entire program.
- Some of the growth in the new development plan will occur on land which is governed by a **Land Use Contract (Dilworth Mountain)** for which Development Cost Charges are not payable.

The method of calculating the Dilworth Land Use Contract taxation requirement was changed. Previously only the number of units in Sector I was used in the pro-ration formula. This revision uses the total numbers of units in all Sectors as they all contribute to Sector I. The net effect is a truer reflection of revenue loss due to the LUC units that are not required to pay DCC's. This calculation change makes the Arterial Roads model consistent with the treatment of the other servicing area.

Financial Impacts

- The program, based on the timing of the projects outlined in the plan and the projected cash inflow from Development Cost Charge levies, may result in the **need to borrow funds**. If borrowing is required, it will be necessary to debt finance and repay a portion of the debt with future DCC revenue.

Debt Financing on roads projects do not form a part of the Development Cost Charge calculation and, therefore, will result in an additional tax burden for existing taxpayers or create a shortfall in the DCC program if DCC revenues are used to pay interest. There is a need to manage the program to minimize the level of borrowing and long term debt financing to the extent possible.

- A **portion of the re-development** which is to occur over the 20 year planning horizon **will be exempt** from the payment of Development Cost Charges by virtue of the Local Government Act and this cost must be recognized as a general taxpayer obligation.
- **General Taxpayer obligations** resulting from a combination of the assist factor, land use contract obligations, shared benefit roads and demand placed on services by new growth for which a Development Cost Charge cannot be collected, must be included in the **annual pay-as-you-go capital program**.
- Cash inflow from Development Cost Charges is impacted by Local Government Act regulations which provide protection from increased levies for one year from the date of application. **In a period of high growth the reduction in revenue can present a significant financial burden on existing taxpayers or create a shortfall within the DCC revenue total.**

CITY OF KELOWNA
 UPDATED 2020 OFF-SITE ROAD SERVICING PLAN & FINANCING STRATEGY
 COST SHARING MODEL

EXHIBIT "A" - ARTERIAL ROADS

(2000 Dollars X 1000)

Target Quarter	Sector	NAME	LOCATION	Description	TOTAL CAPITAL COSTS	NON DCC REVENUE SOURCES					NET FOR DCC BASED CALC'S	DCC SECTOR ALLOCATIONS						I COMMON
						By Devlp'r	Highways Assist	MOTH Max Lmt 150/yr	LUC "T" Inner	By TAX'N		A S.E. Kelowna	B South Mission	C NE of Inner City	D North of Hwy 33	F South of Hwy 33	E North of Inner City	
Growth Units:								395			22,458	553	3,701	781	1,000	801	2,161	22,458
Q2-4	A	Gulley 2	Spiers to Hart		952.2					51.9	900.3	900.3						
Q2	A	Hollywd 2	East Kelowna Road - Springfield	RAU2L	1,974.7					45.2	1,929.5	1,929.5						
Q2	A	Hollywd 2b	Mission Creek - Crossing	RAU2L	3,319.3						3,319.3	3,319.3						
Q2	A	McCulloch	Various		1,500.0						1,500.0	1,500.0						
					7,746.2					97.2	7,649.1	7,649.1						
Q2	B	Barnaby 1 (pc)	Lakeshore to Gordon	R/UJU2L	2,163.3					67.4	2,095.9	2,095.9						
CPLT	B	Chute Lake 1	Frost Rd to South Perimeter Rd	R/UJU2L	901.5						901.5	901.5						
Q2	B	Chute Lake 2	Barnaby Rd to Frost Rd	R/UJU2L	1,331.8					11.8	1,320.0	1,320.0						
Q2	B	Frost 1 (pc)	Chute Lake Road - Kildeer Road	UCU2L	716.7					37.7	679.0	679.0						
Q2	B	Frost 1b	Frost - Frost	UCU2L	95.8						95.8	95.8						
CPLT	B	Frost 2	Kildeer to ending of Existing Frost	UCU2L	601.3						601.3	601.3						
Q1	B	Frost 3 (pc)	End of Existing Frost to Gordon Dr	UCU2L	634.0					16.5	617.5	617.5						
Q2-4	B	Gordon 1	Perimeter to Barnaby/Gordon Inter	UAU2L	4,212.6					115.5	4,097.1	4,097.1						
Q2	B	Kildeer (pc)	Chute Lake Road - Frost Road	UCU2L	561.9						561.9	561.9						
Q1	B	Lakshr 1A	Vintage Terrace Rd to Barnaby Rc	UAU2L	545.6					7.3	538.3	538.3						
Q4	B	Lakshr 1B (4L)	Vintage Terrace Rd to Barnaby Rc	UAD4L	2,264.2					71.9	2,192.3	2,192.3						
Q3	B	S. Perimeter 1	Gordon Dr to Stewart 1	UAU2L	7,217.7	109.1				138.2	6,970.4	6,970.4						
Q2	B	S. Per. 2 (pc)	Lebanon Creek to Chute 1	UAU2L	2,802.2					78.2	2,724.0	2,724.0						
Q2	B	Stewart Rd 1 & 2	Perimeter Rd to Crawford	R/UJU2L	69.0	8.2					60.8	60.8						
					24,117.6	117.4				544.5	23,455.8	23,455.8						
Q4	B	Casorso 1	Benvoulin Road - Swamp	RAD4L	1,426.7					181.1	1,245.6	1,245.6	697.5					548.1
Q2	B	Dehart 1	Lakeshore Road - Gordon Drive	RCU2L	94.8						94.8	94.8	94.8					
Q3	B	Dehart 2	Lakeshore Road - Gordon Drive	UAU4L	1,091.7					141.2	950.5	950.5	950.5					
Q2	B	Dehart 3	Gordon Rd to Swamp	R/UJU2L	2,458.0					258.0	2,200.0	2,200.0	2,200.0					
Q2	B	Gordon 2b	Crossing - Bellevue Creek		580.7						580.7	580.7	580.7					
Q2	B	Gordon 2 (pc)	Barnaby/Gordon Intersect to Deha	UAU2L	6,386.9	318.0					6,068.9	6,068.9	6,068.9					
Q2	B	Gordon 3	Dehart Rd to Old Meadows Rd	UAU2L	1,932.4					79.6	1,852.8	1,852.8	1,852.8					
Q3	B	Lakshr 1C (4L)	Dehart Rd to Vintage Terrace	UAD4L	3,153.4	40.0				349.0	2,764.4	2,764.4	2,764.4					
Q3	B	Lakshr 1C (Bridge)	Crossing - Bellevue Creek	UAD4L	658.8						658.8	658.8	658.8					
Q4	B	Lakshr 2 (4L)	Old Meadows to DeHart	UAD4L	2,792.7	20.0				484.8	2,287.9	2,287.9	2,287.9					
Q4	B	OldMws (4L)	Gordon Drive - Lakeshore Road	UCU4L	1,123.4					100.3	1,023.0	1,023.0	1,023.0					
Q3	B	Stewart Rd 3	Crawford Rd to Swamp	RAU2L	7,173.4					200.2	6,973.2	6,973.2	6,973.2					
Q2	B	Swamp 1	DeHart Rd to Casorso	RAU2L	4,049.0					2,644.2	1,404.8	1,404.8	1,404.8					281.0
					32,921.9	378.0				4,438.5	28,105.4	28,105.4	27,276.4					829.0
Q2	C	McCurdy 4	Craig Road - Tower Ranch	RCU2L	3,168.6					142.8	3,025.8	3,025.8	3,025.8					
Q2	D	Gallagher 3	Highway 33 - Treetop Road	UCU2L	6,071.6	5,501.5					570.1	570.1	570.1					
Q2	D	Lone Pine	Highway 33 - 500m east	UCU2L	2,936.6					31.6	2,905.0	2,905.0	2,905.0					
					9,008.2	5,501.5				31.6	3,475.1	3,475.1	3,475.1					

EXHIBIT "A" - ARTERIAL ROADS

(2000 Dollars X 1000)

				NON DCC REVENUE SOURCES					DCC SECTOR ALLOCATIONS						I COMMON		
Target Quarter	Secto	NAME	LOCATION Description	TOTAL CAPITAL COSTS	By Devlp'r	Highways Assist	MOTH Max Lmt 150/yr	LUC "I" Inner	By TAX'N	NET FOR DCC BASED CALC's	A S.E. Kelowna	B South Mission	C NE of Inner City	D North of Hwy 33		F South of Hwy 33	E North of Inner City
Q1-2	F	Gallagher 1	Existing south end - Highway 33	UCU2L	7,739.1	7,129.1			16.8	593.2					593.2		
Q1	F	Gallagher 1b	Creek - Crossing - Crossing	UCU2L	21.8	21.8											
					7,761.0	7,151.0			16.8	593.2					593.2		
Q2	D,F	Hwy 33 2	Mckenzie - Springfield	R/UAD4L	2,975.9		1,488.0		188.0	1,299.9				552.3	442.8		304.8
Q2	D,F	Hwy 33 3	Springfield Road - Garner Road	R/UAD4L	6,653.6		3,326.8		428.8	2,898.0				1,231.8	987.6		678.5
Q2	D,F	Hwy 33 4	Garner Road - Gallagher Road	UAD4L	4,610.8		2,305.4		365.8	1,939.6				828.7	664.4		446.5
					14,240.4		7,120.2		982.7	6,137.5				2,612.7	2,094.9		1,429.9
Q2	E	Airport	Hollywood Road - Highway 97	UAD4L	994.1	994.1											
Q4	E	Beaver Lake Rd	City Limits - East Connector	UAU2L	2,086.0	302.4			1,783.6	(0.0)							(0.0)
Q2-3	E	Hollywd 7	Sexsmith Road - Appaloosa	UAU2L	2,477.4	1,076.3			82.2	1,318.9						989.2	329.7
Q2-4	E	Hollywd 8	Lougheed - Lochrem	UAU2L	11,784.4	7,168.8			657.4	3,958.2						2,968.6	989.5
Q3-4	E	McKinley 1	Glenmore Road - Highway 97	RAU2L	9,461.8				5,985.5	3,476.4						3,476.4	
Q3	E	University 1	Hollywood Road - Highway 97	UAD4L	1,073.5				45.0	1,028.5						775.0	253.5
Q3	E	University 2	Hollywood Road - Bulman Road	UAD4L	8,058.6	4,029.3			128.4	3,900.9						2,925.7	975.2
Q3	E	University 2b	Mill Creek - Crossing	UAD4L	315.2					315.2						236.4	78.8
Q3	E	University 3	Highway 97 - University Way		1,166.5					1,166.5						874.9	291.6
					37,417.5	9,541.6	4,029.3		8,682.0	15,164.6						12,246.1	2,918.5
Q2	I	Begbie Road	Glenmore Highlands - Glenmore R	RCU2L	1,997.5	1,997.5											
Q3	I	Benvoulin 1	Casorso Road - KLO Road	RAD4L	4,773.6				67.7	924.9	3,848.7						3,848.7
CPLT	I	Benvoulin 2	Cooper Road - Springfield Avenue	R/UAD4L	3,715.8				58.2	406.7	3,309.0						3,309.0
Q3	I	Bernard 2	Richmond Street - Burtch Road	UAU4L	1,196.5				18.4	151.7	1,044.8						1,044.8
Q3	I	Burtch 1	Benvoulin Road - KLO Road	RAU2L	913.6				14.8	74.1	839.5						839.5
Q3	I	Burtch 2	KLO Road - Byrns Road	R/UAI2L	3,613.9	433.3			47.1	504.5	2,676.1						2,676.1
Q4	I	Burtch 4	Sutherland Road - Highway 97	UAD4L	986.9				16.2	68.4	918.5						918.5
Q1	I	Burtch 5	Highway 97 - Kelglen	UAU2L	213.1	29.2			0.4	159.1	24.8						24.8
Q1	I	Clement 1	Ellis - Gordon	JAD4L_Res	5,710.5	1,304.7			61.4	917.3	3,488.6						3,488.6
Q2	I	Clifton 1	MacLeay - Clifton (existing)	UAU3L	2,200.2	526.0			25.6	218.4	1,455.8						1,455.8
Q2	I	COB A (pc)	Gordon - Cerise	JAD4L_Res	7,862.1				60.1	4,445.7	3,416.4						3,416.4
Q2	I	COB 1	Cerise - Spall	UAD4L	7,405.8				43.6	4,926.1	2,479.7						2,479.7
Q2	I	COB 2	Spall Road - Highway 33	UAD4L	30,694.9				244.2	16,809.1	13,885.8						13,885.8
Q3	I	COB 3	Highway 33 - McCurdy Road	RAU2L	5,830.0	2,700.1			0.6	3,093.5	36.5						36.5
CPLT	I	Enterprise 1	Banks Road - Leathhead Road	UAU2L	4,184.8	850.0	1,844.6			701.0	789.1						789.1
Q2-3	I	Ethel 2	Springfield - Lawson	UCU4L	4,941.4	403.3			68.5	644.0	3,894.1						3,894.1
CPLT	I	Glenmore 1	High Road - Dallas	UAD4L	5,292.3	414.9				2,006.2	2,871.2						2,871.2
Q2-3	I	Glenmore 2	Dallas Road - Union Road	RAU4L	4,170.3	2,572.1			24.2	224.8	1,373.4						1,373.4
Q3	I	Glenmore 3	Union Road - Scenic Road	RAU2L	2,139.8				34.6	172.0	1,967.9						1,967.9
Q2	I	Gordon 4	Old Meadows Rd - Mission Creek	R/UAD4L	2,149.1	1,476.9			0.0	672.1	0.0						0.0
Q2	I	Gordon 5	Mission Creek - Casorso	R/UAD4L	2,713.1	87.6			36.2	569.5	2,055.9						2,055.9
Q2	I	Gordon 6	Casorso Road - Lanfranco Road	R/UAD4L	1,885.7	314.2			17.3	587.1	984.4						984.4
Q2	I	Gordon 5B	Mission Creek Crossing	4 Lane	2,300.0				39.8	39.8	2,260.2						2,260.2
Q2	I	Gulsachan 2	Gordon Drive - Burtch Road	UAU2L	1,535.9	681.7			0.1	849.4	4.8						4.8
Q2	I	High 1	North Connector - Mountain Drive	UAD4L	3,067.7				49.6	249.7	2,818.0						2,818.0
Q2	I	High 2	Mountain Drive - Lynwood Cresen	UAU4L	995.7				16.1	78.4	917.3						917.3
Q3	I	Hollywd 3	McCurdy Road - Stremel	UAU2L	1,565.1				23.8	214.6	1,350.5						1,350.5
Q3	I	Hollywd 4	Stremel - Highway 97	UAU2L	1,779.1	289.8			2.9	1,323.1	166.3						166.3
Q3	I	Hollywd 4b	Francis Creek - Crossing	UCU2L	21.6				0.3	7.0	14.6						14.6
Q2-3	I	Hollywd 5	Highway 97 - Cambrio	UAU2L	1,728.7	265.9			21.0	268.6	1,194.2						1,194.2
Q2-3	I	Hollywd 5b	Mill Creek - Crossing	UAU2L	546.6				6.5	177.6	369.0						369.0

2. Water Pumping and Distribution Systems

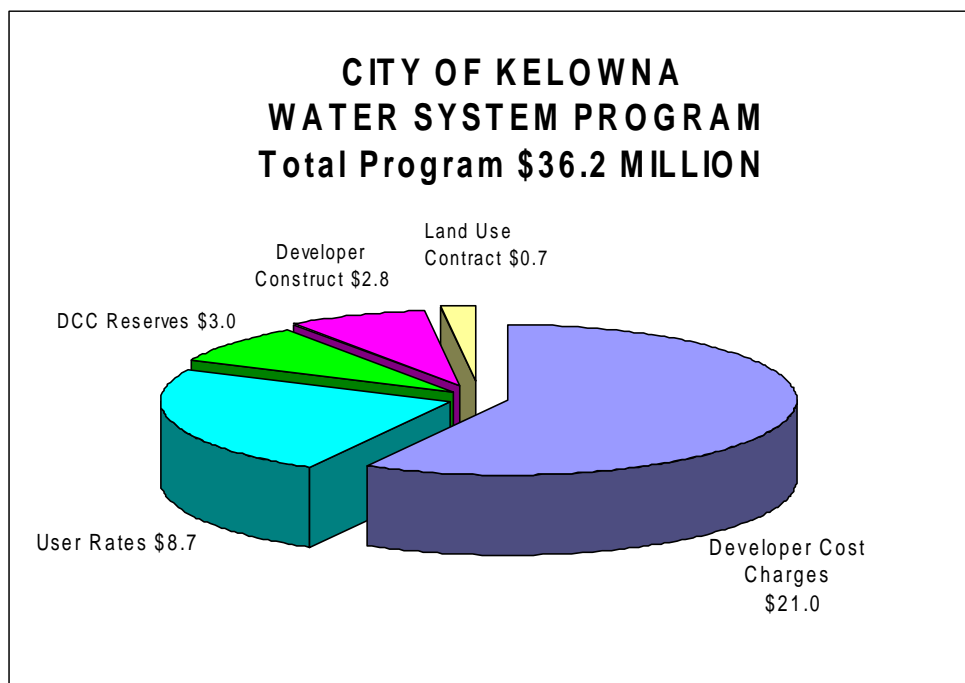
Exhibit “B” – Updated 20 Year Off-Site Water Servicing Plan & Financing Strategy - Cost Sharing Model, attached, provides the cost for each capital project and how the cost of the program is shared between existing taxpayers and new growth within the 20 year planning horizon.

The model provides a further breakdown of how each new growth project is cost shared between benefiting sectors of the city.

The total cost of the Water Servicing program, over the 20 year planning horizon, is **\$36.2 Million**.

The following is a summary of the funding sources for the water program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for the water system:

Total Program Cost	\$36.2	%
User Rates (Assist/Gen Benefit/Oversize)	\$ 8.7	24.0
Development Cost Charge	21.0	58.1
Developer Construct	2.8	7.7
Development Cost Charge Reserves	3.0	8.3
Land Use Contract Revenue	.7	1.9



Cost Sharing Principles and Assumptions

- Capital improvements which have been identified as correcting existing deficiencies or where there is an overall general water utility benefit, have been **cost shared between existing rate payers and new growth**.
- The cost of capital improvements which **provide excess capacity** for growth beyond the 20 year planning horizon have not been allocated to new growth.
- A **sector approach** has been used to allocate capital project costs to distinctly different water service areas. The main city water system, serviced from the Poplar Point water intake, the Skyline/Clifton water system, which is serviced by a supplementary booster system and the South Mission water system which is serviced from a separate water intake in that area make up the three water service sectors.
- Maximum day demand for the system is significantly less than forecasted previously.
- A reduction in customer consumption is occurring due to water metering, customer education and conservation programs.

Additional utility cost sharing is included on the Cedar Creek Station Pumps to account for 685 existing units (58%) in the Mission; \$200,000 on Cedar Creek Pump Station for the balance of the City's original commitment of \$617,000 toward the South Mission water system for the connection of 675 Okaview residents; on the Crawford (20%) and Lakeshore projects (58%), for existing residential units in those areas.

The updated cost estimates include the Water Utility's commitment for the cost of UV equipment and ancillary components, plus a low lift pump station to feed the UV equipment. In addition, the cost estimates include a contribution of 50% by the Water Utility towards the provision of standby power. This standby power provides a benefit to the existing users within the South Mission and Mission Flats service areas (based on 2001 existing population to 2020 future population). The standby power has been cost shared 50/50 as per above, and overall 50% of the cost of the Cedar Creek Pump Station is being charged to the Water Utility. Further details are available in the 2005 Public & Stakeholders Input document.

Financial Implications

- **Extensive financial modeling of the water utility** has been done to project the impact on user rates over the next 10 year planning horizon. **User rates** are impacted by a combination of providing for existing deficiencies in the water system, provision of excess capacity to service new growth and replacing aging infrastructure within the existing water supply system.

Installation of water meters and public education programs have reduced consumption substantially since their introduction and have contributed to a reduction in the cost of the Water DCC program.

**CITY OF KELOWNA
 UPDATED 2020 WATER SERVICING PLAN & FINANCING STRATEGY
 COST SHARING MODEL**

EXHIBIT "B" - WATER

1 % Assist

Target Year	PROJECT	DESCRIPTION	TOTAL CAPITAL COST	NON-DCC REVENUE SOURCES					NET FOR DCC CALC'S	DCC SECTOR ALLOCATIONS			
				By Devlp'r	Prov'l Assist	Benefit Existing	Oversize	Net By Utility		A LUC CREDIT	A	B South Mission	D Clifton
Total Growth Units:				395	13,009	7,041	3,690	2,278					
Comp	Sky PS 1	Skyline/High Booster Pumps	607.0					607.0			607.0		
2005	PP INTAKE	1,066 mm intake - Poplar Pt	801.4				28.5	772.8	517.8		255.0		
2005	PP POWR	Upgrade Power Supply Poplar	405.9				14.4	391.4	262.2		129.2		
2005	PP TURB	2x 500hp Turbines - Poplar Pt	441.0				15.7	425.3	285.0		140.4		
2005	PP VALVE	Upgrade Valve Chmbr Poplar P	499.1				17.8	481.3	322.5		158.8		
2006	CEDAR PS	New Cedar Cr. PS - 2 Pumps &	7,854.7			3,948.0	3,948.0	3,906.7		3,906.7			
2007	SKY PMP	Skyline - new 500hp pump	308.7					308.7			308.7		
2007	SKY ST	Skyline Suction Trunk 450 mm	617.0					617.0			617.0		
2007	SKY VC	Skyline Valve Chamber	152.1					152.1			152.1		
2009	BRDWY TRNK	Broadway Trunk 1350 mm	1,832.3				65.2	1,767.1	1,183.9		583.1		
2009	BRDWY VC	Broadway Valve Chamber	202.8				7.2	195.5	131.0		64.5		
2009	CAMB VC	Cambridge Valve Chamber	202.8				7.2	195.5	131.0		64.5		
2009	KNOX TRNK	Knox Trunk 1200 mm	3,433.8				122.2	3,311.6	2,218.7		1,092.8		
2009	KNOX VC	Knox Valve Chamber	202.8					202.8	135.8		66.9		
2009	TRNCH TRNK	Trench Place Trunk 900 mm	2,480.4				88.3	2,392.1	1,602.7		789.4		
2010	BRDWY PP	Broadway - P. Pt. Drive	701.5				25.0	676.5	453.3		223.2		
2010	DAON PS	125 hp Pump-Daon PS	526.1	526.1									
2010	DILWORTH	Twin Dilworth Trunk-300mm pip	572.0	572.0									
2010	ELDRDO PS	Eldorado Pump Stn Refrbsh	294.0				15.6	278.4	278.4				
2010	SKY TRK1	Skyline Trk - 200mm to 350mm	410.7			106.8	106.8	303.9			303.9		
2010	SKY TRK2	Skyline Trk - 200mm to 300mm	650.6			169.1	169.1	481.4			481.4		
2010	SUMMIT PH	Summit PH Extension	73.5	73.5									
2010	SUMMIT PS	2- 50hp pumps @Summit PS	162.7	162.7									
2010	WEDDELL VC	Weddel Valve Chamber	253.4				9.0	244.4	163.8		80.7		
2011	CLEMENT	Clement Ave pipe -(Ethel-Richt	336.7				17.9	318.8	318.8				
2011	ETHEL TRNK	Ethel St Trunk-(Weddel-Cleme	507.1				26.9	480.1	480.1				
2011	RICHTER	1085 m 300 mm pipe-Richter	902.0				47.9	854.1	854.1				
2013	HARVEY	Hwy 97-Gordon -Chandler-Pipe	478.9				25.4	453.4	453.4				
2014	CRAWFORD 3	Crawford - 3x100 hp Pumps	550.9	440.7	110.2		110.2	0.0	0.0		0.0		
2014	CRAWFORD 4	Crawford 2 Trunk 300 mm pipe	594.2	475.4	118.8		118.8	0.0	0.0		0.0		
2014	CRAWFORD 5	Crawford Trunk - 300mm pipe	301.6	241.3	60.3		60.3	0.0	0.0		0.0		
2014	CRAWFORD 6	Expand Crawford Reservoir	336.8	269.5	67.4		67.4	0.0	0.0		0.0		
2014	ELLIS	North Ellis - Pipe 500 mm	382.0				20.3	361.7	361.7				
2016	CEDAR PMP	Mission - 2 x 800 hp pumps	1,214.3			704.3	704.3	510.0		510.0			
2016	LKSHR PRV	Lakeshore Trunk - PRV Station	202.8			117.6	117.6	80.6	80.6				
2016	LKSHR TRNK	Lakeshore Trunk 500 mm	5,299.2			3,073.5	3,073.5	2,107.4	2,107.4				
Annl	ANNL OS	Annual Oversizing Component	1,200.0				63.7	1,136.3	1,136.3				
SUBTOTAL A			35,992.4	2,761.2	8,476.1	8,476.1	741.1	24,014.0	13,478.6	4,416.7	6,118.7		

CITY OF KELOWNA
 UPDATED 2020 WATER SERVICING PLAN & FINANCING STRATEGY
 COST SHARING MODEL

EXHIBIT "B" - WATER

1 % Assist

Target Year	PROJECT	DESCRIPTION	TOTAL CAPITAL COST	NON-DCC REVENUE SOURCES					NET FOR DCC CALC'S	DCC SECTOR ALLOCATIONS			
				By Devlp'r	Prov'l Assist	Benefit Existing	Oversize	Net By Utility		A LUC CREDIT	A	B	D
											Central	South Mission	Clifton
Less: Land Use Credits													
SUBTOTAL B			35,992.4	2,761.2	8,476.1		8,476.1	741.1	24,014.0	13,478.6	4,416.7	6,118.7	
Carry Over(Reserve Balances)									(2,981.6)	(2,866.4)	(78.7)	(36.5)	
SUBTOTAL C			35,992.4	2,761.2	8,476.1		8,476.1	741.1	21,032.4	10,612.2	4,338.0	6,082.2	

210.3 Engineering/Administration	1.00%	210.3	106.1	43.4	60.8
36,202.7 Subtotal D		21,242.7	10,718.3	4,381.4	6,143.0

Less Assist	@	1.00%	(212.4)	(107.2)	(43.8)	(61.4)
Total for DCC			21,030.3	10,611.1	4,337.6	6,081.6

NET UNIT DCC FOR:

Residential 1:	1,507	1,176	2,670
Residential 2:	1,010	788	1,789
Residential 3:	723	564	1,281
Residential 4:	512	400	908
Lodging House or Group Home:	1,507	1,176	2,670
Commercial - Per 1,000 Sq. Ft.:	580	452	1,027
Industrial - Per Acre:	4,220	3,291	7,475
Institutional - Per 1,000 Sq. Ft.:	580	452	1,027

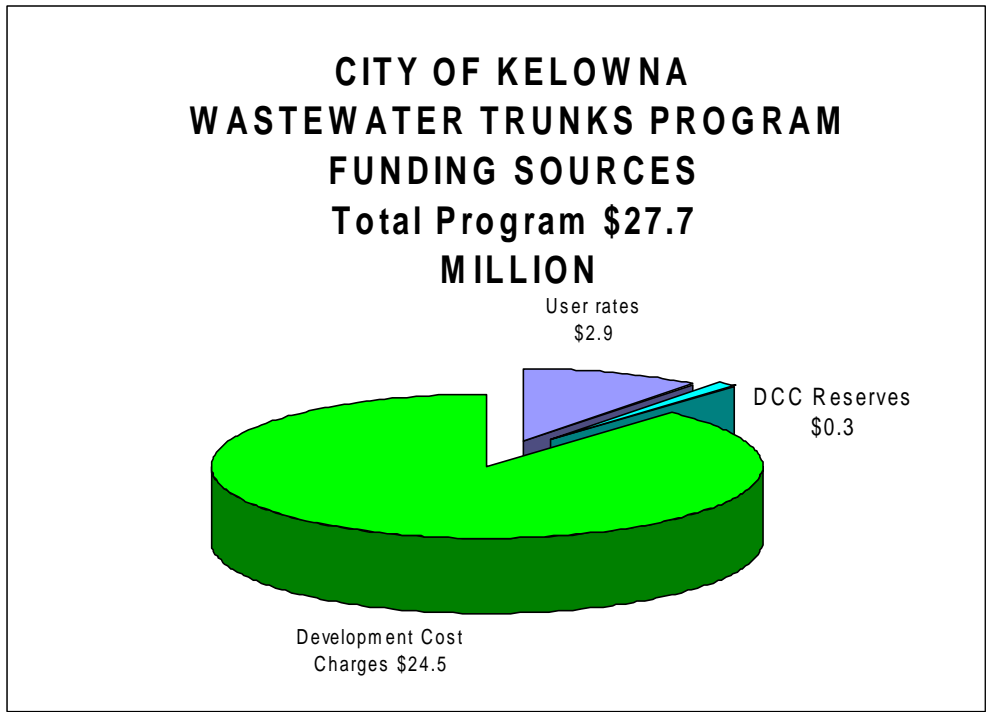
- **3. Wastewater Collection System**

Exhibit “C” – Updated 20 Year Wastewater Trunk Servicing Plan & Financing Strategy - Cost Sharing Model, attached, provides all of the detailed calculations for each capital project and how the cost of the program is shared between existing taxpayers and new growth within the 20 year planning horizon. The model provides a further breakdown of how each new growth project is cost shared between the benefiting sectors of the city.

The total cost of the Wastewater Trunk Servicing program, over the 20 year planning horizon, is **\$27.7 Million**.

The following is a summary of the funding sources for the sanitary sewer trunk program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for sanitary sewer trunks:

Total Program Cost	\$27.7	%
User Rates (Assist/Gen Benefit/Oversize)	2.9	10.5
Development Cost Charge	24.5	88.4
Development Cost Charge Reserves	0.3	1.1



Cost Sharing Principles and Assumptions

- The program includes an **extension of wastewater services to the Hall Road area**, a major portion of which is to be financed by establishment of a Specified Area with cost recovery from existing property owners in that area. **A portion of the oversize cost will be recovered from new growth in the same area.**
- The cost of capital improvements which **provide excess capacity** for growth beyond the 20 year planning horizon have not been allocated to new growth. If the project is completed early in the planning horizon this represents a significant up-front investment by the general wastewater utility.
- Asphalt restoration costs are based on 2 full driving lanes at 3.5 m each.
- Project costs are shared between 2 sectors with the Southwest Mission now including **neighbourhoods 1-3.**
- Cost sharing is based **on the % of new units** in each sector.
- The **assist factor** remains at 1%.
- In 2005 the north area of the City was added to sewer services and is available to be serviced within the 2020 horizon.

Financial Impacts

- **Extensive financial modeling** of the sewer utility has been done to project the impact on user rates over the next 10 year planning horizon. User rates are impacted by a combination of providing for existing deficiencies in the sewer system, provision of excess capacity to service new growth and replacing aging infrastructure within the existing water supply system.
- A major impact on the sewer utility is the **provision of sewage treatment facilities** which will be dealt with in more detail in the next section of this document.

CITY OF KELOWNA
UPDATED 2020 WASTEWATER TRUNKS PLAN & FINANCIAL STRATEGY
COST SHARING MODEL

EXHIBIT "C" - WASTEWATER TRUNKS

(2000 Dollars x 1000)

Target Year	PROJECT	FROM - TO	TOTAL CAPITAL COST	NON DCC REVENUE SOURCES			NET FOR DCC CALC'S	ALLOCATIONS			
				By Devlp'r	Prov'l Assist	Benefit Existing		Oversize By Utility	LUC Not South Mission	NOT South Mission	South Mission
Total Growth Units:				395			23,417	19,618	3,798		
COMP	O/S GLNMR MS	Glenmore Trk 5, Mission Trk	550.3					550.3			
COMP	MF OVERSIZE	Oversize for South Mission Fl	500.0						500.0		
COMP	O/S MS1 LKSHR	Outstanding Credit	492.9						492.9		
COMP	L. N HARVEY	Ellis - Richter - Leon	529.9			347.2	3.0	179.6			
COMP	BYRNSBAR 1	Ziprick to Burtch	4,189.1	1.9		212.1	66.3	3,908.8			
COMP	SPRGZIP	Hollywood S- Ziprick - Baron	1,192.4			51.5	19.0	1,121.9			
COMP	O/S WATER FM	Outstanding Pymnt	1,350.4				460.7	889.7			
2003	MILLSBAR	HWY 97 to Baron									
2004	6B CROSS	Glenmore - Valley	560.8				9.4	551.4			
2005	KLO	KLO - Swordy	611.6				10.2	601.4			
2005	SPRGBLK	Belgo - Hollywood S	1,012.1			59.7	15.9	936.5			
2005	GUY ELS	@ Bay	316.1			183.8	2.2	130.1			
2006	BIRCH ELS	@ Cameron Park	441.0				7.4	433.6			
2006	GLENMORE 7C	Yates - 700m North	777.9				13.0	764.9			
2006	HALL	KLO - Benvoulin	767.0			421.9	5.8	339.3			
2007	BYRNSBAR 2	Byrns to WWTF	3,783.2			82.2	61.7	3,639.3			
2007	GYRO FM	Gyro LS - KPCC	1,109.4				18.5	1,090.9	872.7		
2008	GORDON ELS	@ Raymer	441.0				7.4	433.6			
2008	WATER FM	Pandosy to Ethel	187.1				3.1	184.0			
2008	RAYMER ELS	Lane North of Coopland	467.3				7.8	459.5			
2010	ETHEL 3	Gordon - Richmond- Orchard	902.0				15.0	887.0			
2015	RUTLAND	Nickel - Hwy 33	960.1				16.0	944.1			
2017	SOUTH GORDO	Old Meadows to KPCC	5,110.5			577.7		4,532.8	3,626.2		
2001/20	OVERSIZE	Oversize Component - \$60/yr	1,200.0				20.0	1,180.0			
SUBTOTAL A			27,452.1	1.9		1,936.1	460.7	301.7	24,751.7	19,259.9	5,491.9

CITY OF KELOWNA
UPDATED 2020 WASTEWATER TRUNKS PLAN & FINANCIAL STRATEGY

EXHIBIT "C" - WASTEWATER TRUNKS

COST SHARING MODEL

(2000 Dollars x 1000)

Target Year	PROJECT	FROM - TO	TOTAL CAPITAL COST	NON DCC REVENUE SOURCES				NET FOR DCC CALC'S	ALLOCATIONS			
				By Devlp'r	Prov'l Assist	Benefit Existing	Oversize By Utility		LUC Not South Mission	NOT South Mission	South Mission	
Less: Land Use Credits												
	SUBTOTAL B		27,452.1	1.9		1,936.1	460.7	301.7	24,751.7	19,259.9	5,491.9	
	Carry Over(2000-12-31 Reserve Balances)									(287.7)	(197.0)	(90.7)
	SUBTOTAL C		27,452.1	1.9		1,936.1	460.7	301.7	24,464.0	19,062.9	5,401.2	

244.6	Engineering/Administration	1.00%	244.6	190.6	54.0
27,696.7	Subtotal D		24,708.7	19,253.5	5,455.2

Less Assist	@	1.00%	(247.1)	(192.5)	(54.6)
Total for DCC			24,461.6	19,061.0	5,400.6

NET UNIT DCC FOR:

Residential 1:	972	1,422
Residential 2:	806	1,180
Residential 3:	544	796
Residential 4:	525	768
Lodging House or Group Home:	972	1,422
Commercial - Per 1,000 Sq. Ft.:	374	547
Industrial - Per Acre:	2,720	3,981
Institutional - Per 1,000 Sq. Ft.:	374	547

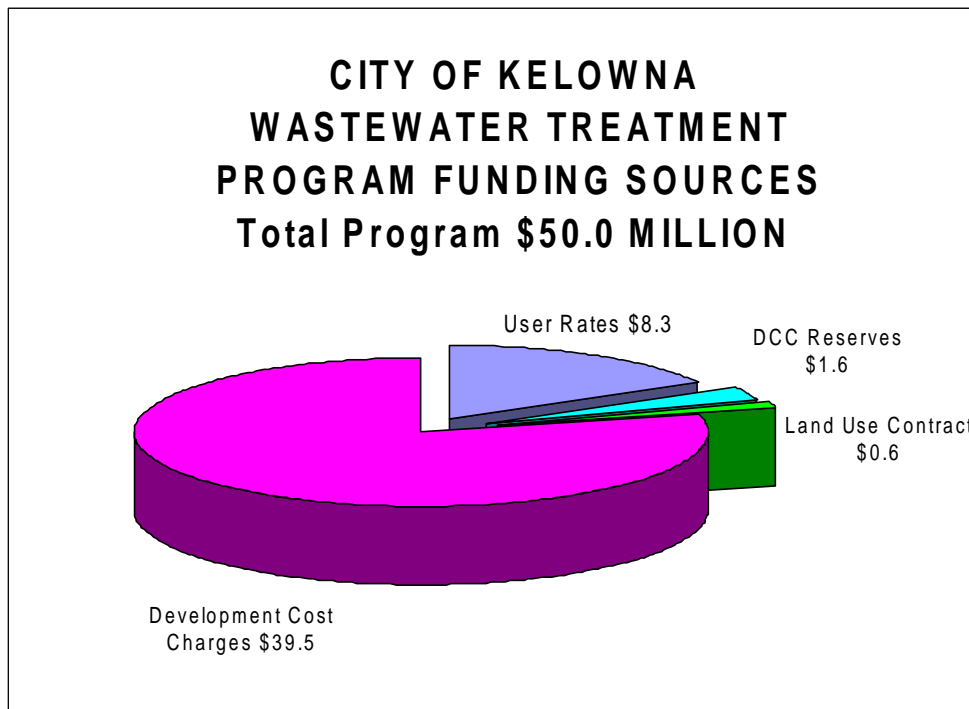
4. Wastewater Treatment and Disposal

Exhibit “D” – Updated 20 Year Wastewater Treatment and Disposal Servicing Plan & Financing Strategy - Cost Sharing Model, attached, provides all of the detailed calculations for each capital project and how the cost of the program is shared between existing taxpayers and new growth within the 20 year planning horizon. The model provides a further breakdown of how each new growth project is cost shared between the benefiting sectors of the city.

The total cost of the Sewer Treatment and Disposal Servicing program, over the 20 year planning horizon, is **\$50.0 Million**.

The following is a summary of the funding sources for the sewer treatment program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for sewer treatment:

Total Program Cost	\$50.0	%
User Rates (Assist/Gen Benefit/Oversize)	8.3	16.6
Development Cost Charge	39.5	79.0
Development Cost Charge Reserve	1.6	3.2
Land Use Contract Revenue	.6	1.2



Cost Sharing Principles and Assumptions - Long Term Financing Costs

- Based on the preliminary engineering design report, engineering and construction of **Stage 2 of the Treatment Plant** is estimated to cost \$33.7 Million, with commencement of design in 2012 and construction over a three year period.

The municipality will face a major expenditure during this time which will increase the capacity of the plant from an estimated **95,000 population to 150,000**.

Under the normal Development Cost Charge calculation model, the long term debt financing costs to carry this excess capacity while awaiting payment from future growth, will have a significant impact on sewer utility user rates in the future.

Cost Sharing Principles and Assumptions - Other

- **\$8.9 Million or 17.8% of the program has been allocated to existing utility rate payers** to reflect the cost of capital improvements which provide excess capacity for growth beyond the 20 year planning horizon or provide capacity for existing properties not yet connected to the Treatment Plant but are planned to be connected within 20 years.
- The existing **Dilworth Land Use Contract**, under terms of the agreement provides for payment of a Sewer Development levy of \$600 per unit as a contribution towards the Sewer Treatment Plant.
- Although it is anticipated that the requirement for an **additional sewage treatment facility** site is beyond the 20 year planning horizon, the land purchase is scheduled for 2015. The cost sharing model currently allocates the estimated cost to existing users. When sufficient engineering information is available identifying the year the new site will be needed, a proportionate share will be allocated to new growth and reflected in future DCC revisions.

Financial Impacts

- Extensive financial modeling of the sewer utility has been done to project the impact on user rates over the next 10 year planning horizon. User rates have been projected on the basis of the **incorporation of an interest component into the formulation of the Development Cost Charge levy**.
- There is a **significant risk factor** associated with the construction of infrastructure components that involve “lumpy” investments, particularly if population growth immediately following the major investment does not materialize as projected.
- The indirect effects of increases in **real interest rates are also relevant**. Increase in real interest rates increase the cost of maintaining the over capacity that is built in the existing services systems of growing cities.

CITY OF KELOWNA
 UPDATED 2020 WASTEWATER TREATMENT PLAN & FINANCING STRATEGY
 COST SHARING MODEL

EXHIBIT "D" - WASTEWATER TREATMENT

YEAR	PROJECT	TOTAL PROJECT COST	(2000 Dollars x 1000)				NET FOR DCC CALCULATIONS		
			PROVINCIAL ASSIST	NET REMAINING	BENEFIT EXISTING	OVERSIZE (2020+)		NET BY UTILITY	LUC Credit
Total Growth Units:			23,812			395	23,417		
Comp	Stage 1 - Completion	749.3		749.3			749.3		
Comp	Existing Debt Commitments	4,666.6		4,666.6			4,666.6		
2005	Compost Facility - Part A	4,000.0		4,000.0	2,500.0	2,500.0	24.9	1,475.1	
2007	Stage 2 - Design	2,300.0		2,300.0			38.2	2,261.8	
2008	Stage 2 - Construction	13,800.0		13,800.0			228.9	13,571.1	
2009	Stage 2 - Construction	16,100.0		16,100.0			267.1	15,832.9	
2010	Stage 2 - Completion	1,540.0		1,540.0			25.5	1,514.5	
2012	Compost Facility - Part B	1,500.0		1,500.0	937.5	937.5	9.3	553.2	
2015	Compost Facility - Part C	1,333.3		1,333.3	833.3	833.3	8.3	491.7	
2015	Land Acquisition	3,625.0		3,625.0	3,625.0	3,625.0			
SUBTOTAL A		49,614.2		49,614.2	4,270.8	3,625.0	7,895.8	602.2	41,116.2
Less: Land Use Credits									
SUBTOTAL B		49,614.2		49,614.2	4,270.8	3,625.0	7,895.8	602.2	41,116.2
Carry-Over (2000-12-31 Reserve Balance)									(1,555.0)
SUBTOTAL C		49,614.2		49,614.2	4,270.8	3,625.0	7,895.8	602.2	39,561.2
		395.6	Engineering/Administration				1.00%		395.6
		50,009.8	Subtotal D						39,956.8
Less Assist						@	1.00%		(399.6)
Total for DCC									39,557.2
NET UNIT DCC FOR:									
Residential 1:									1,689
Residential 2:									1,402
Residential 3:									946
Residential 4:									912
Lodging House or Group Home:									1,689
Commercial - Per 1,000 Sq. Ft.:									650
Industrial - Per Acre:									4,730
Institutional - Per 1,000 Sq. Ft.:									650

This schedule is conceptual and is subject to revision to meet future needs and conditions.

5. Park Land Acquisition

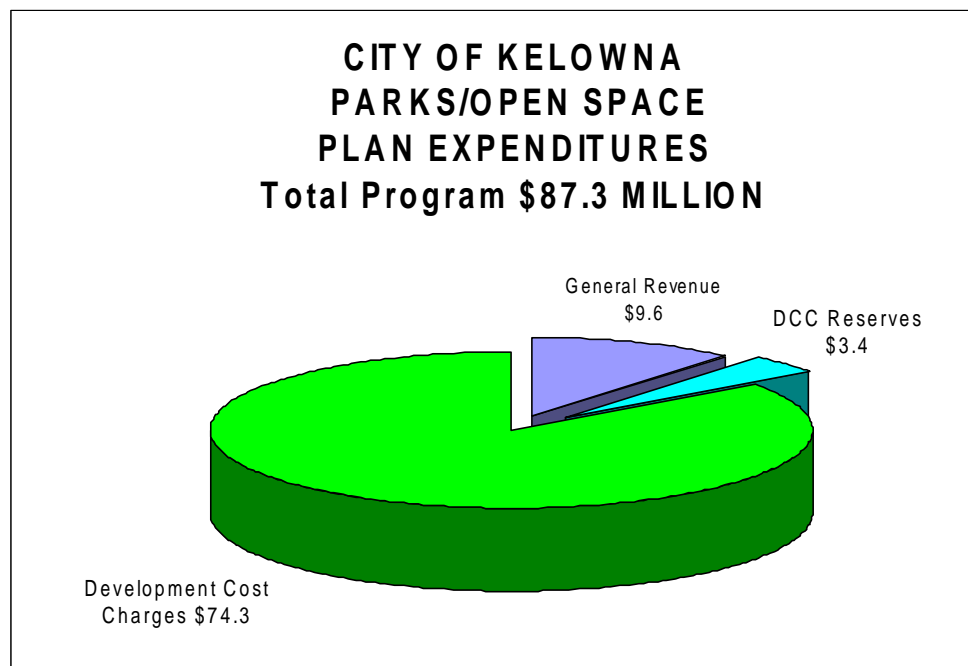
Exhibit “E” - 20 Year Parks Acquisition Plan & Financing Strategy - Cost Sharing Model, attached, provides the calculations used to develop the average cost per equivalent residential unit for park land acquisition based on the standard of **2.2 hectares per 1,000 population** and the cost per hectare for land required to service growth as detailed in the Official Community Plan.

All of the park land required on the basis of the formula provided in the model is required for new growth and has been allocated accordingly.

The total cost of the Park Land Acquisition program, over the 20 year planning horizon, is **\$87.3 Million**.

The following is a summary of the funding sources for the park land acquisition program based on the cost sharing principles and assumptions which have been incorporated in the cost sharing model for park land:

Total Program Cost	\$87.3	%
General Taxpayer (Assist/Gen Benefit/Oversize)	\$ 9.6	11.0
Development Cost Charge	74.3	85.1
Development Cost Charge Reserve	3.4	3.9



Cost Sharing Principles and Assumptions

- Acquisition of Park Land is assumed to be of primary benefit to residential growth and the cost of the program, therefore, is applied only to residential growth units.
- Required land and costs are based on a standard of 2.2 hectares per 1,000 population.
- DCC value now based on population growth and **specific lands to be acquired**.
- A **single sector approach** has been used for the entire city which is consistent with the cost sharing methodology used in the previous plan.
- To determine the land values, developed areas were included where appropriate and limited provision was made for the acquisition of waterfront properties from new growth directly.
- The municipality, at its option, may require the developer to **dedicate 5% of the land to be subdivided**, in a location satisfactory to the city. The developer who dedicates land will receive credit for a portion (usually neighbourhood park component) of the Development Cost Charge.

The municipality may exercise this option only when it deems that the value of the dedicated land is **equal to or exceeds the value** of the Development Cost Charge credit.

- An “**assist**” **factor of 10%** has been used to develop the charge applicable to new growth which is the same rate used in the previous plan. The assist factor represents the deemed benefit to existing taxpayers of the acquisition of additional parks.

Financial Impacts

- Significant parks development costs are not included in the formulation of the Development Cost Charge levy and must be considered when developing the 10 Year Capital Plan.
- The purchase of linear parks, creek corridors and natural open space which is not achieved through re-development, will be purchased from general taxation.

**CITY OF KELOWNA
 UPDATED 2020 PARKS ACQUISITION PLAN & FINANCING STRATEGY
 COST SHARING MODEL**

EXHIBIT "E" - PARKS

(2000 Dollars x 1000)

PERIOD	ACQUISITIONS	TOTAL CAPITAL COST	NON-DCC REVENUE SOURCES				NET FOR DCC CALCULATIONS
			BY DEVELOPER	PROVINCIAL ASSIST	NET REMAINING	LUC OVERSIZE (2020+)	
Total Growth Units:				25,539	395		25,144
1	29 hectares (71 acres)	19,776.1		19,776.1	305.9		19,470.2
2	30 hectares (75 acres)	21,126.7		21,126.7	326.8		20,799.9
3	32 hectares (80 acres)	22,316.0		22,316.0	345.2		21,970.8
4	34 hectares (83 acres)	23,302.6		23,302.6	360.4		22,942.3
SUBTOTAL A		86,521.4		86,521.4	1,338.2		85,183.3
Less: Land Use Credits:							
SUBTOTAL B		86,521.4		86,521.4	1,338.2		85,183.3
Carry Over (00-12-31 Reserve Balance - Commitments)							(3,379.3)
SUBTOTAL C		86,521.4		86,521.4	1,338.2		81,803.9
		818.0	Plus Administration/Engineering	@	1.00%		818.0
		87,339.4	Subtotal D				82,622.0
			Less Assist	@	10.00%		(8,262.2)
			Total for DCC				74,359.8

NOTE: Period 1 = (2001 - 2005)
 Period 2 = (2006 - 2010)
 Period 3 = (2011 - 2015)
 Period 4 = (2016 - 2020)

NET UNIT DCC FOR:	
Residential 1:	2,957
Residential 2:	2,957
Residential 3:	2,957
Residential 4:	2,957
Lodging House or Group Home:	2,957
Commercial - Per 1,000 Sq. Ft.:	N/A
Industrial - Per Acre:	N/A
Institutional - Per 1,000 Sq. Ft.:	N/A

VI. SUMMARY OF REQUIRED D.C.C. RATES - BY LAND USE TYPE

The **purpose of this section** is to summarize the required Development Cost Charge levies to support the growth plan and servicing plan as detailed in previous sections of this document.

For each different land use type, a comparative analysis has been included by service type and by different geographical area of the city.

The required rates are **based on assumptions** regarding growth rate, housing mix, growth areas in combination with principles used for cost sharing between existing taxpayers and new population growth. Cost sharing methodologies, described in previous sections of this report, have also been included in the calculations to determine how costs will be **shared between different land uses**.

1. Residential 1 - Single Family Development - by growth area - by service type
Comparison to current rates

GROWTH AREA	Sector / Rate						
	<u>Roads</u>	<u>Water</u>	<u>Sewer Trunks</u>	<u>Treatment</u>	<u>Parks</u>	<u>Total</u>	
City Centre (Updated)	I 5,206	A 1,507	A 972	A 1,689	2,957	12,331	
Current	I 3,634	A 1,393	A 874	A 1,475	2,147	9,523	
Clifton/Glen. Hghld (Updated)	I 5,206	D 2,670	A 972	A 1,689	2,957	13,494	
Current	I 3,634	D 2,505	A 874	A 1,475	2,147	10,635	
Glenmore Valley (Updated)	I 5,206	GEID	A 972	A 1,689	2,957	10,824	
Current	I 3,634	GEID	A 874	A 1,475	2,147	8,130	
Rutland (Updated)	I 5,206	RWW	A 972	A 1,689	2,957	10,824	
Current	I 3,634	RWW	A 874	A 1,475	2,147	8,130	
North East Rutland (Updated)	C 8,532	BMID	A 972	A 1,689	2,957	14,150	
Current	C 6,271	BMID	A 874	A 1,475	2,147	10,767	
Hwy 33 - North East (Updated)	D 10,102	BMID	A 972	A 1,689	2,957	15,720	
Current	D 7,433	BMID	A 874	A 1,475	2,147	11,929	
Hwy 33 - South West (Updated)	F 7,675	BMID	A 972	A 1,689	2,957	13,293	
Current	D 5,840	BMID	A 874	A 1,475	2,147	10,336	
University / Airport (Updated)	E 9,677	GEID	A 972	A 1,689	2,957	15,295	
Current	E 7,420	GEID	A 874	A 1,475	2,147	11,916	
McKinley (Updated)	E 9,677	GEID	N/A	N/A	2,957	12,634	
Current	E 7,420	GEID	N/A	N/A	2,147	9,567	
Hall Road (Updated)	I 5,206	SEKID	A 972	A 1,689	2,957	10,824	
Current	I 3,634	SEKID	A 874	A 1,475	2,147	8,130	
Southeast Kelowna (Updated)	A 12,302	SEKID	N/A	N/A	2,957	15,259	
Current	A 9,018	SEKID	N/A	N/A	2,147	11,165	
S.W. Mission (Updated)	B 16,904	B 1,176	B 1,422	A 1,689	2,957	24,148	
Current	B 13,965	B 696	K 1,219	A 1,475	2,147	19,502	

BMID Serviced by Black Mountain Irrigation District

SEKID Serviced by South East Kelowna Irrigation District

RWW Serviced by Rutland Water Works

GEID Serviced by Glenmore Ellison Irrigation District

N/A Not Applicable as Sewer will not be in that area within the 20 Year period

2. Residential 3 - Apartments up to 4 Storeys - by growth area - by service type
Comparison to current rates

GROWTH AREA	Sector / Rate						
	Roads	Water	Sewer Trunks	Treatment	Parks	Total	
City Centre (Updated)	I 2,863	A 723	A 544	A 946	2,957	8,033	
Current	I 1,999	A 669	A 489	A 826	2,147	6,130	
Clifton/Glen. Hghld (Updated)	I 2,863	D 1,281	A 544	A 946	2,957	8,591	
Current	I 1,999	D 1,202	A 489	A 826	2,147	6,663	
Glenmore Valley (Updated)	I 2,863	GEID	A 544	A 946	2,957	7,310	
Current	I 1,999	GEID	A 489	A 826	2,147	5,461	
Rutland (Updated)	I 2,863	RWW	A 544	A 946	2,957	7,310	
Current	I 1,999	RWW	A 489	A 826	2,147	5,461	
North East Rutland (Updated)	C 4,693	BMID	A 544	A 946	2,957	9,140	
Current	C 3,449	BMID	A 489	A 826	2,147	6,911	
Hwy 33 - North East (Updated)	D 5,556	BMID	A 544	A 946	2,957	10,003	
Current	D 4,088	BMID	A 489	A 826	2,147	7,550	
Hwy 33 - South West (Updated)	F 4,221	BMID	A 544	A 946	2,957	8,668	
Current	D 3,212	BMID	A 489	A 826	2,147	6,674	
University / Airport (Updated)	E 5,322	GEID	A 544	A 946	2,957	9,769	
Current	E 4,081	GEID	A 489	A 826	2,147	7,543	
McKinley (Updated)	E 5,322	GEID	N/A	N/A	2,957	8,279	
Current	E 4,081	GEID	N/A	N/A	2,147	6,228	
Hall Road (Updated)	I 2,863	SEKID	A 544	A 946	2,957	7,310	
Current	I 1,999	SEKID	A 489	A 826	2,147	5,461	
Southeast Kelowna (Updated)	A 6,766	SEKID	N/A	N/A	2,957	9,723	
Current	A 4,960	SEKID	N/A	N/A	2,147	7,107	
S.W. Mission (Updated)	B 9,297	B 564	B 796	A 946	2,957	14,560	
Current	B 7,681	B 334	K 683	A 826	2,147	11,671	

BMID Serviced by Black Mountain Irrigation District

RWW Serviced by Rutland Water Works

SEKID Serviced by South East Kelowna Irrigation District

GEID Serviced by Glenmore Ellison Irrigation District

N/A Not Applicable as Sewer will not be in that area within the 20 Year period

3. Commercial - rate per 1,000 Sq.Ft. - by growth area - by service type

Comparison to current rates

GROWTH AREA	Sector / Rate						Total
	Roads	Water	Sewer Trunks	Treatment	Parks		
City Centre (Updated)	I 1,602	A 580	A 374	A 650	N/A		3,206
Current	I 1,118	A 536	A 336	A 567	N/A		2,557
Clifton/Glen. Hghld (Updated)	I 1,602	D 1,027	A 374	A 650	N/A		3,653
Current	I 1,118	D 963	A 336	A 567	N/A		2,984
Glenmore Valley (Updated)	I 1,602	GEID	A 374	A 650	N/A		2,626
Current	I 1,118	GEID	A 336	A 567	N/A		2,021
Rutland (Updated)	I 1,602	RWW	A 374	A 650	N/A		2,626
Current	I 1,118	RWW	A 336	A 567	N/A		2,021
North East Rutland (Updated)	C 2,625	BMID	A 374	A 650	N/A		3,649
Current	C 1,930	BMID	A 336	A 567	N/A		2,833
Hwy 33 - North East (Updated)	D 3,108	BMID	A 374	A 650	N/A		4,132
Current	D 2,287	BMID	A 336	A 567	N/A		3,190
Hwy 33 - South West (Updated)	F 2,362	BMID	A 374	A 650	N/A		3,386
Current	D 1,797	BMID	A 336	A 567	N/A		2,700
University / Airport (Updated)	E 2,978	GEID	A 374	A 650	N/A		4,002
Current	E 2,283	GEID	A 336	A 567	N/A		3,186
McKinley (Updated)	E 2,978	GEID	N/A	N/A	N/A		2,978
Current	E 2,283	GEID	N/A	N/A	N/A		2,283
Hall Road (Updated)	I 1,602	SEKID	A 374	A 650	N/A		2,626
Current	I 1,118	SEKID	A 336	A 650	N/A		2,104
Southeast Kelowna (Updated)	A 3,785	SEKID	N/A	N/A	N/A		3,785
Current	A 2,775	SEKID	N/A	N/A	N/A		2,775
S.W. Mission (Updated)	B 5,201	B 452	B 547	A 650	N/A		6,850
Current	B 4,297	B 268	K 469	A 567	N/A		5,601

BMID Serviced by Black Mountain Irrigation District

RWW Serviced by Rutland Water Works

SEKID Serviced by South East Kelowna Irrigation District

GEID Serviced by Glenmore Ellison Irrigation District

N/A Not Applicable as Sewer will not be in that area within the 20 Year period

NOTE: Institutional rate is the same as commercial except the existing drainage charge is \$70 less and Schools to grade 12 and College Residences are not charged Roads DCC.

4. Industrial - rate per acre - by growth area - by service type
Comparison to current rates

GROWTH AREA	Sector / Rate						Total
	Roads	Water	Sewer Trunks	Treatment	Parks		
City Centre (Updated)	I 5,206	A 4,220	A 2,720	A 4,730	N/A		16,876
Current	I 3,634	A 3,901	A 2,447	A 4,130	N/A		14,112
Clifton/Glen. Hghld (Updated)	I 5,206	D 7,475	A 2,720	A 4,730	N/A		20,131
Current	I 3,634	D 7,014	A 2,447	A 4,130	N/A		17,225
Glenmore Valley (Updated)	I 5,206	GEID	A 2,720	A 4,730	N/A		12,656
Current	I 3,634	GEID	A 2,447	A 4,130	N/A		10,211
Rutland (Updated)	I 5,206	RWW	A 2,720	A 4,730	N/A		12,656
Current	I 3,634	RWW	A 2,447	A 4,130	N/A		10,211
North East Rutland (Updated)	C 8,532	BMID	A 2,720	A 4,730	N/A		15,982
Current	C 6,271	BMID	A 2,447	A 4,130	N/A		12,848
Hwy 33 - North East (Updated)	D 10,102	BMID	A 2,720	A 4,730	N/A		17,552
Current	D 7,433	BMID	A 2,447	A 4,130	N/A		14,010
Hwy 33 - South West (Updated)	F 7,675	BMID	A 2,720	A 4,730	N/A		15,125
Current	D 5,840	BMID	A 2,447	A 4,130	N/A		12,417
University / Airport (Updated)	E 9,677	GEID	A 2,720	A 4,730	N/A		17,127
Current	E 7,420	GEID	A 2,447	A 4,130	N/A		13,997
McKinley (Updated)	E 9,677	GEID	N/A	N/A	N/A		9,677
Current	E 7,420	GEID	N/A	N/A	N/A		7,420
Hall Road (Updated)	I 5,206	SEKID	A 2,720	A 4,730	N/A		12,656
Current	I 3,634	SEKID	A 2,447	A 4,130	N/A		10,211
Southeast Kelowna (Updated)	A 12,302	SEKID	N/A	N/A	N/A		12,302
Current	A 9,018	SEKID	N/A	N/A	N/A		9,018
S.W. Mission (Updated)	B 16,904	B 3,291	B 3,981	A 4,730	N/A		28,906
Current	B 13,965	B 1,948	K 3,413	A 4,130	N/A		23,456

BMID Serviced by Black Mountain Irrigation District

RWW Serviced by Rutland Water Works

SEKID Serviced by South East Kelowna Irrigation District

GEID Serviced by Glenmore Ellison Irrigation District

N/A Not Applicable as Sewer will not be in that area within the 20 Year period

5. Updated Development Cost Charge Rates

ARTERIAL ROADS

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A SE Kelowna	Sector B South Mission	Sector C NE of Inner City	Sector D N of Hwy 33	Sector F S of Hwy 33	Sector E N of Inner City	Sector I Inner City
Residential 1	12,302	16,904	8,532	10,102	7,675	9,677	5,206
Residential 2	9,841	13,523	6,826	8,082	6,140	7,742	4,165
Residential 3	6,766	9,297	4,693	5,556	4,221	5,322	2,863
Residential 4	6,397	8,790	4,437	5,253	3,991	5,032	2,707
Commercial - Per 1,000 sq ft	3,785	5,201	2,625	3,108	2,362	2,978	1,602
Institutional A - Per 1,000 sq ft	3,785	5,201	2,625	3,108	2,362	2,978	1,602
Institutional B - Per 1,000 sq ft	0	0	0	0	0	0	0
Industrial/Campground Per Acre	12,302	16,904	8,532	10,102	7,675	9,677	5,206
Current Single Family Res. Rate	9,018	13,965	6,271	7,433	5,840	7,420	3,634

WATER

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A Inner City	Sector B South Mission	Sector D Glenmore/ Clifton
Residential 1	1,507	1,176	2,670
Residential 2	1,010	788	1,789
Residential 3	723	564	1,281
Residential 4	512	400	908
Commercial - Per 1,000 sq ft	580	452	1,027
Institutional A - Per 1,000 sq ft	580	452	1,027
Institutional B - Per 1,000 sq ft	580	452	1,027
Industrial/Campground Per Acre	4,220	3,291	7,475
Current Single Family Res. Rate	1,393	696	2,505

WASTEWATER TRUNK MAINS

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A Inner City	Sector B South Mission
Residential 1	972	1,422
Residential 2	806	1,180
Residential 3	544	796
Residential 4	525	768
Commercial - Per 1,000 sq ft	374	547
Institutional A - Per 1,000 sq ft	374	547
Institutional B - Per 1,000 sq ft	374	547
Industrial/Campground Per Acre	2,720	3,981

Current Single Family Res. Rate	874	1,219
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WASTEWATER TREATMENT

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A All City
Residential 1	1,689
Residential 2	1,402
Residential 3	946
Residential 4	912
Commercial - Per 1,000 sq ft	650
Institutional A - Per 1,000 sq ft	650
Institutional B - Per 1,000 sq ft	650
Industrial/Campground Per Acre	4,730

Current Single Family Res. Rate	1,475
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PARKLAND - PUBLIC OPEN SPACE

Development Cost Charges Applicable to Development Within the Municipality

Development Type	Sector A All City
Residential 1	2,957
Residential 2	2,957
Residential 3	2,957
Residential 4	2,957
Commercial - Per 1,000 sq ft	-
Institutional A - Per 1,000 sq ft	-
Institutional B - Per 1,000 sq ft	-
Industrial/Campground Per Acre	-

Current Single Family Res. Rate	2,147
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CITY OF KELOWNA

BYLAW NO. 9515

A Bylaw to impose Development Cost Charges pursuant to the provisions of the Local Government Act, R.S.B.C, 1996, Chapter 323, as amended

WHEREAS pursuant to the Local Government Act, R.S.B.C., 2000, Chapter 323, as amended, and Regulations passed pursuant thereto, the Council of the City of Kelowna may, by bylaw, impose development cost charges;

AND WHEREAS development cost charges may be imposed for the purpose of providing funds to assist the municipality in paying the capital cost of providing, constructing, altering, or expanding sewage, water, drainage and highway facilities, other than off-street parking facilities and public parks or any of them, in order to serve directly or indirectly, the development in respect of which the charges are imposed;

AND WHEREAS the Council of the City of Kelowna has deemed the charges imposed by this bylaw:

- (a) are not excessive in relation to the capital cost of prevailing standards of service in the municipality;
- (b) will not deter development in the municipality; and
- (c) will not discourage the construction of reasonably priced housing or the provision of reasonably priced serviced land in the municipality;

AND WHEREAS Council has considered the charges imposed by this bylaw as related to future land use patterns and development, the phasing of works and services and the provision of park land described in an Official Community Plan;

AND WHEREAS in the opinion of the Council, the charges imposed by this Bylaw are related to capital costs attributable to projects included in the capital budget, and to capital projects consistent with the Official Community Plan of the Municipality.

NOW THEREFORE the Municipal Council of the City of Kelowna, in open meeting assembled, ENACTS AS FOLLOWS:

PART 1 – SHORT TITLE

- 1.1 This bylaw may be cited for all purposes as “Kelowna Development Cost Charge Bylaw No. 9095”.

PART 2 - DEFINITIONS

2.1 For the purpose of this bylaw, the definitions of words and phrases that are not included in this section shall have the meaning assigned to them in the Local Government Act.

2.2 In this bylaw:

"Building" means any construction used or intended for supporting or sheltering any use or occupancy and includes a mobile home.

"Building Area" means the dimensional area enclosed by the exterior perimeter of a structure, including covered areas for the accommodation of permitted uses, excluding areas for parking required by the Zoning Bylaw.

"Building Lot" means the smallest unit into which land is subdivided as shown on the records of the Land Title Office.

"Campground" means a campground development in the C9 (Tourist Commercial) zone, or a similar development in another zone permitted in accordance with the Zoning Bylaw.

"Commercial" means a commercial development in a zone listed in Section 14 of the Zoning Bylaw, or a similar development in another zone permitted in accordance with the Zoning Bylaw, in which the predominant use, as determined by its general purpose and list of principal uses, is of a commercial nature, including but not limited to uses such as golf course facilities and commercial ventures in agricultural zones such as retail or administrative functions, boarding and breeding kennels, riding stables, fruit and vegetable stands, cottage wineries and veterinary services.

"Construct" includes build, erect, install, repair, alter, add, enlarge, move, locate, relocate, reconstruct, demolish, remove, excavate or shore.

"Construction" includes building, erection, installation, repair, alteration, addition, enlargement, moving, locating, relocating, reconstruction, demolition, removal, excavation, or shoring.

"Developable Land" means all areas that are able (usable) to be developed (excludes creeks, lakes, steep slopes, permit areas not allowing development).

"Developed Land" means that portion or area of a lot containing any improvements for the accommodation of a structure, storage, parking, landscaping or any entity, thing or device to facilitate the permitted use.

"Floor Area" means the sum of the gross horizontal area of all floors of a building.

"Group Home" means a care facility licensed as required under the Community Care Facility Act to provide room and board for residents with physical, mental, social, or behavioural problems that require professional care, guidance and supervision. These facilities are considered under the Institutional B category.

"Industrial" means an industrial development in a zone listed in Section 15 of the Zoning Bylaw, or a similar development in another zone permitted in accordance with the Zoning Bylaw, in which the predominant use, as determined by its general purpose and list of permitted uses, is of an industrial nature. It includes all industrial uses and agricultural uses such as greenhouses outside of an agricultural zone, mushroom farms, retail nurseries, manufacturing & processing plants for agriculture related products and commercial businesses.

"Institutional A" means development of an institutional nature in a zone listed in Section 16 of the Zoning Bylaw, or a similar development permitted in another zone in accordance with the Zoning Bylaw, but excludes public and separate schools up to Grade 12 and residences or dormitories for Post-Secondary schools.

"Institutional B" means a development of a public or separate school up to Grade 12 and residences or dormitories for Post-Secondary schools or a development of a similar nature. Also includes Lodging Houses and Group Homes.

"Lodging House" means a building in which the owner may supply accommodation for their family, and sleeping unit accommodation, for remuneration, for not more than ten residents. It may or may not include meal service. These facilities are considered under the Institutional B category.

"Mobile Home" means a transportable single family dwelling unit meeting minimum Canadian Standards Association Z-240 or A-277, or National Building Code Standards, suitable for long term occupancy, and designed to be transported on wheels.

"Mobile Home Park" means land used or occupied by any person for the purposes of providing spaces for the accommodation of two or more mobile homes and for imposing a charge or rental for the use of such space.

"Municipality" means the municipal corporation of the City of Kelowna.

"Net Hectare" means a hectare of land which includes developable areas but not undevelopable areas or areas given over to the development of streets, lanes or open spaces (dedicated parklands).

"Residential" means all residential development in all Agricultural (A), Rural Residential (RR), Urban Residential (RU & RM), Commercial (C), Public and Institutional (P), Comprehensive Development (CD) and Industrial (I) zones where residential development is permitted in accordance with the Zoning Bylaw.

"Residential Dwelling Unit" means one or more habitable rooms with self-contained sleeping, living, cooking and sanitary facilities and direct access to the open air without passing through any other similar unit.

"Residential 1" – developments with a density of not more than 15 residential dwelling units per net hectare (generally single family, secondary suite, duplex)

"Residential 2" – developments with a density greater than 15 and less than or equal to 35 residential dwelling units per net hectare (generally small lot single family, row housing)

"Residential 3" - developments with a density greater than 35 and less than or equal to 85 residential dwelling units per net hectare (generally row housing and up to four storey apartment buildings)

"Residential 4" - developments with a density greater than 85 residential dwelling units per net hectare (generally apartments greater than four storeys)

"Sector" means a prescribed geographical portion or area of the municipality within which a development cost charge is levied.

"Structure" shall include, but necessarily be limited to, the providing, construction, altering, or expanding of sewage, water, drainage, and highway facilities in the RM7 (Mobile Home Park) zone of the Zoning Bylaw other than off-street parking facilities and providing and improving parkland to service, directly or indirectly, the mobile home park development for which the charge is being imposed pursuant to this Bylaw.

"Zone" means the zones identified and defined in City of Kelowna Zoning Bylaw No. 8000. Properties with an 's' or a 'b' as part of the designation shall be in the same category as the parent zone (for example, RU1 category covers RU1s and RU6 category covers RU6b).

"Zoning Bylaw" means the City of Kelowna Zoning Bylaw No. 8000 as amended from time to time.

PART 3 – DEVELOPMENT COST CHARGES

3.1 Those Development Cost Charges set out in Schedule "A" attached hereto and forming part of this bylaw, are hereby imposed on every person who obtains:

- (a) approval of a subdivision, or
- (b) a building permit authorizing the construction, alteration or extension of a building or structure,

in the Municipality.

3.2 As an exception to section 3.1 above, no development cost charges are required to be paid where:

- (a) the development does not impose any new capital cost burden on the Municipality; or
- (b) a development cost charge has previously been paid for the same development unless, as a result of a further development, new capital cost burdens will be imposed on the Municipality; or
- (c) the building permit authorizes the construction, alteration or extension of a building or part of a building that is, or will be after construction, alteration or extension, exempt from taxation under section 220 (1)(h) [*statutory exemption for places of public worship*] or 224(2)(f) [*permissive*]

exemptions in relation to places of public worship] of the Community Charter; or

- (d) the building permit authorizes the construction, alteration, or extension of a building that will, after the construction, alteration, or extension:
 - (i) contain less than four (4) self-contained dwelling units; and
 - (ii) be put to no use other than the residential use in those dwelling units; or
- (e) the value of the work authorized by a building permit does not exceed \$50,000 or any other amount the minister may, by regulation, prescribe.

3.4 A development is not exempt from payment of applicable development cost charges if the application for development which might otherwise qualify under sections 3 (d) or (e) above relates to a single site which, if more fully developed, would allow 4 or more self contained residential dwelling units, or for which the total value of the work possible would exceed \$50,000.

PART 4 – CALCULATION OF APPLICABLE CHARGES

- 4.1 The amount of development cost charges payable in relation to a particular application shall be calculated using the applicable charges set out in Schedule "A" and applicable number of development units or development area.
- 4.2 Where a type of development is not identified on Schedule A, the amount of development cost charges to be paid to the Municipality shall be equal to the development cost charges that would have been payable for the most comparable type of development.
- 4.3 The amount of development cost charges payable in relation to a mixed use type of development shall be calculated separately for each portion of the development, according to the separate use types, which are included in the building permit application and shall be the sum of the charges payable for each type.

PART 5 – REPEAL and EFFECTIVE DATE

The Municipal Council of the City of Kelowna, in open meeting assembled, enacts as follows:

- 1. THAT "Kelowna Development Cost Charge Bylaw No. 9095" be amended by replacing Schedule "A" with a new Schedule "A" as attached to and forming part of this bylaw.

2. This bylaw shall be cited for all purposes as 'Bylaw No. 9515, being Amendment No. 2 to Kelowna Development Cost Charge Bylaw No. 9095'.
3. This amending bylaw shall come into full force and effect and be binding on all persons as and from the date of final adoption.

Read a first, second and third time by the Municipal Council this 17th day of October, 2005.

Approved by the Inspector of Municipalities this day of , 2005.

Adopted by the Municipal Council of the City of Kelowna this day of , 2005.

Mayor

City Clerk

Development Cost Charges for All Services Applicable to Development Within the Municipality

<u>SERVICE AREA</u>	<u>Sector</u>	<u>Residential 1</u> To 15 Units/Hectare (Each Lot or Unit)	<u>Residential 2</u> >15-35 Units/Hectare (Each Lot or Unit)	<u>Residential 3</u> >35-85 Units/Hectare (Each Lot or Unit)	<u>Residential 4</u> Greater Than 85 Units/Hectare (Each Lot or Unit)	<u>Commercial</u> For 1st 1,000 sq. ft. of floor area or portion; 1/1,000th the rate for per sq. ft. over 1,000	<u>Institutional "A"</u> For 1st 1,000 sq. ft. of floor area or portion; 1/1,000th the rate for per sq. ft. over 1,000	<u>Institutional "B"</u> For 1st 1,000 sq. ft. of floor area or portion; 1/1,000th the rate for per sq. ft. over 1,000	<u>Industrial/ Campground</u> Minimums	<u>Industrial/ Campground</u> Per Acre Over Minimum Developable Land
<u>ROADS</u>										
SE Kelowna	R-A	12,302	9,841	6,766	6,397	3,785	3,785		12,302 - 1st acre/portion	12,302
South Mission	R-B	16,904	13,523	9,297	8,790	5,201	5,201		16,904 - 1st acre/portion	16,904
NE Rutland	R-C	8,532	6,826	4,693	4,437	2,625	2,625		8,532 - 1st acre/portion	8,532
Bell Mountain	R-D	10,102	8,082	5,556	5,253	3,108	3,108		10,102 - 1st acre/portion	10,102
Gallagher Ridge	R-F	7,675	6,140	4,221	3,991	2,362	2,362		7,675 - 1st acre/portion	7,675
Univ. S./S. Mckinley	R-E	9,677	7,742	5,322	5,032	2,978	2,978		9,677 - 1st acre/portion	9,677
City Centre - Note 1	R-1	5,206	4,165	2,863	2,707	1,602	1,602		5,206 - 1st acre/portion	5,206
<u>WATER</u>										
City Centre - Note 2	W-A	1,507	1,010	723	512	580	580	580	1,507 -1st .36 acre/portion	4,220
South Mission	W-B	1,176	788	564	400	452	452	452	1,176 -1st .36 acre/portion	3,291
Clifton/Glenmore	W-D	2,670	1,789	1,281	908	1,027	1,027	1,027	2,670 -1st .36 acre/portion	7,475
<u>TRUNKS</u>										
City Centre - Note 3	S-A	972	806	544	525	374	374	374	972 -1st .36 acre/portion	2,720
South Mission	S-B	1,422	1,180	796	768	547	547	547	1,422 -1st .36 acre/portion	3,981
<u>TREATMENT</u>										
City Centre - Note 3 and South Mission	T-A	1,689	1,402	946	912	650	650	650	1,689 -1st .36 acre/portion	4,730
<u>PARKS</u>										
	P-A	2,957	2,957	2,957	2,957	Exempt	Exempt	Exempt	Exempt	Exempt

NOTES

1. City Centre; Dilworth Periphery; North Spec 7; South Spec 7; Central Mission; Clifton; Glenmore Highlands; Glenmore Valley; Rutland; South of Hwy 97; Sexsmith; Hall road
2. City Centre; Dilworth Periphery; North Spec 7; South Spec 7; Central Mission
3. City Centre; Dilworth Periphery; North Spec 7; South Spec 7; Central Mission; Clifton; Glenmore Highlands; Glenmore Valley; Rutland; South of Hwy 97; Sexsmith; Hall Road; NE Rutland; University South; S. Mckinley; Bell Mountain; Gallagher Ridge

Roads - Charges are Net of "Assist Factor" of 15%

Wastewater Trunks/Treatment - Charges are Net of "Assist Factor" of 1%

Water - Charges are Net of "Assist Factor" of 1%

- Areas not noted above are provided water by suppliers other than the City

Parks - Charges are Net of "Assist Factor" of 10%

General - 1,000 square feet is considered to be the equivalent of 92.9 meters

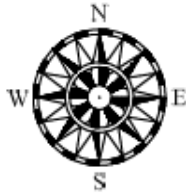
- sector designations denote geographical areas as designated on attached Sector maps A1 to A5

Commercial or Institutional Calculation

The measurement unit for Commercial and Institutional development is square feet of floor area. The calculation of floor area of a commercial or institutional building is based on the gross floor area which is measured from the outside edge of all exterior walls, less the area used for parking of motor vehicles and bicycles in the building permit application.

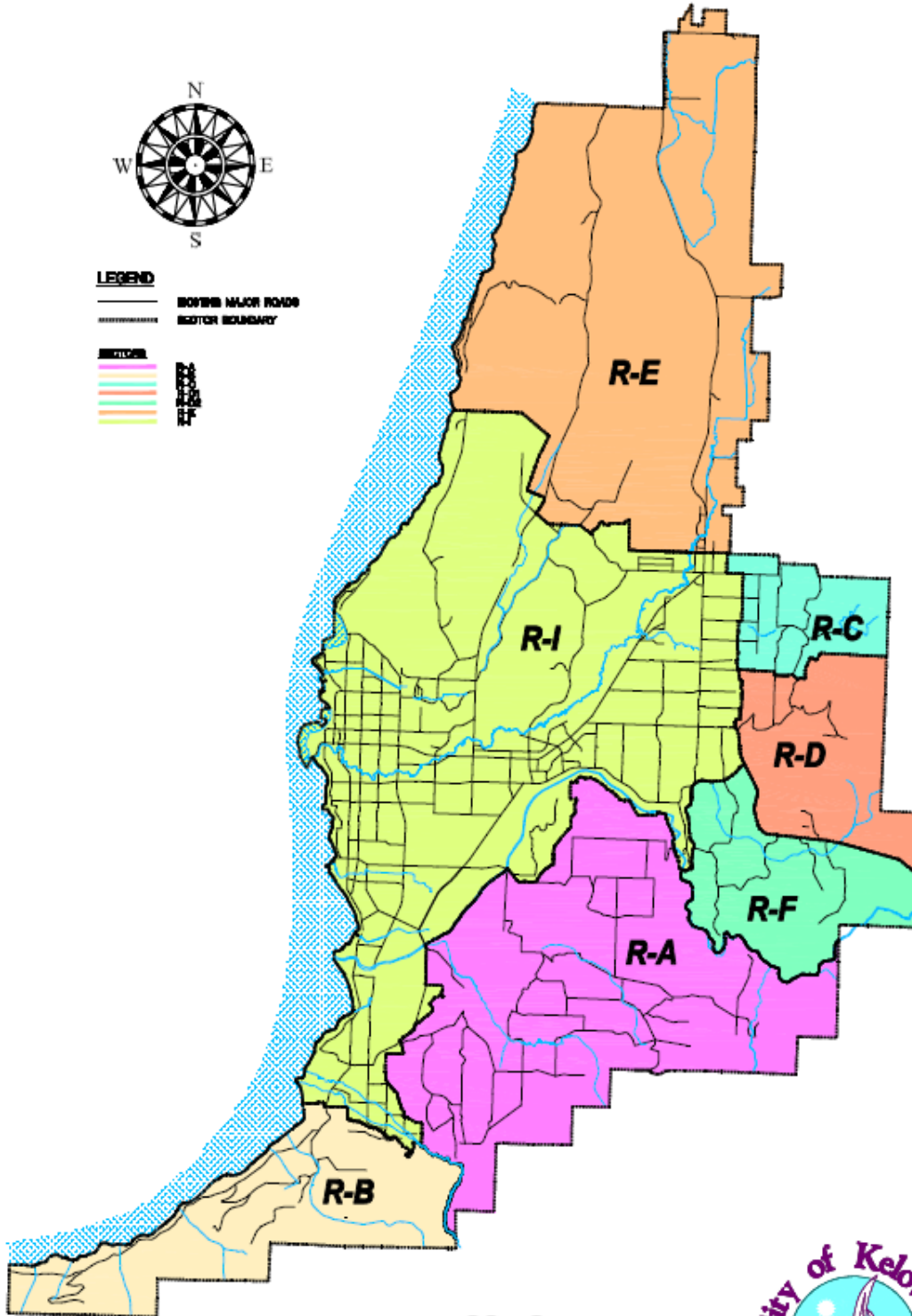
Industrial Calculation

The measurement unit for Industrial development is acres of site area. The calculation of industrial site area is based on the gross area of the site that is proposed for development in a building permit application, including access, parking and loading and excludes landscaped areas and the undeveloped portion of the site that is being held in it's pre-developed state for future additional development (1 acre minimum).



LEGEND

-  BOTTLE NECK ROAD
-  SECTOR BOUNDARY
-  SECTOR



**2020 DCC ROADWAY
SECTOR PLAN**



FEBRUARY 2003
KEY PLAN
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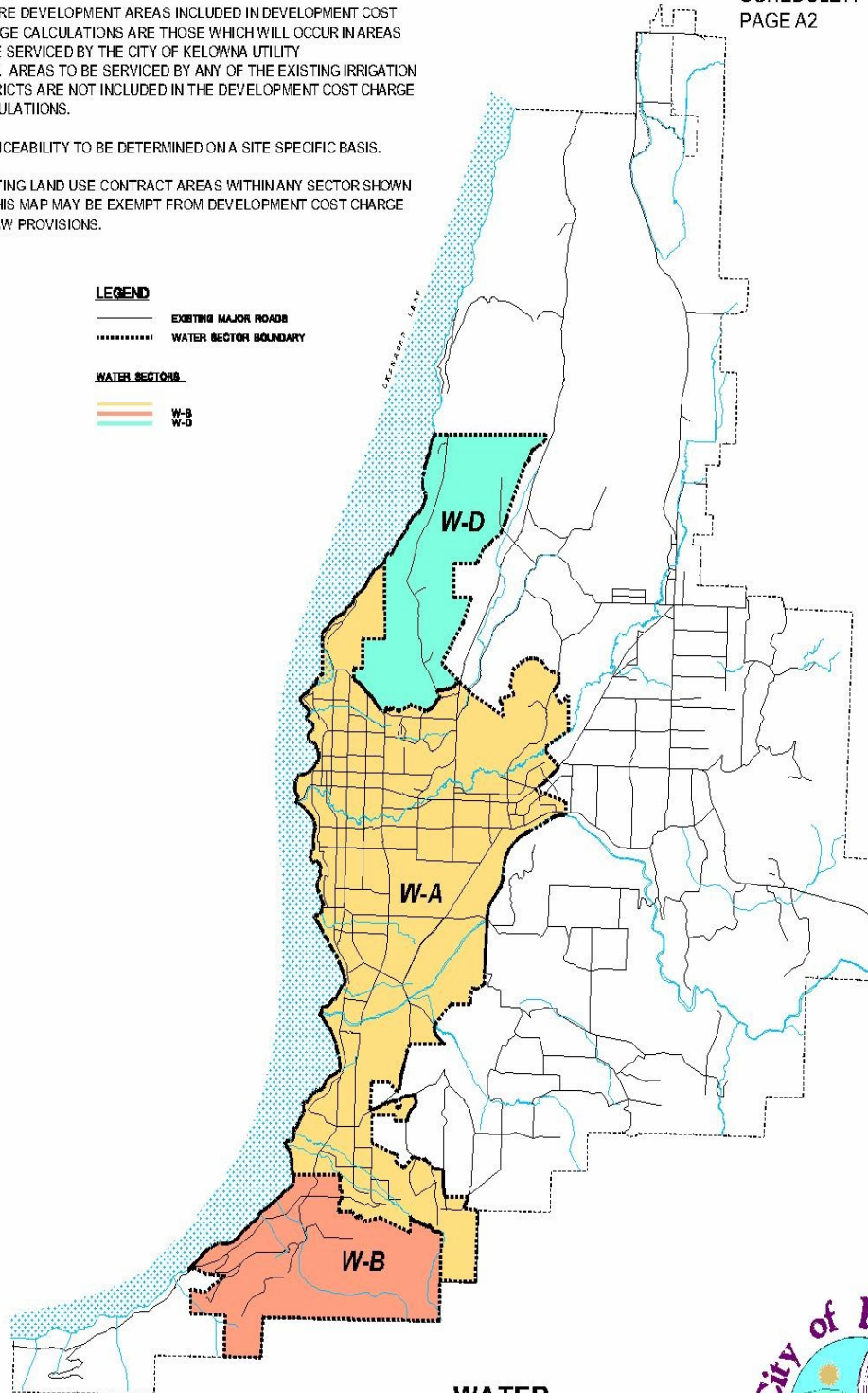
NOTES:

FUTURE DEVELOPMENT AREAS INCLUDED IN DEVELOPMENT COST CHARGE CALCULATIONS ARE THOSE WHICH WILL OCCUR IN AREAS TO BE SERVICED BY THE CITY OF KELOWNA UTILITY ONLY. AREAS TO BE SERVICED BY ANY OF THE EXISTING IRRIGATION DISTRICTS ARE NOT INCLUDED IN THE DEVELOPMENT COST CHARGE CALCULATIONS.

SERVICEABILITY TO BE DETERMINED ON A SITE SPECIFIC BASIS.

EXISTING LAND USE CONTRACT AREAS WITHIN ANY SECTOR SHOWN ON THIS MAP MAY BE EXEMPT FROM DEVELOPMENT COST CHARGE BY-LAW PROVISIONS.

BY-LAW NO. 9095
SCHEDULE A
PAGE A2



FEBRUARY 2003
KEY PLAN
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**WATER
SECTOR PLAN**



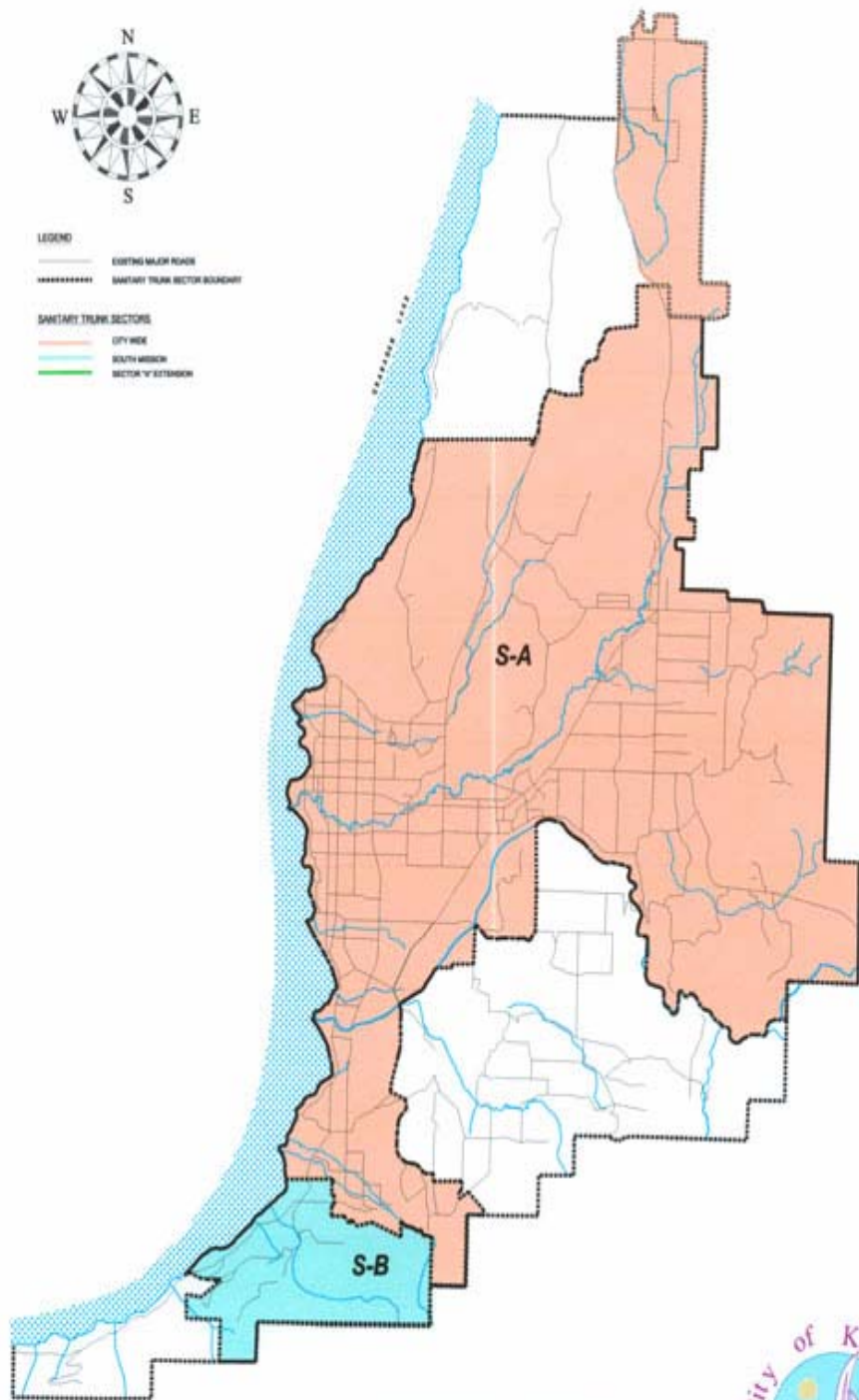


LEGEND

- EXISTING MAJOR ROAD
- ***** SANITARY TRUNK SECTOR BOUNDARY

SANITARY TRUNK SECTORS

- CITY WIDE
- SOUTH WISDOM
- SECTOR "V" EXTENSION



**SANITARY TRUNK
SECTOR PLAN**

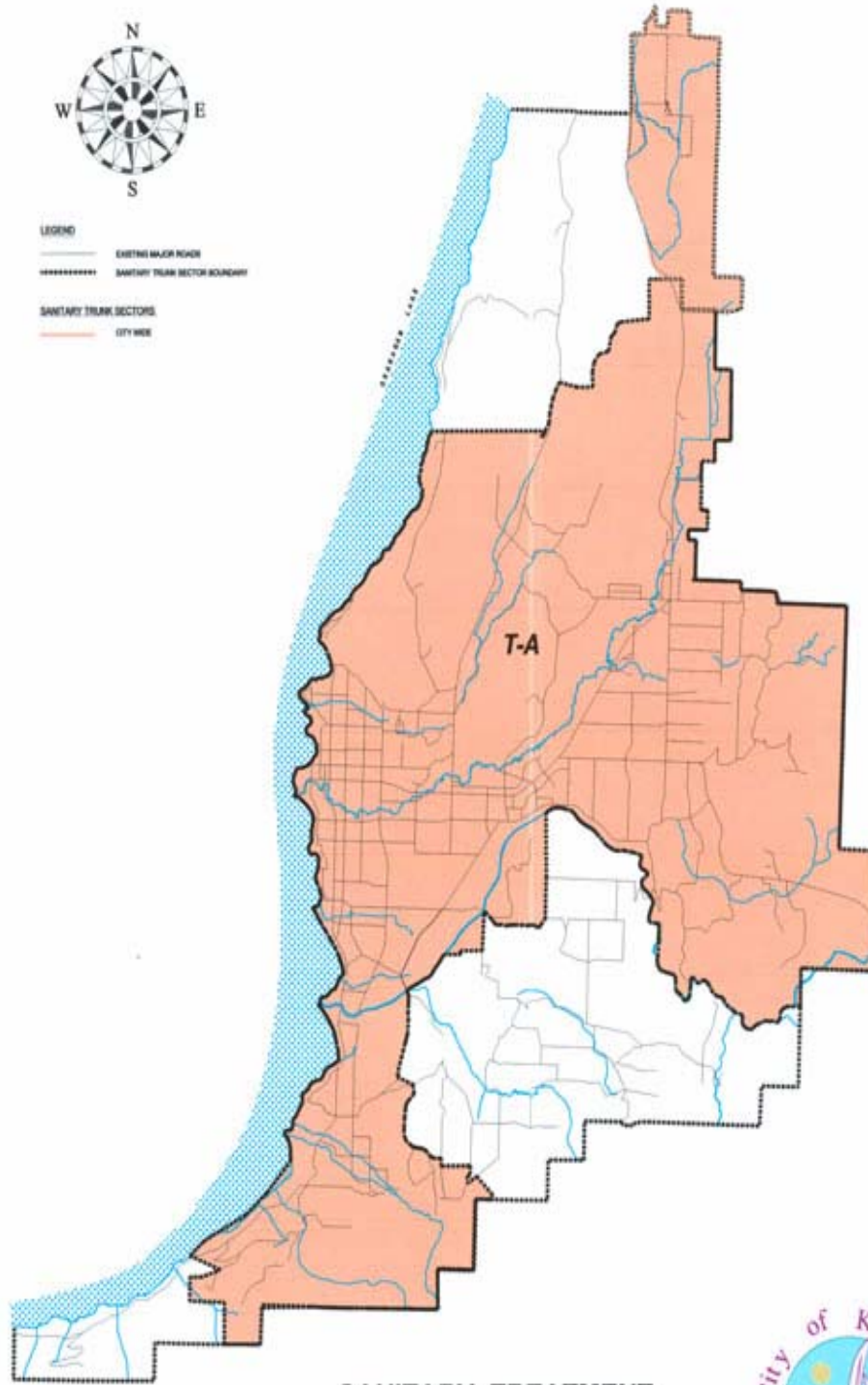


OCTOBER 2005
KEY PLAN

PLAN PREPARED BY: SANITARY TRUNK SECTOR PLAN



- LEGEND
- EXISTING MAJOR ROADS
 - SANITARY TRUNK SECTOR BOUNDARY
 - SANITARY TRUNK SECTORS
 - CITY WIDE



Dr. V. GONZALEZ/SANITARIUS ENGINEERS

OCTOBER 2005
KEY PLAN

SANITARY TREATMENT SECTOR PLAN



NOTES:

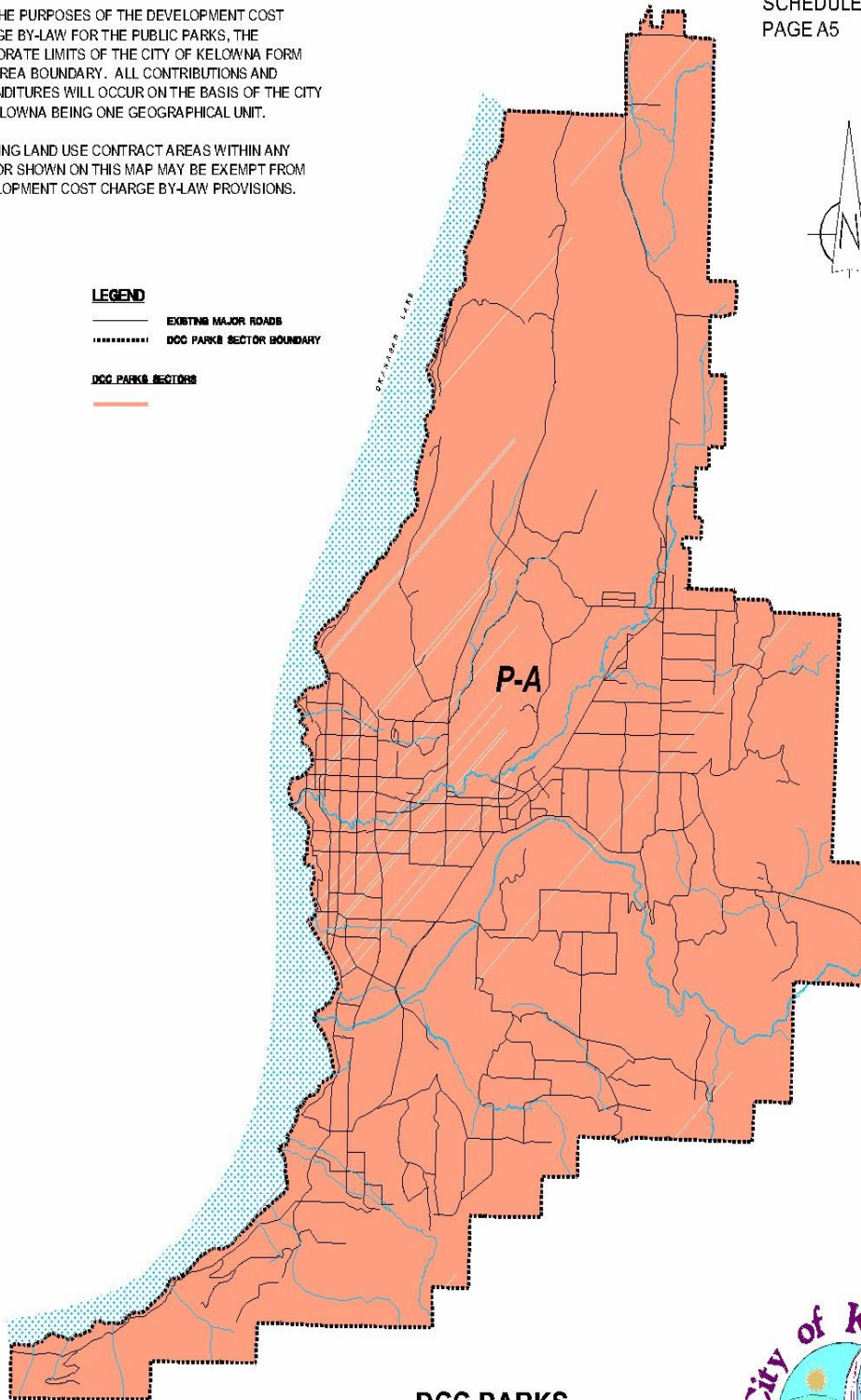
FOR THE PURPOSES OF THE DEVELOPMENT COST CHARGE BY-LAW FOR THE PUBLIC PARKS, THE CORPORATE LIMITS OF THE CITY OF KELOWNA FORM THE AREA BOUNDARY. ALL CONTRIBUTIONS AND EXPENDITURES WILL OCCUR ON THE BASIS OF THE CITY OF KELOWNA BEING ONE GEOGRAPHICAL UNIT.

EXISTING LAND USE CONTRACT AREAS WITHIN ANY SECTOR SHOWN ON THIS MAP MAY BE EXEMPT FROM DEVELOPMENT COST CHARGE BY-LAW PROVISIONS.

BY-LAW NO. 9095
SCHEDULE A
PAGE A5

LEGEND

- EXISTING MAJOR ROADS
- DCC PARKS SECTOR BOUNDARY
- DCC PARKS SECTORS



FEBRUARY 2003
KEY PLAN
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**DCC PARKS
SECTOR PLAN**

