Supports Item No. 4
CS&B Committee Agenda
May 12, 2005

CITY OF **VANCOUVER**

ADMINISTRATIVE REPORT

Date:	April 26, 2005
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CC File No.:	1602
Meeting Date:	May 12, 2005

TO: Standing Committee on City Services and Budgets

FROM: General Manager of Engineering Services

SUBJECT: 2005 Engineering Basic Capital Budget

RECOMMENDATION

A. THAT the 2005 Streets, Street Lighting, Communications, and Yards Basic Capital Budget totalling $25,987,000 as summarized in this report and detailed in Appendix 1 be approved, with funding as follows:

- $22,022,000 to be provided from borrowing approved by plebiscite as part of the 2003-2005 Capital Plan for Streets, Communications, Street Lighting, and Yards components of the budget;
- $1,265,000 to be provided from 2005 Capital from Revenue;
- $2,700,000 to be provided from the $20 million of borrowing authority approved by the voters in 2002 for the City's share of cost shared capital projects.

The total funding includes $5,700,000 for Streets Capital that has been approved in advance by Council in previous reports ($3 million for Arterial Streets Reconstruction and $2.7 million for Burrard Bridge Seismic Upgrades).

B. THAT Council approve the allocation of $770,000 from Streets Local Area Improvements approved in the 2003-2005 Capital Plan to the 2005 Sidewalk program. Varying the purpose of the Capital funds approved by plebiscite requires approval by a two-thirds majority of Council.

C. THAT the 2005 Sewers Basic Capital Budget totalling $18,410,000 as summarized in this report and detailed in Appendix 1, be approved. Funding to be provided in new borrowing approved under Council authority for the 2003 - 2005 Capital Plan, for the Sewer component of the budget.

D. That the 2005 Waterworks Basic Capital Budget totalling $15,187,000 as summarized in this report and detailed in Appendix 1, be approved. Funding, to be provided in new borrowing approved under Council authority for the 2003 – 2005 Capital Plan, for the Water component of the budget.

E. That the Capital closeouts as detailed in Appendix 2 be approved and that the required funding allocations be brought into the Capital Account Structure as indicated.

COUNCIL POLICY

In October 2002, Council approved the 2003-2005 Capital Plan which set a level of funding for specific Capital programs over those three years. Through plebiscite, voters approved borrowing authority for the Public Works portion, excluding the Sewers and Waterworks Capital Plans, which are approved by Council.

Funding from the Capital Plan is allocated to specific capital programs through annual Capital Budgets. Funding for annual Capital Budgets is provided from a combination of borrowed funds, as approved in the plebiscite, and revenue funds, with the revenue portion being subject to approval of Capital from Revenue in the Operating Budget. Council approval of the annual Capital Budget is required before work can proceed on specific projects.

Closeout of completed Capital projects, whose expenditures exceed $50,000 and 15% of the approved budgets, require Council approval.

In June 1995, Council directed departments to use CityPlan to guide policy decisions, corporate work priorities, budgets and Capital Plans.

Major policies for Engineering Services Programs are summarized below:

Streets

Transportation

In 1997 the Vancouver Transportation Plan was approved by Council, and in 2002 Council approved the Downtown Transportation Plan. There are many policies in these Transportation Plans which have Capital Budget implications. For example, Action Item “F2" in the Vancouver Transportation Plan indicates the priority for pedestrians, bikes and transit require funding to support these modes. Re-allocations to support these priorities were made in the 2003-2005 Capital Plan and are reflected in the annual budgets.

Bicycles / Greenways

The Clouds of Change Report (1990), CityPlan (1995), the Vancouver Greenways Plan (1995), the Vancouver Transportation Plan (1997), the Bicycle Plan (1999) and the Downtown Transportation Plan (2002) establish the City's policy prioritizing pedestrians and promoting and encouraging cycling as a transportation alternative. Greenways also address the growing

needs on the part of communities to have a voice in the design and use of the urban landscape.

Sidewalks

It is Council policy to give sidewalks high priority and to provide walks on:

- both sides of arterial streets;
- one or both sides of pedestrian collector routes as required;
- both sides of streets in multiple dwelling, commercial and industrial zones;
- in residential areas as requested by petition; and,
- adjacent to parks, schools and other exempt property, as funding allows.

Transit

The CityPlan, Transportation Plan and Downtown Transportation Plan all discuss directions for improving Transit and providing connections to walking and biking facilities. In providing for these sustainable modes we can make better use of our existing roadway network. The Vancouver-UBC Transit Plan (VUTP) will recommend transit priority measures to improve upon the reliability and operation of the existing transit system. The VUTP recommendations are being developed in partnership with TransLink, UBC and the City of Vancouver.

Safety and Congestion

The City has a policy of improving traffic safety at intersections. Collisions have a significant social cost and intersection safety is a priority within the City. Work in this area continues to focus on improving safety in existing corridors, in accordance with the Transportation Plan.

Neighbourhood Traffic Controls

The City has a policy of protecting neighbourhoods from shortcutting with the installation of traffic controls such as traffic circles, and right-in/right-out diverters.

Street Lighting

The Safer City Task Force indicated the importance of making the public feel secure. This involves taking proactive measures to provide appropriate light levels on streets and at bus stops to assist in the protection of citizens from theft and violence. The Infill Lighting program funds the improvements to low levels of lighting on residential streets and around bus shelters.

Sewers & Drainage

In the early 1970's, Council approved the policy of separating sanitary and storm sewers, starting in the West End and Downtown areas, for the purpose of reducing and eliminating combined sewer overflows (CSOs).

In 1981, this policy was reaffirmed with the adoption of the 1% life cycle replacement policy for sewer mains as part of the Sewers Long Range Capital Plan.

Both of the previously mentioned policies were reaffirmed in the 1991 Policy Report on Vancouver's "Design and Service Level Standards for Sewer Collection Infrastructure," and have subsequently been reaffirmed in each Capital Plan which followed.

In 2001, Council adopted the regional Liquid Waste Management Plan which continues the 1% replacement program in order to provide continuous CSO reductions, with the goal of the elimination of CSOs by 2050.

Waterworks

In October 2002 Council approved the 2003-2005 Waterworks Capital Plan, which was based on the Waterworks Long Range Plan (LRP). The LRP and Capital Plan focus on the issues of uniform replacement of aging infrastructure, replacement of water services and meters, system capacity and fire protection improvements, emergency preparedness, and other works such as new water service installations.

SUMMARY

This report provides Council with an overview of the 2005 Engineering Basic Capital Budget, including submissions for:

Table 1
2005 Engineering Basic Capital Budget Summary ($,000)

Streets	$	23,437
Communications	$	645
Street Lighting	$	1,290
Sewers & Drainage	$	18,410
Waterworks	$	15,187
Yards	$	615
Total	$	59,584

The 2005 Engineering Basic Capital Budget, the final year of the 2003-2005 Capital Plan, allocates the remaining funds approved by plebiscite in 2002. Details of the Budget submission appear in Appendix 1.

A total of $5,700,000 of the 2005 Engineering Basic Capital Budget has been approved by Council in advance of this report. This includes $3 million approved by Council on December 14, 2004 for the Arterial Street Rehabilitation Program, and $2.7 million on March 29, 2005 for Burrard Bridge Seismic Upgrades. This pre-approved funding is included in the Budget reported herein.

This report also includes Capital account closeouts for Streets as detailed in Appendix 2.

DISCUSSION

The 2005 Engineering Basic Capital Budget is outlined in the following sections.

2005 Engineering Basic Capital Budget Details

The 2005 Engineering Basic Capital Budget consists of six programs: Streets, Communications, Street Lighting, Sewers, Waterworks, and Yards. These programs are summarized in this report, and detailed in Appendix 1.

A. Streets 2005 Budget $ 23,437,000

The 2005 Streets Capital Budget is comprised of a number of programs that reflect Council policy. Adjustments have been made in the 2005 Budget to address current needs and Council's priorities. A brief description of the Streets programs are as follows:

Infrastructure $ 6,330,000

This program addresses the need for reconstruction of MRN and non-MRN arterial streets and local streets that have deteriorated to the point where normal maintenance is not effective. It provides for rehabilitation and replacement of existing facilities, major maintenance of City bridges, and pavement research. This program does not fund new facilities or reconstruction for capacity increases.

Given the significant volume of work required to maintain Vancouver's arterial street network, on December 14, 2004 Council approved $3,000,000 in advance of the 2005 Streets Basic Capital Budget to permit early commencement of the 2005 Arterial Rehabilitation Program (non-MRN arterials).

Pedestrians, Bicycles & Greenways $ 3,010,000

This program provides for pedestrian and cycling priorities. Funding needs for the construction of new sidewalks, curb ramps, and sidewalk reconstruction are addressed and reflect the goals of the City's sidewalk construction program approved by Council on April 8th, 2004. The goal is to complete the sidewalk network to include sidewalks on both sides of all blocks based on priorities for transit routes, arterial streets, pedestrian collector routes, higher zoned streets, and local residential streets. Accordingly, the 2005 Budget includes a re-allocation of $770,000 to this program from the City's share of the Local Improvements programs for Higher Zoned and Residential Streets in order to meet the funding requirements of this Council approved program.

Significant progress has been made in creating the City's network of Bikeways and Greenways. For example, approximately 40% of Greenways have now been completed, and 23 bikeways comprising over 150 km have been built or are about to be completed as part of the Bicycle network. Vancouver's bikeways and greenways have been effective in encouraging more people to cycle, and further development of these networks will continue in 2005.

Traffic Signals $ 1,997,000

This section includes funding for the 2005 Traffic Signal Program including installation of new pedestrian and vehicular signals ($985,000), and modification of existing traffic signals ($385,000). Details of this program will be reported to Council in the forthcoming months. This section also includes funding for the renovation and replacement of existing signal infrastructure.

Transit & Safety Improvements $ 525,000

This program provides funding to address various transportation priorities to enhance transit and improve safety. This includes the implementation of the Downtown Transportation Plan,

and various improvements to arterials, bus slabs and landings, and pedestrian crossing improvements.

Local Area Traffic Plans & Other Improvements $ 1,875,000

This program addresses the need for installation of neighbourhood traffic controls. Neighbourhood Transportation Plans and local street traffic calming measures are integral components of the Transportation Plan. Projects include public consultation and the installation of traffic circles, bulges, diverters, and other traffic calming measures. Examples of projects continuing in 2005 include the installation of speed humps, and additional pedestrian curb bulges at high priority locations identified with the help of the School Traffic Working Group in order to increase the safety of pedestrians.

This program also provides funding for the construction of streets and lanes by Local Improvements petitions or initiatives. For 2005 the request for Higher Zoned and Residential Street Local Improvements has been reduced by $30,000 and $740,000 respectively. As mentioned previously, this allows for an offsetting increase in the New Sidewalk program in accordance with Council's priorities set in 2004.

Major Projects $9,700,000

The 2005 Streets Budget includes a full allocation of 2003-2005 Capital Plan funding for Burrard Bridge Pedestrian and Cyclist Upgrades ($5,000,000). This funding is to be added to existing project funding of $6,708,000 allocated from previous budgets and carried forward in 2004. A final design for Burrard Bridge upgrades has not been determined, but full Budget funding is recommended for allocation so that upgrades to the bridge can proceed once a final design is approved. Council will be provided with a report outlining options for next steps for this project in the following months.

The 2005 Streets Budget also reflects $2.7 million of funding approved by Council in March 2005 for Burrard Bridge Seismic Upgrades. The total budget for this project is $4.7 million, with $2 million from the Canada/BC Infrastructure Program. This project is currently underway and is scheduled to be completed by March 2006.

Further, the 2005 Streets Budget includes a request for $2,000,000 of basic capital as approved in the 2003-2005 Plan for infrastructure improvements required to serve the development of False Creek Flats and Grandview Boundary Industrial area. These areas are under-serviced and City funding is required to pay for the cost of area-specific growth that cannot be recovered through development cost levies (DCLs). This funding will be used for the Central Valley Greenway component of the Urban Transportation Showcase program approved by Council in 2004. This funding will offset the $2,000,000 previously allocated from the $20 million Cost Sharing Project Fund on an interim basis for the Urban Transportation Showcase program.

B. Communications 2005 Budget $ 645,000

The City's communications system is made up of the Engineering radio dispatch system, as well as a communications cable network. An effective communication system is essential to the efficient operation of the City departments, and is essential to all aspects of emergency

response. The 2005 Budget provides funding for the continuation of the underground cable plant replacement and expansion programs.

C. Street Lighting 2005 Budget $ 1,290,000

The 2005 Street Lighting Capital Budget provides for the ongoing infrastructure replacement program for the street lighting plant. The street lighting plant continues to age, with many components now past their estimated service life. The program will provide for the replacement of street lighting poles, service panels, conduit replacement, and other components. Street lighting outages will also be reduced by rebuilding connections on trolley routes and replacing badly corroded service panels. Funding is also included to upgrade lighting levels in response to local public safety and security concerns, and for the City's share of new lighting projects approved through the Local Improvement process. Funding these initiatives helps create a more secure and pleasant environment for pedestrians and residents.

D. Sewers & Drainage 2005 Budget $ 18,410,000

The 2005 Sewers Capital Budget is a continuation of an ongoing infrastructure program that began in the early 1970's. The Budget includes allocation adjustments in order to meet funding requirements for revised program/work priorities. These adjustments do not result in any net change to the total 2003-2005 Sewers Capital Plan funding allotment and are detailed in Appendix 1.

The Sewers Capital Budget includes the following programs:

System Replacement/Separation $ 17,956,000

This program consists of the renewal of sewer mains, connections, manholes, catch basins and pump stations. Factors considered in selecting the projects in this category include replacements for physical failure, deterioration from age, inadequate capacity and related flooding problems, environmental benefits, and Liquid Waste Management Plan requirements.

The City has adopted a strategy of continuous sewer replacement to replace 1% of the existing sewer system over a 100-year life instead of periodic large reconstruction programs. The benefits of this strategy include:

- providing for continuous environmental improvements by reducing Combined Sewer Overflows (CSO's);
- meeting the recently approved Liquid Waste Management Plan's combined sewer overflow (CSO) management goal of gradual reduction and eventual elimination over 50 years;
- avoiding crisis funding and spreading the cost of Capital replacement works to taxpayers more evenly over time;
- maintaining a stable, well-trained workforce; and,
- maintaining an adequate level of service in sewers by providing for the ongoing, timely replacement of older sewers and thus reducing the risk of sewer collapse and sewage flooding of private residences and businesses.

System Management $ 161,000

The system management programs provide funds to support a variety of information and research projects. These projects provide key information that is used to prioritize our 1% replacement program and establish routine maintenance programs. This program also provides funds for a variety of tools that support cost-effective capital work programs, including sewer system modeling, field monitoring of sewer flows, construction site exposures, soundings of underground facilities, and investigation of new products and technical standards for sewer design and construction.

Other Pollution Abatement $ 293,000

This program funds other pollution abatement initiatives such as Liquid Waste Management Plan initiatives and Sewer Separation on Private Property. The Sewer Separation Program was established by Council in 1978 in order to achieve the pollution control benefits of a separated sewer system. The major benefit of the program has been a reduction in the fecal coliform levels in waters that are adjacent to the City. It also allows us to completely eliminate combined sewer outfalls in the City, by taking advantage of sewers which have been separated in the street area. This work helps the City to achieve the LWMP objectives and minimize costly short-term improvements to reduce Vancouver's sewage overflows. In the first two years of the 2003-2005 Capital Plan, considerable sewer separation work occurred in the West End and other areas of the Downtown to work towards the elimination of the Denman Street combined sewage overflows. Sewers work in 2005 will focus in the West End/Downtown areas to eliminate the Denman Street CSO as well as the south shores of S.E. False Creek to start working towards the elimination of the Crowe Street CSO.

E. Waterworks 2005 Budget $ 15,187,000

The 2003-2005 Capital Plan is based on the Waterworks Long Range Plan (LRP), updated with the more recent Storage and Transmission Optimization Report (STOR) recommendations. The Capital Plan and the 2005 Budget continue to address the major issues identified in the LRP and subsequent planning work.

The 2005 Waterworks Capital Budget includes allocation adjustments in order to meet funding requirements for revised program/work priorities. These adjustments do not result in any net change to the total 2003-2005 Water Capital Plan funding allotment and are detailed Appendix 1.

The 2005 Waterworks Capital Budget is composed of the following:

Aging Infrastructure Replacement $ 9,245,000

Under the 2003-2005 Capital Plan, this program replaces approximately 0.8% of the City's aging water infrastructure annually. The largest part of this program involves the replacement of water system components that are suffering from corrosion attack, including aging distribution mains, transmission mains and service pipes. In addition, this program also funds the replacement of system components suffering mechanical wear, including meters that read inaccurately and fire hydrants that are no longer serviceable.

Addressing Growth $ 3,617,000

This program addresses population growth and development impacts, funding infrastructure upgrades to increase supply capabilities, new connections and meters, and a conservation program to help curb water demand.

Investigation, Monitoring and Control $ 100,000

Ongoing components of this program include the installation and replacement of telemetry (monitoring) equipment, and engineering investigation in advance of capital projects.

Water Quality Projects $ 2,225,000

This program funds capital improvements to ensure adequate water quality throughout the distribution system. Of fundamental importance is the avoidance of waterborne health problems due to bacterial or chemical contamination. For 2005, funds will be directed to address stagnation related deficiencies in the Stanley Park water system.

F. Yards 2005 Budget $ 615,000

The 2005 Yards Capital Budget provides funding for the completion of functional planning, and design of renovations to the Manitoba Yards Operations Building. The design will include construction phasing to allow partial completion of renovation work as funding becomes available.

Senior Government Cost Sharing

Provincial and regional government funding that is available or may become available to help fund capital projects includes the following:

TransLink Operating, Maintenance and Rehabilitation (OMR) Funding

For 2005, it is anticipated that approximately $3.56 million of capital funding will be available from TransLink for the Major Road Network (MRN) OMR program. This represents an increase of approximately $225,000 in capital funding compared to 2004 and is due to:

- an inflationary increase of 2% per year starting in 2005;
- a recalibration of the MRN resulting in a marginal increase in the number of lane-kilometres funded; and,
- an increase in the number of roads within the MRN eligible for funding because they have been rehabilitated and now meet TransLink's minimum pavement quality standard.

The following table explains the impact on the Capital budget:

Table 2 - 2005 TransLink MRN OMR Funding Summary

2005 MRN OMR Funding	$ per lane-km	Qualifying lane-km	Operating Budget	Capital Budget
Operating & Maintenance	$5,100	578.00	$2,947,800	**$0**
Rehabilitation	$5,100	571.78	$0	**$2,916,078**
Other	$2,040	578.00	$530,604	**$648,516**
Total	$12,240		$3,478,404	**$3,564,594**

Capital Components of the TransLink funding include:

Rehabilitation: $2,916,078

This category covers reconstruction or replacing existing facilities (both pavements and other items). Rehabilitation is required to keep the City's MRN roads up to the average standard of the region.

Other: $ 648,516

This category covers the rehabilitation of MRN sidewalks, curbs, boulevards, traffic signals, and sewer catch basins.

TransLink Minor Capital

Under TransLink's definition, this category only includes new works or improvements, on the MRN that generally address congestion, safety, and capacity issues. TransLink will fund 50% of the cost of these projects up to a pre-established maximum funding level. The City has submitted 2005 project applications to TransLink for Minor Capital funding. However, at the time of writing, project award by TransLink has not been received. If project award is granted, funds are received when a project is complete. The City's share of the cost of these projects would be from Council approved budgeted project and program accounts.

TransLink Cycling Infrastructure Capital

In 2005 almost $2 million of TransLink infrastructure funding will be invested in Vancouver's Bicycle Network. This funding will assist the City with providing a safe and convenient cycling environment for commuter and recreational cyclists by improving the existing road network to better meet the needs of cyclists, and by promoting the safe and responsible use of bicycles.

ICBC Safety Programs

Since the early 1990's the Insurance Corporation of British Columbia (ICBC) and the City have participated in reviews of traffic safety along several corridors within the City. As a result of these reviews, ICBC has traditionally contributed funding towards specific Council approved projects having a road safety benefit. Various projects that may qualify for ICBC funding have been identified for 2005, however, at the time of writing project award by ICBC has not been granted. ICBC funding would complement existing City funding, and is variable as funding depends on suitable projects, not a funding formula.

Canada – BC Infrastructure Program

This program, formally announced in 2001, has previously been reported to Council. Engineering projects have been awarded $18,260,000 in funding for sewer infrastructure upgrading. Staff estimate that the City will receive about $7 million of the previously awarded funding this year for Sewers projects. Work under this program is expected to be complete in early 2006.

Funding

Funding shown in Table 3 for Streets, Communications, Street Lighting, and Yards is from borrowing authorities approved by voters in the October 2002 plebiscites. Funding for Sewers originates from Council approved borrowing authority, and Waterworks is a Council approved, self-funding utility with debt financing through water rates revenues.

There are several projects contained in the 2005 Engineering Capital Budget, such as bike routes, greenways, traffic signals, neighbourhood traffic plans, etc., that will require various forms of maintenance in the future. Increases that may be required to the Engineering Operating Budget for these maintenance items are identified in the detailed submissions in Appendix 1, or will be identified with the individual projects when they are reported to Council.

Table 3 - Engineering Capital Budget Funding Summary ($,000)

Program	2003-05 Funding*	2003 and 2004 Budget	2005 Debenture Funding	2005 Funds from Revenue	2005 Budget
Streets**	$62,635	$39,198	$22,422	$1,015	$23,437
Communications	$2,015	$1,370	$395	$250	$645
Street Lighting	$5,060	$3,770	$1,290	0	$1,290
Sewers	$58,750	$40,340	$18,410	0	$18,410
Waterworks	$46,000	$30,813	$15,187	0	$15,187
Yards	$1,935	$1,320	$615	0	$615
TOTAL	**$176,395**	**$116,811**	**$58,319**	**$1,265**	**$59,584**

*includes the additional funding allocation from the $20 million Cost Sharing Project Fund ($2.7 million for the Bridge Seismic Upgrade Project approved by Council in March 2005).
**2003-05 Funding and 2004 Budget adjusted to reflect the $2 million allocation to repay the Cost Sharing Project Fund.

Capital Closeout

Every year Capital Plan projects are reviewed to determine accounts that can be closed out. Closeouts of completed Capital projects involving transfers between Capital accounts of $50,000 and 15% of the budget, or more, require Council approval. Appendix 2 provides a summary of capital projects identified for closeout in the Engineering Capital programs, including Streets, Traffic Signals, Solid Waste, Parking Meter and the Asphalt Aggregate Plant. Accounts being closed represent projects which commenced prior to the year 2000, and programs/projects provided in the 2000-2002 Capital Plan, for which funding and expenditures occurred over a number of years. Transfers requiring Council approval are noted.

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APPENDIX 1 - to City Services & Budgets Committee Report (RTS #05132)

Submissions for ...

2005 Engineering Basic Capital Budget

City of Vancouver
May 2005

ENGINEERING SUMMARY

Project Number	Program - 2005	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
A	STREETS	$ 41,681	$ 18,244	$ 23,437
B	COMMUNICATIONS	$ 645	$ 0	$ 645
C	STREET LIGHTING	$ 1,490	$ 200	$ 1,290
D	SEWERS	$ 34,590	$ 16,180	$ 18,410
E	WATERWORKS	$ 15,787	$ 600	$ 15,187
F	YARDS	$ 615	$ 0	$ 615
	TOTAL – 2005 ENGINEERING	$94,808	$35,224	$ 59,584

ENGINEERING STREETS

Project Number	Program - 2005	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
A1	**INFRASTRUCTURE**			
	a) Repair of Deteriorated Arterial Streets	6,416	2,916	3,500
	b) Repair of Deteriorated Local Streets	300	0	300
	c) Major Maintenance – Structures	2,440	0	2,440
	e) Pavement and Materials Research	90	0	90
	SUBTOTAL – INFRASTRUCTURE	**$ 9,246**	**$ 2,916**	**$ 6,330**
A2	**PEDESTRIANS & BICYCLES**			
	a) New Sidewalks	1,330	300	1,030
	b) Sidewalk Reconstruction – Local Improvements	300	40	260
	c) Sidewalk Reconstruction – Partial Blocks	1,083	223	860
	d) Curb Ramp Program	531	31	500
	e) Bicycle Network	2,390	2,390	0
	f) Beautification and Street Trees	800	500	300
	g) Pedestrian & Other Structures	60	0	60
	h) Greenways	150	150	0
	SUBTOTAL – PEDESTRIANS & BICYCLES	**$ 6,644**	**$ 3,634**	**$ 3,010**
A3	**TRAFFIC SIGNALS**			
	a) Traffic Signal Program	985	0	985
	b) Modification of Existing Signals	385	0	385
	d) Replace Aging Signal Plant	802	175	627
	SUBTOTAL – TRAFFIC SIGNALS	**$ 2,172**	**$ 175**	**$ 1,997**
A4	**TRANSIT & SAFETY**			
	a) Arterial Improvements	800	475	325
	b) Aging Uncurbed Arterials	0	0	0
	d) Bus Slabs & Landings	200	0	200
	SUBTOTAL – TRANSIT & SAFETY	**$ 1,000**	**$ 475**	**$ 525**

(continued on next page)

ENGINEERING STREETS

Project Number	Program - 2005	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
A5	**LOCAL AREA TRAFFIC PLANS & OTHER IMPROVEMENTS**			
	a) Installation of Neighbourhood Traffic Controls	580	0	580
	b) Higher Zoned Streets – LI	1,170	820	350
	c) Residential Streets – LI	216	56	160
	d) Higher Zoned Lanes – LI	450	360	90
	e) Residential Lanes – LI	1,000	600	400
	f) Drainage & Utility Relocation Prior to Paving	125	0	125
	g) Grade/Open Streets & Lanes	50	0	50
	h) Minor Property Acquisition	120	0	120
	i) Traffic Circles & Speed Humps – LI	0	0	0
	SUBTOTAL – LOCAL AREA TRAFFIC PLANS & OTHER IMPROVEMENTS	**$ 3,711**	**$ 1,836**	**$ 1,875**
A6	**MAJOR PROJECTS**			
	a) Burrard Bridge Traffic/Cycle/Pedestrian Upgrade/Seismic Upgrade	16,408	8,708	7,700
	b) Downtown Streetcar	500	500	0
	c) Growth & Expansion in Area-specific DCL areas	2,000	0	2,000
	SUBTOTAL – MAJOR PROJECTS	**$ 18,908**	**$ 9,208**	**$ 9,700**
	DEBENTURE COSTS	**$ 0**	**$0**	**$ 0**
	TOTAL – 2005 STREETS CAPITAL BUDGET	**$ 41,681**	**$18,244**	**$23,437**

2005 BASIC CAPITAL BUDGET

Reference # A-1a1

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Infrastructure

SUB-PROGRAM/PROJECT TITLE:
Repair of Deteriorated Non-MRN Arterial Streets

PROJECT DESCRIPTION:
Rehabilitation of arterial streets not on the Major Road Network (MRN)

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$3,500,000**	**$0**	**$3,000,000**	**$0**	**$500,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$521,900	Senior Governments	$
Materials	$1,565,600	Property Owners	$
Equipment	$695,800	DCL/CAC funding	$
Contract	$0	Other (please specify e.g. donation)	$
Overhead	$695,800		
Other (IMS –RTS 4586)	$20,900		
Total	$3,500,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:

To maintain the pavement quality of City funded arterial streets at an acceptable level by rehabilitating arterial roadways such as:

- Burrard Street between Pacific Street and Cordova Street
- Thurlow Street between Pacific Street and Davie Street

SCOPE:

Rehabilitation will include:

- Extending pavement life by grinding off and re-paving the top layer of asphalt
- Reconstructing cracked and uneven sidewalks, curb and gutter
- At specific locations, reconstructing the entire road structure

Reference : Council advance approval of $3 million RTS 4682

IMPACT OF DELAY: Not keeping up with this preventative maintenance work will result in inefficient and costly reconstruction later. not meeting planned street repair schedules will disrupt businesses and commuters.

PROJECT TIMING: Throughout the year
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-1a2

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Infrastructure

SUB-PROGRAM/PROJECT TITLE:
Repair of Deteriorated Major Road Network (MRN) Arterial Streets

PROJECT DESCRIPTION:
Rehabilitation of arterial streets on the Major Road Network

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$2,916,100**	**$0**	**$0**	**$2,916,100**	**$0**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$437,400	Senior Governments	$
Materials	$1,312,300	Property Owners	$
Equipment	$583,200	DCL/CAC funding	$
Contract	$0	Other (please specify e.g. donation)	$
Overhead	$583,200	TransLink (MRN – OMR)	$2,916,100
Other (specify)	$0		
Total	$2,916,100	**Total Other Funding Sources**	$2,916,100

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:

These funds are used to rehabilitate and improve the pavement quality on MRN arterial streets such as Granville Street between Broadway and the Arthur Laing Bridge.

SCOPE:

Rehabilitation will include:

- Extending pavement life by grinding off and re-paving the top layer of asphalt
- Reconstructing cracked and uneven sidewalks, curb, gutters and medians
- At specific locations, reconstructing the entire road structure

IMPACT OF DELAY: Not keeping up with this preventative maintenance work will result in inefficient and costly reconstruction later. Not meeting planned street repair schedules will disrupt businesses and commuters.

PROJECT TIMING: Spring
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-1b

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Infrastructure

SUB-PROGRAM/PROJECT TITLE:
Repair of Deteriorated Local Streets

PROJECT DESCRIPTION:
Reconstruction of improved local streets that have deteriorated largely due to poor soil conditions such as peat.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$300,000**	**$0**	**$0**	**$0**	**$300,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$72,500	Senior Governments	$
Materials	$84,600	Property Owners	$
Equipment	$84,500	DCL/CAC funding	$
Contract	$0	Other (please specify e.g. donation)	$
Overhead	$56,700		
Other (IMS – RTS 4586)	$1,700		
Total	$300,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:
This program mostly funds total reconstruction of curbed local streets which have extensively deteriorated due to poor soil conditions. This work is required to reduce the City's liability and improve safety of local streets.

SCOPE:
Total reconstruction of local streets primarily includes the installation of engineered road structure, new asphalt surface, new curb and gutter and some associated sidewalk work.

IMPACT OF DELAY: Increased backlog of severely deteriorated streets is a safety concern, it will damage vehicles and also be inconvenient to residents.

PROJECT TIMING: Summer
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A1c

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Infrastructure

SUB-PROGRAM/PROJECT TITLE:
Major Maintenance of City Structures

PROJECT DESCRIPTION:
Maintenance of Major Bridges

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$2,440,000**	**$0**	**$0**	**$0**	**$2,440,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$25,000	Senior Governments	$
Materials	$5,000	Property Owners	$
Equipment	$2,000	DCL/CAC funding	$
Contract	$2,199,800	Other (please specify e.g. donation)	$
Overhead	$208,000		
Other (IMS – RTS 4586)	$200		
Total	$2,440,000	**Total Other Funding Sources**	$

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
To rebuild bridge joints on an ongoing basis in order to keep them safe and minimize the possibility of major joint replacements and to replace the railings on Burrard Street Bridge

SCOPE:
Portions of several expansion joints on the roadways of the City's major bridge decks have deteriorated from repetitive traffic impact loading and need to be rebuilt. Other major maintenance related to re-bar corrosion and railing repairs is also anticipated. It is proposed to continue the rebuilding in 2005 at a cost of $40,000.

The railings on the Burrard Bridge are in very poor shape due to corrosion and it is planned to replace the railing in its entirety once the final design for the Burrard Bridge Pedestrian and Cycling Improvements is determined. The cost for the new railing is estimated at $2,400,000 and is separate from other budgets already approved for the Burrard Bridge Pedestrian and Cycling Improvements.

IMPACT OF DELAY: Railing replacement. If the railing is not replaced in the next 1-2 years it will continue to deteriorate and some sections will have to be removed and portions of the sidewalk may have to be closed. Currently there is a hazard due to pieces falling off the railing onto the public below, so it is inspected and cleaned regularly. This hazard will increase over time. Eventually the railing's loss of integrity will mean it can no longer safely keep pedestrians and cyclists from falling off of the bridge.

PROJECT TIMING:
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-1e

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Infrastructure

SUB-PROGRAM/PROJECT TITLE:
Pavement and Materials research

PROJECT DESCRIPTION:
This category funds the cost of researching and implementing new paving and material technologies and procedures. Funding is provided as appropriate, for consultants, testing services, staff and equipment.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$90,000**	**$0**	**$0**	**$0**	**$90,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$45,700	Senior Governments	$
Materials	$5,000	Property Owners	$
Equipment	$24,900	DCL/CAC funding	$
Contract	$	Other (please specify e.g. donation)	$
Overhead	$13,900		
Other (IMS – RTS 4586)	$500		
Total	$90,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:
The objective of this program is to generate significant economic and other benefits to the City through the implementation of improved materials and technologies, and increased use of recycled materials.

SCOPE:
In 2005, the following objectives are currently proposed:

- -quality control and assurance testing of reclaimed asphalt pavement (RAP)
- -continued evaluation of existing asphaltic concrete pavement test section
- -research alternate types of asphalt products to improve quality and increase proportion of RAP
- -test trials and review of recycled crushed concrete and asphalt as a construction aggregate
- -Test trials and review of concrete mixes with recycled crushed concrete and fly ash

IMPACT OF DELAY: The 2005 objectives for the research and testing of reclaimed asphalt pavement (RAP) and other materials will not be met. The City is researching ways to increase the use of recycled materials.

PROJECT TIMING: Throughout the year
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-2a

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Pedestrians & Bikes

SUB-PROGRAM or PROJECT TITLE: New Sidewalks

SUB-PROGRAM or PROJECT DESCRIPTION: City wide program to complete the sidewalk system.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$1,330,000**	**$0**	**$0**	**$ 300,000**	**$1,030,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 410,400	Senior Governments	$
Materials	$ 410,400	Property Owners	$ 300,000
Equipment	$ 251,500	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 251,500		
Other (IMS – RTS 4586)	$ 6,200		
Total	$ 1,330,000	**Total Other Funding Sources**	$ 300,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
The goals of the City's sidewalk construction program, as approved by Council on April 8, 2004 are:

A. To complete the sidewalk network to include sidewalks on both sides of all blocks based on the following priorities: i) transit routes, ii)arterial streets, iii) pedestrian collector routes, iv) higher zoned streets, v) local residential streets
B. To expedite completion of the sidewalk network on both sides of all transit routes by 2007, and on both sides of all developed arterial streets by 2009.

The funding required to carry out this level of construction has been noted at $1.7m annually. For 2005, the funds sought by this request have been increased by $770,000. Offsetting reductions have been made to the submissions for Local Improvement Residential Streets (A5c) ($740,000), and Higher Zoned Streets (A5b) ($30,000) to meet the funding requirements for Council approved 2005 new sidewalk projects.

Construction of new sidewalks is being given a higher priority in accordance with Council's direction and CityPlan. Development of this network supports transit use by improving pedestrian accessibility. Sidewalk construction also promotes pedestrian safety as temporary walks and paths are often soft and muddy during poor weather conditions, causing pedestrians to walk on the street.

IMPACT OF DELAY: The construction of Council approved new sidewalk projects will be delayed and the goals of the City's sidewalk construction program as approved by Council on April 8, 2004 will not be met.

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-2b

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Pedestrians & Bicycles

SUB-PROGRAM /PROJECT TITLE: Sidewalk Reconstruction – Local Improvement

SUB-PROGRAM /PROJECT DESCRIPTION: Reconstruction of full blocks of badly deteriorated sidewalks and installation of trees under the Local Improvement Program, and at City cost.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 300,000**	**$0**	**$0**	**$ 40,000**	**$ 260,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 89,500	Senior Governments	$
Materials	$ 89,500	Property Owners	$ 40,000
Equipment	$ 59,700	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 59,700		
Other (IMS – RTS 4586)	$1,600		
Total	$ 300,000	**Total Other Funding Sources**	$ 40,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:

This program addresses the deterioration of our sidewalk infrastructure by replacing full block lengths of old, broken, and worn out sidewalks. The program assists pedestrians by replacing out of grade slabs, filleted trip locations and low spots where water pools. We have had many compliments about the positive impact sidewalk reconstruction has had on the commercial areas involved.

In previous years, the costs have been shared equally between the City and property owner's adjacent individual projects. In 2004 Council approved carrying out sidewalk reconstruction at full City cost. The Local Improvement process will remain available as a mechanism for property owners to help fund projects that are desired by the block residents, but not identified as priorities by Council. It is anticipated there will be very few Local Improvement projects of this type in the future. This program will be reviewed for the 2006 - 2008 Capital Plan in light of the changed sidewalk reconstruction cost sharing approved by Council in 2004.

This program includes tree planting if trees do not currently exist.

SCOPE:

IMPACT OF DELAY: Failure to replace full block lengths of old and broken sidewalks will result in public safety concerns and reduce the public's ability to petition for sidewalk reconstruction work.

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-2c1

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Pedestrians & Bikes

SUB-PROGRAM/ PROJECT TITLE: Sidewalk Reconstruction primarily due to tree damage - Partial Blocks

SUB-PROGRAM /PROJECT DESCRIPTION: Reconstruction of partial block lengths of sidewalk generally damaged by trees.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 620,000**	**$0**	**$0**	**$0**	**$ 620,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 198,800	Senior Governments	$
Materials	$ 198,800	Property Owners	$
Equipment	$ 99,400	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 119,300		
Other (IMS – RTS 4586)	$3,700		
Total	$ 620,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This program is in addition to our Local Improvement program for the reconstruction of full blocks of sidewalk. Much of the sidewalk repair work is due to heaving from tree roots. Additional funds for this program have been provided in the last few years due to the increase in the number of street trees, with the corresponding increase in sidewalk damage. Work carried out on this program in 2005 will focus on Commercial streets, and will use a relatively new technique involving installation of root barriers to reduce the likelihood of damage to the sidewalk. These barriers will be installed in locations that have already suffered damage, as well as locations where they can help prevent heaving in the future. This is not a local improvement program and therefore is fully City funded.

It is hoped that the introduction of root barriers will limit increases in funding required by this program in the future.

This program will be reviewed for the 2006 - 2008 Capital Plan in light of the changed sidewalk reconstruction cost sharing approved by Council in 2004.

SCOPE:

IMPACT OF DELAY: Increased backlog of severely deteriorated and uneven sidewalks lead to safety concerns and may discourage the public from using sidewalks

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-2c2

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Pedestrians & Bicycles

SUB-PROGRAM /PROJECT TITLE: Sidewalk Reconstruction – Partial Block

SUB-PROGRAM /PROJECT DESCRIPTION: Reconstruction of partial block lengths of sidewalks in poor condition as identified by the annual street survey, and poor condition walk adjacent major street and utility replacement projects.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 463,000**	**$0**	**$0**	**$223,000**	**$ 240,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 134,600	Senior Governments	$
Materials	$ 134,600	Property Owners	$
Equipment	$ 96,200	DCL/CAC funding	$
Contract	$	Other (Translink, - MRN OMR)	$ 223,000
Overhead	$ 96,200		
Other (IMS – RTS 4586)	$ 1,400		
Total	$ 463,000	**Total Other Funding Sources**	$ 223,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:

In many areas, portions of the sidewalk are rebuilt by new residential developments along the block, leaving small sections of old broken walk. This program funds the replacement of these small sections. In addition, areas of settled sidewalk are replaced under this account, as well as poor condition sidewalk adjacent portions of sidewalk replaced as part of a major street or utility replacement projects. This work is done in conjunction with the sidewalk adjustment maintenance account to renew complete blocks. This is not a local improvement program and therefore is fully City funded.

This program will be reviewed for the 2006 - 2008 Capital Plan in light of the changed sidewalk reconstruction cost sharing approved by Council in 2004.

SCOPE:

IMPACT OF DELAY: Increased backlog of severely deteriorated and uneven sidewalks lead to safety concerns and may discourage the public from using sidewalks

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-2d

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Pedestrians & Bikes

SUB-PROGRAM/PROJECT TITLE:
Curb Ramp Program

PROJECT DESCRIPTION:
Construction of curb ramps at street and lane corners to provide better access to sidewalks

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$530,500**	**$0**	**$0**	**$30,500**	**$500,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 263,700	Senior Governments	$
Materials	$ 84,400	Property Owners	$
Equipment	$ 84,400	DCL/CAC funding	$
Contract	$	Other (Translink-MRN OMR)	$ 30,500
Overhead	$ 95,000		
Other (IMS – RTS 4586)	$ 3,000		
Total	$530,500	**Total Other Funding Sources**	$ 30,500

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

The program primarily provides funds for the retrofitting of ramps in existing curbed corners. The priority for these installations is: provide ramps at the street corners near "accessible" bus stops, Arterial streets, pedestrian collector routes, higher zoned streets and local residential streets to satisfy individual (and group) requests, upgrade existing ramps which do not meet current standards and provide ramps in conjunction with other work.

SCOPE:

There are approximately 9,000 locations in the City which require ramps. This number will be reduced by approximately 200 during 2005.

IMPACT OF DELAY:

There is currently an extensive list of requests generated by the public and the accessible trolley bus rollout, and delays to the ramp installation schedule will affect the completion of arterials and bus routes throughout the City.

PROJECT TIMING:
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-2e

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Pedestrian and Bikes

SUB-PROGRAM/PROJECT TITLE: Bicycle Network

PROJECT DESCRIPTION:. The completion of Vancouver's bicycle network and other cycling improvements are integral components of the City of Vancouver Transportation Plan. Council first approved funds for the network in 1991. To date, 23 bikeways comprising over 150km have been completed or are about to be completed as part of this network.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$2,390,000**	**$0**	**$0**	**$2,390,000**	**$0**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$1,080,000	Senior Governments	$
Materials	$ 420,000	Property Owners	$
Equipment	$ 480,000	CAC funding	$ 190,000
Contract	$	Other - 2004 Streets Capital unallocated	$ 250,000
Overhead	$ 410,000	TransLink – 2005 (Bicycle Infrastructure)	$ 950,000
Other (specify)	$	TransLink – 2003/4(Bicycle Infrastructure)	$1,000,000
Total	$2,390,000	**Total Other Funding Sources**	$2,390,000

COST SAVING AND OTHER BENEFITS: Cost-sharing with TransLink and Province, increased sustainable mode of transportation

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$10,000**	**$25,000**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES: To provide a safe and convenient cycling environment for the commuter and recreational cyclist by improving the existing road network to better meet the needs of cyclists and by promoting the safe and responsible use of bicycles for transportation and recreation.

SCOPE: Further expansion of the bicycle network is planned for 2005: 4th Avenue, Beatty, Hornby, Burrard, Richards, Robson, and Homer Bike lanes; and Chilco, Cardero, 29th Avenue, and Valley Bikeways. West End local streets will be made bicycle friendly. Design and consultation will begin on several of the other routes approved in the Downtown Transportation Plan. Enhancements planned on existing routes include Seaside Bikeway and Union/Main bike signal. Events such as the opening of the 10th Avenue, Kent Avenue, and Gladstone bikeways are planned for June Bike Month. Cycling maps will be produced. Cycling pushbuttons will be added at about 20 intersections. In partnership with B.E.S.T. (Better Environmentally Sound Transportation), a cycling brochure will be published in a local Vancouver paper. Besides cycling education and encouragement tips, this brochure will contain the cycling network map.

PROJECT TIMING: 2005
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-2e

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Pedestrian and Bikes

SUB-PROGRAM/PROJECT TITLE: Bicycle Network

PROJECT DESCRIPTION:.

The completion of Vancouver's bicycle network and other cycling improvements are integral components of the City of Vancouver Transportation Plan. Council first approved funds for the network in 1991. To date, 23 bikeways comprising over 150km have been completed or are about to be completed as part of this network.

PROJECT SUMMARY: (continued)

SCOPE: (continued)

The 2003-2005 3-year capital plan funds were fully allocated in 2004 in order to take advantage of TransLink cost-sharing programs. There is about $250,000 remaining in the 3-year plan which has not yet been allocated to specific projects and which can be used for funding 2005 projects. Also, due to TransLink's funding schedules, the Windsor, 10th, Hawks, and Hornby cycling routes were fully funded from Streets Capital in order to facilitate early construction. TransLink has subsequently agreed to cost-share these cycling routes and up to $1,950,000 ($1,000,000 - 2003/04 and $950,000 - 2005) will be received from TransLink, which can be applied to 2005 cycling projects. Thus, there is about $2,200,000 funding available for 2005 cycling projects with an additional $190,000 from previously approved CAC funds. Staff will also make application to the Province's Cycling Infrastructure Partnership Program (C.I.P.P.)

IMPACT OF DELAY

2005 BASIC CAPITAL BUDGET

Reference # A-2f

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Local Area Traffic & Other

SUB-PROGRAM or PROJECT TITLE:
Beautification & Street Trees

SUB-PROGRAM or PROJECT DESCRIPTION: Beautification projects and Local Improvement street tree planting.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 800,000**	**$0**	**$0**	**$ 500,000**	**$ 300,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 249,400	Senior Governments	$
Materials	$ 249,400	Property Owners	$ 500,000
Equipment	$ 139,800	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 159,600		
Other (IMS – RTS 4586)	$1,800		
Total	$ 800,000	**Total Other Funding Sources**	$ 500,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

This program funds beautification projects for installation of non-standard capital works within the street right-of-way (such as the Knight/Kingsway Neighbourhood Centre), and a Local Improvement category for the planting of trees in commercial areas. Funding of $300,000 is requested for projects covered by this program that will arise during the course of 2005. The property owners' share of beautification projects is typically two-thirds.

SCOPE:

IMPACT OF DELAY: The implementation of beautification projects covered by this program will be delayed

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A2g

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Pedestrian & Bikes

SUB-PROGRAM/PROJECT TITLE:
Pedestrian & Other Structures

PROJECT DESCRIPTION:
Construction and major maintenance of pedestrian bridges and other miscellaneous structures

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$60,000**	**$0**	**$0**	**$0**	**$60,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$19,900	Senior Governments	$
Materials	$14,900	Property Owners	$
Equipment	$12,900	DCL/CAC funding	$
Contract	$	Other (please specify e.g. donation)	$
Overhead	$11,900		
Other (IMS – RTS 4586)	$400		
Total	$60,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
To perform this work on an on-going basis for safety and long term asset management.

SCOPE:

Construction of pedestrian or other small structures such as retaining walls is required on an on-going basis. Much of this work is related to maintenance and replacement of components. It is proposed that $60,000 be provided for this work in 2004.

IMPACT OF DELAY: Delay in funding will mean much greater future costs in reconstruction and rehabilitation costs and may leave the City vulnerable to liability concerns.

PROJECT TIMING:
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A2h

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Pedestrians & Bicycles

SUB-PROGRAM/PROJECT TITLE:
Greenways

PROJECT DESCRIPTION:
Greenways Project

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$150,000**	**$0**	**$0**	**$150,000**	**$0**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$35,000	Senior Governments	$
Materials	$20,000	Property Owners	$
Equipment	$25,000	DCL funding	$150,000
Contract	$50,000	Other (please specify e.g. donation)	$
Overhead	$20,000		
Other (specify)	$		
Total	$150,000	**Total Other Funding Sources**	$150,000

COST SAVING AND OTHER BENEFITS:
Reduction of greenhouse gases and congestion.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$2,000**	**$2,000**

Increase in landscape maintenance budget required.

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES: In 2005, Greenways will continue to develop and build ongoing and new greenway projects utilizing existing unexpended funding from prior years. Projects include, but are not limited to, the Carrall Greenway, the Central Valley Greenway, Tupper Neighbourhood Greenway, and the 11th Avenue Greenway. Neighbourhood Greenways will also respond to requests across the City, including those resulting from Community Visioning.

SCOPE: The Greenways Plan is a Council approved program which includes the development of City-wide Greenways and Neighbourhood Greenways.

IMPACT OF DELAY

PROJECT TIMING: Ongoing
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-3a

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Traffic Signals

SUB-PROGRAM or PROJECT TITLE:
New Pedestrian and Vehicular Signals

SUB-PROGRAM or PROJECT DESCRIPTION:
On-going program for New Pedestrian and Vehicular Signal Installations

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$985,000**	**$0**	**$0**	**$0**	**$985,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$323,100	Senior Governments	$
Materials	$352,900	Property Owners	$
Equipment	$205,700	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$97,400		
Other (IMS – RTS 4586)	$5,900		
Total	$985,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$23,000**	**$23,000**

approximately $2,000 per year per new signal installation

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:
Detailed studies are undertaken each year to determine locations that require pedestrian or traffic signal controls. Users of the transportation system, including pedestrians, cyclists, transit vehicles, trucks and automobiles are considered in these studies.

SCOPE:
There are 11 new signals and 3 new special crosswalks budgeted for 2005: 9 pedestrian signals with an average cost of $80,000 per location, 2 vehicular signals with an average cost of $95,000 per location, and 2 special crosswalks with an average cost of $40,000 per location. Further details on this project will be reported as part of the 2005 Traffic Signal Program.

IMPACT OF DELAY
Priority crossings identified through the Annual Signal Program would not be installed in 2005. Some of these are school crossings scheduled to be installed before the start of the school in September.

PROJECT TIMING:
Start Date (month/year) : May/05
Completion Date(month/year): January/06

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-3b

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Traffic Signals

SUB-PROGRAM /PROJECT TITLE:
Signal Construction – Modification of Existing Signals

SUB-PROGRAM/PROJECT DESCRIPTION:
Modification, Upgrade, and Retrofitting Existing Pedestrian and Traffic Signals

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$385,000**	**$0**	**$0**	**$0**	**$385,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$126,200	Senior Governments	$
Materials	$164,000	Property Owners	$
Equipment	$53,700	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$38,800		
Other (IMS – RTS 4586)	$2,300		
Total	$385,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:
This program will provide funding for the projects listed below to retrofit existing signals to meet the City's current standards for level of service.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This program provides funding for programs to modify or retrofit existing pedestrian and traffic signals in the City. Further details on these programs are listed on the following page.

SCOPE:

Pedestrian Indicators	$55,000
Left-Turn Phasing	$125,000
Audible Signals	$50,000
Signal Modifications	$65,000
Intelligent Transportation Systems	$30,000
Tertiary Signal Heads	$60,000
TOTAL	$385,000

IMPACT OF DELAY
Signal retrofits scheduled for 2005 would not be completed.

PROJECT TIMING:
Start Date (month/year) : May/05
Completion Date(month/year): April/06

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Traffic Signals

SUB-PROGRAM /PROJECT TITLE
Signal Construction – Modification of Existing Signals

PROJECT SUMMARY (continued)

Pedestrian Indicators
In 1991 Council began a program to retrofit existing signals with pedestrian indicators at traffic signals to improve visibility and safety for pedestrians. This modification program will continue in 2005.

Left-turn Phasing
This program is for the many requests that the City receives to install left-turn flashing arrows at existing signals. Left-turn arrows which assist transit vehicles or reinforce designated truck routes are given priority for installation. A number of locations on the Major Road Network may be funded by TransLink from their Transit Related Road Infrastructure Program (TRRIP) in 2005. The amount of TransLink contribution in 2005 has not been determined at this time.

Audible Signals
Vancouver has been one of the leading cities in North America in terms of the provision of audible signals. The audible signal program provides for the retrofitting of audible signals to existing signals throughout the City. This provides essential information to the visually disabled community to allow safe crossing of an intersection. Current policy provides all new Pedestrian and Fully Activated signals with an audible signal.

Tertiary Signal Heads
Since 1994, tertiary heads were installed at high accident intersections to improve visibility of signal displays. This improvement has achieved significant reduction of traffic collisions at many intersections. The City, together with ICBC, will continue to install tertiary heads at high volume/high collision intersections in an effort to improve road safety. A number of locations will be cost shared with ICBC. At this time, ICBC's contribution in 2005 has not been determined.

Minor Modifications
There are routine modifications required on the present signal system from time to time. Some examples are:
- minor modifications to hardware and software for the controllers and central control system
- modification of overhead signs
- adjustment of signal timings
- purchase of computer hardware and software to allow staff to better manage the existing signal system, utilize database software to inventory pedestrian and vehicle information, and to handle increasing requests from the public for traffic related data

Intelligent Transportation Systems
Intelligent Transportation Systems are the application and use of technology to optimize the effectiveness of the existing street infrastructure. Intelligent Transportation Systems provide the technology to enable people to make smart travel choices. Initiatives which are being proposed in this program include: testing detection equipment, installation of permanent counting stations, and providing information to the City's public web page.

2005 BASIC CAPITAL BUDGET

Reference # A-3d

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Traffic Signals

SUB-PROGRAM /PROJECT TITLE:
Replace Aging Signal Plant

SUB-PROGRAM or PROJECT DESCRIPTION:
Renovate and replacement of aging signal equipment at existing signalized intersections

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$802,000**	**$0**	**$0**	**$175,000**	**$627,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 223,200	Senior Governments	$
Materials	$ 407,400	Property Owners	$
Equipment	$ 87,400	DCL/CAC funding	$
Contract	$	Other (TransLink-MRN-OMR)	$ 175,000
Overhead	$ 80,200		
Other (IMS – RTS 4586)	$ 3.800		
Total	$802,000	**Total Other Funding Sources**	$ 175,000

COST SAVING AND OTHER BENEFITS:
With the proposed systematic renovation and replacement program, we do not expect an increase in operating budget requirements as a reflection of reduction in repair costs.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
Some of the existing traffic signals in the City were built in the early 1940's and the maintenance/repair costs (funded through operating budget) have been significantly higher than newer locations. With the proposed systematic renovation and replacement program, we do not expect an increase in operating budget requirements as a reflection of reduction in repair costs.

SCOPE:

Rebuild Traffic Signal Intersection	$465,000
Replace Rusty Traffic Signal Poles	$36,200
Underground/Overhead Spans	$51,700
Upgrade Signal Heads and Backboards	$36,200
Conflict Monitors/Rack/Loop Amplifiers	$212,900
TOTAL	$802,000

IMPACT OF DELAY
Aging traffic signals scheduled to be rebuilt in 2005 would not be completed. This would result in an increase in operating costs to maintain these signals in operation.

PROJECT TIMING:
Start Date (month/year) : May/05
Completion Date(month/year): April/06

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number**

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Traffic Signals

SUB-PROGRAM or PROJECT TITLE
Replace Aging Signal Plant

PROJECT SUMMARY (continued)

Rebuild Traffic Signal Intersections
Over 25% of all signalized intersections, or 40 locations, are 45 years or older. As part of an on-going program, 3 or 4 intersections will be rebuilt in 2005 at a total cost of $450,000. This amount includes funding for a 12 month Engineering Assistant III position to assist with the designs and construction issues in 2005.

Replace Rusty Traffic Signal Poles
There are over 3,500 traffic signal poles or transit poles with traffic signal equipment in the City. Many of these have suffered rust damage. As part an ongoing program, 5 traffic signal poles will be replaced in 2005 at an approximate cost of $7,000 per pole.

Underground/Overhead Spans
To improve aesthetics, as well as to reduce repair costs associated with the overhead spans being damaged by transit vehicles and severe weather conditions; 2 to 3 intersections will have their overhead spans relocated to underground in 2005.

Upgrade Traffic Signal Heads and Backboards
As a joint venture partner to improve traffic safety, ICBC is willing to cost share this program to upgrade the existing heads and/or replace the existing green backboards with yellow backboards, in order to improve visibility. At this time, the contribution from ICBC in 2005 has not been determined.

Conflict Monitors, Controller Rack Assemblies, and Loop Amplifiers
Conflict monitors, controller rack assemblies, and loop amplifiers are critical components of a traffic signal controller. This provides funding for an on-going program to replace aging equipment which has reaching its design life. The functions that are be impacted include: monitoring of the traffic lights for illegal or abnormal displays called conflicts; detection of pedestrians and vehicles at the intersection; increased signal head capacity; and communication with the central signal system.

2005 BASIC CAPITAL BUDGET

Reference # A-4a1

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Transit and Safety

SUB-PROGRAM/PROJECT TITLE:
Arterial Improvement: Enhancements at Pedestrian Crossings

PROJECT DESCRIPTION:
Design and construction of geometric modifications to enhance pedestrian crossing conditions

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$125,000**	**$0**	**$0**	**$25,000**	**$100,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$48,500	Senior Governments	$
Materials	$22,400	Property Owners	$
Equipment	$28,600	DCL funding	$25,000
Contract	$	Other (please specify e.g. donation)	$
Overhead	$24,900		
Other (IMS – RTS 4586)	$600		
Total	$125,000	**Total Other Funding Sources**	$25,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$2,000**	**$2,000**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

Staff are continuing to evaluate alternative measures to enhance pedestrian safety and comfort at all crosswalks throughout the city. On June 5, 2001, City Council passed a motion that staff be encouraged to accelerate the installation of various methods for improving pedestrian crossings.

OBJECTIVES:
This program will provide funding for geometric modifications at pedestrian crosswalks. These modifications include pedestrian bulges, medians, and other similar geometric re-designs to help reduce pedestrians' exposure to traffic, increase visibility of pedestrians and motorists, calm traffic, and increase awareness of the pedestrian crossing.

IMPACT OF DELAY: Any delay would not allow staff to address resident concerns regarding pedestrian crossing conditions and safety. Delays would conflict with Council's direction to accelerate the installation of improved pedestrian facilities.

PROJECT TIMING: Within 2005 fiscal year
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-4a2

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Transit and Safety

SUB-PROGRAM/PROJECT TITLE:
Arterial Improvements: Geometric Modifications

PROJECT DESCRIPTION:
Design, property acquisition, and construction of geometric modifications that improve conditions for pedestrians, transit users, trucks, general traffic and residents.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$475,000**	**$0**	**$0**	**$300,000**	**$175,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$160,600	Senior Governments	$50,000
Materials	$160,600	Property Owners	$
Equipment	$80,900	DCL funding	$250,000
Contract	$	Other (please specify e.g. donation)	$
Overhead	$71,800		
Other (IMS – RTS 4586)	$1,100		
Total	$475,000	**Total Other Funding Sources**	$300,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$5,000**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This funding will be used primarily for further improvements on the Clark Knight Corridor. To complement safety-oriented projects that have been approved along the Clark - Knight corridor, additional funds are proposed to enhance the streetscape and improve pedestrian facilities.

This funding will also be allocated to other arterial improvement projects such as:

Improve NE corner of Broadway
Increase green space at 12th
Remove/replace Crosswalk at 35th
Install Right-in /right-out diverter at 37th
Landscaped Median – 15th to 21st
Geometric improvements -Oak St and 12th Avenue.

IMPACT OF DELAY: Any delay will extend the timeframe to complete the improvements mandated in the Clark-Knight study

PROJECT TIMING:
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-4a3

DEPARTMENT:ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Transit & Safety

SUB-PROGRAM/PROJECT TITLE:
Downtown Transportation Implementation

PROJECT DESCRIPTION:
To provide miscellaneous geometric changes consistent with the Downtown Transportation Plan, including the widening of Nelson Street on the south side between Richards and Homer for bicycles.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$200,000**	**$0**	**$0**	**$150,000**	**$50,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$89,900	Senior Governments	$
Materials	$39,900	Property Owners	$
Equipment	$39,900	DCL funding	$50,000
Contract	$	Other (please specify e.g. donation)	$
Overhead	$30,000	TransLink – 2003 MRN Minor Capital (50% up to $100,000 max.)	$100,000
Other (IMS – RTS 4586)	$300		
Total	$200,000	**Total Other Funding Sources**	$150,000

COST SAVING AND OTHER BENEFITS: Cost-sharing with TransLink, increased driver comfort and safety, and increased pedestrian and cyclist comfort and safety.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES: To provide a more comfortable and safe environment for pedestrians and cyclists and to maintain appropriate traffic flow within the downtown.

SCOPE:

The widening of Nelson Street between Richards and Mainland is recommended in the Downtown Transportation Plan to facilitate cycling and improve traffic flow and safety. In conjunction with adjacent developments, the south side of Nelson Street between Richards and Homer will be widened this year. A maximum of $100,000 in matching funds from TransLink's 2003 MRN Minor Capital Program has been carried forward and is available in 2005 for this project. Several other minor miscellaneous pedestrian and cycling improvements like corner bulges and other localized curb changes may also be made. The total cost is estimated to cost $200,000, with $50,000 from DCL's and $50,000 from the Basic Capital Budget to maximize TransLink's $100,000 contribution.

IMPACT OF DELAY: Loss of TransLink Minor Capital cost sharing funds and coordination with adjacent redevelopments.

PROJECT TIMING: 2005
Start Date (month/year) :
Completion Date(month/year):
FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-4d

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Transit & Safety

SUB-PROGRAM/PROJECT TITLE:
Bus Pads and Passenger Landing Area Improvements

PROJECT DESCRIPTION:
Bus Pads and Passenger Landing Area Improvements at Bus Stops

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$200,000**	**$0**	**$0**	**$0**	**$200,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$52,700	Senior Governments	$
Materials	$58,600	Property Owners	$
Equipment	$57,700	DCL/CAC funding	$
Contract	$	Other (please specify e.g. donation)	$
Overhead	$29,800		
Other (IMS – RTS 4586)	$1,200		
Total	$ 200,000	**Total Other Funding Sources**	$ 0

COST SAVING AND OTHER BENEFITS:
Can reduce street and sidewalk maintenance costs

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This program improves the surface condition in bus stop areas by installing concrete roadway bus pads and concrete passenger landing areas.

Bus Pad Improvement:
There is an ongoing requirement to deal with the roadway failure in the areas around heavily used bus stops.

Bus Stop Passenger Area Improvement:
There is a requirement for passenger area improvements at bus stop locations. The installation of concrete passenger areas and accessibility pads is appropriate to upgrade the transit infrastructure and encourage transit use.

SCOPE:
There is an ongoing safety requirement to deal with deteriorating areas around bus stops. There is also a need to upgrade passenger areas at bus stops for the accessible trolley bus project and at other locations in the City. TransLink indicates the introduction of accessible trolley buses is projected to start in 2006. There is a requirement to upgrade pedestrian and accessibility surface at many locations in 2005 for the 2006 project implementation and at other locations.

IMPACT OF DELAY: Based on projected Translink implementation of the Accessible Trolley Buses this would reduce the number of bus stops that would be designated as accessible for this project. This would delay the construction schedule of new concrete bus slabs. This would also reduce the level of service to the public.

PROJECT TIMING:
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-5a

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Local Area Traffic Plans & Other Improvements

SUB-PROGRAM\PROJECT TITLE:

Local Area Traffic Plans & Other Improvements

PROJECT DESCRIPTION: Neighbourhood traffic calming plans and local, residential street-segment traffic calming measures are integral components of the Transportation Plan approved by Council in 1997. Traffic calming measures can include traffic circles, corner and mid-block bulges, full and partial street closures, right-in/ right-out diverters, diagonal diverters and speed humps. There has been an increasing demand for these measures on local, residential streets.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$580,000**	**$0**	**$0**	**$0**	**$580,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$268,400	Senior Governments	$
Materials	$ 94,400	Property Owners	$
Equipment	$119,300	DCL/CAC funding	$
Contract	$	Other (please specify e.g. donation)	$
Overhead	$ 94,400		$
Other(IMS – RTS 4586)	$ 3,500		$
Total	$580,000	**Total Other Funding Sources**	$

COST SAVING AND OTHER BENEFITS:
Neighbourhood safety and livability

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$10,000**	**$25,000**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:
To enhance the livability and safety on local neighbourhood streets by developing neighbourhood traffic calming plans in consultation with the neighbourhood and to create a safe pedestrian environment for school children by managing school and playground traffic-safety issues in consultation with the school community (staff and parents) and the Police.

SCOPE:
Speed humps will be installed in Grandview-Woodlands to address speeding concerns. A strategy will be developed for dealing with traffic on Napier Street. A neighbourhood traffic calming plan will be developed for Marpole West. Neighbourhood traffic concerns at specific locations such as Vernon/Pender, Fir/1st, Cornwall/Chestnut, Ross/53rd, and Fraser/7th Park lane access will also be dealt with.

There is a backlog of requests to deal with speeding problems. A number of the streets with speeding problems will be dealt with in 2005 by installing speed humps.

PROJECT TIMING: 2005
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

DEPARTMENT: ENGINEERING **PROGRAM: Local Area Traffic Plans & Other Improvements**
DIVISION: TRANSPORTATION

SUB-PROGRAM\PROJECT TITLE:

Local Area Traffic Plans & Other Improvements

PROJECT SUMMARY: (continued)

SCOPE:
In addition, there are many minor street improvements required which are not covered under the major budget categories. These improvements include changes due to rezoning and redevelopment, intersection modifications, drainage improvements, and street changes for new traffic signals.

Vancouver's Transportation Plan identifies pedestrians as having the highest priority in the transportation system and recommends that specific measures, including curb bulges, be implemented to address this priority. Curb bulges are an effective means of improving pedestrian crossing conditions and are strongly supported by Police School Patrol officers to increase the safety of children going to school. The intent of this project is to install pedestrian curb bulges at high priority locations identified with the help of the School Traffic Working Group (consisting of School Board, Police and Engineering staff).

IMPACT OF DELAY:

Council has already approved funding (subject to 2005 approval) for several projects and residents have been notified. There are a number of other school bulge and traffic calming plans which have been developed over the past number of years and delays would upset many residents and may create some safety concerns.

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2005 BASIC CAPITAL BUDGET

Reference # A-5b

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Local Area Traffic Plans & Other Improvements

SUB-PROGRAM\/PROJECT TITLE: Higher Zoned Streets – Local Improvement

SUB-PROGRAM\ PROJECT DESCRIPTION: Paving and planting trees adjacent industrial, commercial and multiple dwelling areas.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 1,170,000**	**$0**	**$0**	**$ 820,000**	**$ 350,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 151,900	Senior Governments	$
Materials	$ 151,900	Property Owners	$ 820,000
Equipment	$ 93,300	DCL/CAC funding	$
Contract	$ 548,900	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 221,900		
Other (IMS – RTS 4586)	$ 2,100		
Total	$ 1,170,000	**Total Other Funding Sources**	$ 820,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
Paving and curbing of higher zoned streets is done by local improvement. This program is used to:

-pave streets with unusually high maintenance costs and safety issues.
-initiate streets where property owners or tenants want paving but are unable to gather sufficient signatures due to absentee landlords.
-pave streets in areas where local area planning processes have identified a need.

Higher zoned street paving addresses the infrastructure problem by replacing old, worn out, and high maintenance strip pavements with new, paved streets designed to meet current traffic loading. Other benefits of this program are extension of the bicycle network, installation of street trees which expands the urban forest, and improved conditions for sidewalk installation. At Council's request, increased flexibility has been incorporated into this program by providing alternate street widths in multi-family residential areas, and by allowing the inclusion of corner bulges where desired.

For 2005, the request for Higher Zoned Street funding has been reduced by $30,000 from the $380,000 remaining balance of the 3 Year Capital Plan. This has allowed for an offsetting increase in the New Sidewalk submission (A2a) in accordance with Council's priorities set in 2004.

IMPACT OF DELAY: Council will be approving funding for 2 higher zoned streets, one street is a petition project and the other is a Sewer related project with 2005 funding constraints

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-5c

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Local Area Traffic Plans & Other Improvements

SUB-PROGRAM\ PROJECT TITLE:
Residential Streets – Local Improvements

SUB-PROGRAM \PROJECT DESCRIPTION: Installation of pavement and planting trees on residential streets.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 216,000**	**$0**	**$0**	**$ 56,000**	**$ 160,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 27,900	Senior Governments	$
Materials	$ 27,900	Property Owners	$ 56,000
Equipment	$ 19,300	DCL/CAC funding	$
Contract	$ 99,100	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 40,800		
Other (IMS – RTS 4586)	$ 1,000		
Total	$ 216,000	**Total Other Funding Sources**	$ 56,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This is primarily a Petition program to meet property owner demand for improvements on their block. Increased flexibility in this program is provided by allowing the inclusion of corner bulges, and also by allowing alternate street widths and parking arrangements. Residential street paving addresses the infrastructure concern by replacing old , worn out and high maintenance strip pavements with new paved streets.

Other benefits of this program are extension of the bicycle network, installation of street trees which expands the urban forest, improved separation between pedestrians and vehicles, and allowing more creative street designs.

Implementation of the new Local Improvement cost sharing formula by Council in 2004 will result in a reduction in the number of Residential Street petitions received due to the increased property owner's share. For 2005 the request for Residential Streets funding has been reduced by $740,000 from the $900,000 remaining balance of the 3 Year Capital Plan. This has allowed for an offsetting increase in the new Sidewalk submission (A2a) in accordance with the priorities set by Council in 2004

IMPACT OF DELAY: In November 2004, Council had already approved funding (subject to 2005 approval) for several residential street construction projects. Any delays will increase construction costs and may upset residents.

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-5d

DEPARTMENT: ENGINEERING **PROGRAM: Local Area Traffic Plans & Other Improvements**
DIVISION: STREETS

SUB-PROGRAM \PROJECT TITLE: Higher Zoned Lanes – Local Improvements

SUB-PROGRAM \ PROJECT DESCRIPTION: Initiated and petition paving of industrial, commercial and multiple dwelling area lanes.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 450,000**	**$0**	**$0**	**$ 360,000**	**$90,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 129,900	Senior Governments	$
Materials	$ 129,900	Property Owners	$ 360,000
Equipment	$ 99,800	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 89,900		
Other (IMS – RTS 4586)	$500		
Total	$ 450,000	**Total Other Funding Sources**	$ 360,000

COST SAVING AND OTHER BENEFITS: Lane maintenance costs are reduced by these permanent improvements.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

This is primarily an Initiative program due to a large percentage of absentee landowners in higher-zoned areas. The petition process is very difficult in these circumstances. Project selection is based on complaints from tenants, lessees, or employees, or due to high maintenance requirements. These lanes, due to their high usage, often require intense maintenance which is greatly reduced by the permanent improvements.

SCOPE:

IMPACT OF DELAY: Petitions from the public will not be processed if there are any delays to the funding and this will inconvenience the public and businesses.

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-5e

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Local Area Traffic Plans & Other Improvements

SUB-PROGRAM or PROJECT TITLE: Residential Lanes – Local Improvements

SUB-PROGRAM or PROJECT DESCRIPTION: Grading, drainage and paving of residential lanes.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$1,000,000**	**$0**	**$0**	**$ 600,000**	**$ 400,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 299,300	Senior Governments	$
Materials	$ 299,300	Property Owners	$ 600,000
Equipment	$ 199,500	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 199,500		
Other (IMS – RTS 4586)	$ 2,400		
Total	$ 1,000,000	**Total Other Funding Sources**	$ 600,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:

Since 1972, we have been engaged in a program of low cost paving of residential lanes. This Local Improvement program is intended to deal with the chronic problems of unpaved or oil-capped lanes which include dust, mud, potholes, ditch maintenance and drainage problems.

In response to Council's direction in 2004, centre strip paving is now offered as the standard treatment in residential areas. Full width paving, and Country Lane treatment is also available, but with increased cost premiums. Long term maintenance issues with the Country Lane treatment are still being evaluated.

IMPACT OF DELAY: In November 2004, Council had already approved funding (subject to 2005 approval) for several residential lane construction projects. Any delays will increase construction costs and may upset residents.

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-5f

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Local Area Traffic Plan & Other Improvements

SUB-PROGRAM or PROJECT TITLE: Drainage Prior to Paving & Advance Utility /Design/Surveying Work

SUB-PROGRAM or PROJECT DESCRIPTION: Drainage and utility/design/surveying work required in advance of project approval.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 125,000**	**$0**	**$0**	**$0**	**$ 125,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 49,700	Senior Governments	$
Materials	$ 49,700	Property Owners	$
Equipment	$	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 24,800		
Other (IMS – RTS 4586)	$ 800		
Total	$ 125,000	**Total Other Funding Sources**	$

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

Funds for drainage prior to paving and utility relocation, design and surveying done in advance of project approval. Long lead-time for utility and design work can delay paving if not initiated early. This program allows work to proceed in advance of the approval of the paving project so that the scheduling will not be affected. For 2005, funding of $100,000 is requested for Drainage Prior to Paving, and $25,000 for Utility/Design/Surveying work

SCOPE:

IMPACT OF DELAY: Any delays will impact the construction schedule for various approved street and lane projects. This will increase construction costs and may upset residents and businesses.

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-5g

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Local Area Traffic Plan & Other Improvements

SUB-PROGRAM or PROJECT TITLE:
Grade & Open Streets & Lanes

SUB-PROGRAM or PROJECT DESCRIPTION:
Open Streets and Lanes as required.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 50,000**	**$0**	**$0**	**$0**	**$ 50,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 19,900	Senior Governments	$
Materials	$ 19,900	Property Owners	$
Equipment	$	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 9,900		
Other (IMS – RTS 4586)	$ 300		
Total	$ 50,000	**Total Other Funding Sources**	$

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

Although the City is nearly fully developed, there is occasionally a need and an opportunity to improve access. For example, dedication of property may occur which completes right-of-way for a needed lane. Funding of $50,000 is requested for 2005, to provide for opening such needed lanes or roadways as the opportunities arise during the course of the year.

SCOPE:

IMPACT OF DELAY:
Any delays will limit our abilities to effectively deal with requests to grade and open streets and lanes. This will limit the public's ability to access their lane or street.

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-5h

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Local Area Traffic Plan & Other Improvements

SUB-PROGRAM or PROJECT TITLE:
Minor Property Acquisition

SUB-PROGRAM or PROJECT DESCRIPTION:
Purchase of small pieces of property.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 120,000**	**$0**	**$0**	**$0**	**$ 120,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$	Senior Governments	$
Materials	$	Property Owners	$
Equipment	$	DCL/CAC funding	$
Other (IMS – RTS 4586)	$ 700	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 5,000		
Other – Property Acquisition	$ 114,300		
Total	$ 120,000	**Total Other Funding Sources**	$

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

Minor property acquisition is required for corner cut-offs and other minor widenings as the need arises. A funding level of $120,000 is requested for 2005.

SCOPE:

IMPACT OF DELAY: Transportation projects which require minor property acquisition will be delayed and the costs may increase.

PROJECT TIMING: Throughout the year.
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-6a1

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Major Projects

SUB-PROGRAM/PROJECT TITLE:
Burrard Bridge Pedestrian and Cyclist Upgrades

PROJECT DESCRIPTION:
Greenways Project

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$11,708,000**	**$6,708,000**	**$0**	**$0**	**$5,000,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 702,500	Senior Governments	$
Materials	$ 234,200	Property Owners	$
Equipment	$ 234,200	DCL/CAC funding	$
Contract	$ 9,366,300	Other (Carryforward CB2EA6AX1)	$ 6,708,000
Overhead	$ 1,170,800		
Other (specify)	$		
Total	$ 11,708,000	**Total Other Funding Sources**	$ 6,708,000

COST SAVING AND OTHER BENEFITS:
Improved safety for pedestrians and cyclists.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES: To allocate the funding that will be added to previously existing funding to make improvements to the Burrard Bridge for pedestrians and cyclists.

SCOPE: The final design for the Burrard Bridge pedestrian and cyclist improvements has not been determined but this money should be allocated so it is available when the final design is approved.

Council will be provided with a report seeking direction on the next steps of this project in the following months. At this time it is possible that Council will direct staff to proceed with the full design so it is important that the money be available to proceed. If a less expensive option is chosen staff will report back on the disposition of the excess funding.

IMPACT OF DELAY: Burrard Cyclist and Pedestrian Improvements. If this funding is delayed and Council directs staff to proceed with this project, as is possible this May, we will not be able to proceed. There are a number of liability issues associated with this work and if the work does not proceed the City's exposure to legal action could be greatly increased.

PROJECT TIMING:

IMPACT OF DELAY

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-6a2

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Major Projects

SUB-PROGRAM/PROJECT TITLE:
Burrard Bridge

PROJECT DESCRIPTION:
Burrard Bridge Seismic Upgrading

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$4,700,000**	**$0**	**$2,700,000**	**$2,000,000**	**$0**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$0	Senior Governments	$2,000,000
Materials	$0	Property Owners	$
Equipment	$0	DCL/CAC funding	$
Contract	$4,563,100	Other (please specify e.g. donation)	$
Overhead	$136,900		
Other	$0		
Total	$4,700,000	**Total Other Funding Sources**	$2,000,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

This project is the final phase of the seismic upgrading of the Burrard Bridge

SCOPE:
Work involves seismically upgrading structural supports on the bridge's south approach.

Reference: council approval RTS 4593 and 4971

IMPACT OF DELAY: Delaying this project will result in the City not receiving $2M of CDN/BC Infrastructure funding.

PROJECT TIMING:
Start Date (month/year) : April 2005
Completion Date(month/year): Feb/March 2006

FOR INTERNAL USE ONLY:
Order Group: **Order Number**

2005 BASIC CAPITAL BUDGET

Reference # A-6b

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: Major Projects

SUB-PROGRAM/PROJECT TITLE:
Downtown Streetcar

PROJECT DESCRIPTION:
Detailed Design of the Downtown Streetcar for Phase 1, Granville Island to Waterfront Transit Hub

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 500,000**	**$0**	**$0**	**$ 500,000**	**$0**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$	Senior Governments	$
Materials	$	Property Owners	$
Equipment	$	DCL funding	$ 300,000
Contract	$425,000	Other (Translink, Transport Canada, FCM)	$ 200,000
Overhead	$75,000		
Other (specify)	$		
Total	$ 500,000	**Total Other Funding Sources**	$ 500,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
The demonstration streetcar line began operation in 1998, and to date has enjoyed strong support from the public and numerous stakeholders. Vancouver has the capability and desire to expand this streetcar service into an exciting and attractive transit experience. The Downtown Streetcar expansion utilizes routing and dedicated rights-of-way approved by Council and would begin to link major destinations including Granville Island, False Creek South , Southeast False Creek, TELUSphere (Science World), China Town, Gastown, Waterfront Station and the Convention Centre. The project is recommended as part of the Downtown Transportation Plan, the Vancouver Transit Strategy, and the Southeast False Creek Official Development Plan to meet sustainability goals and anticipated transportation demand.

SCOPE:
It is recommended that detailed planning begin as soon as possible in order to co-ordinate with major initiatives such as the redevelopment of Southeast False Creek, Olympic Athlete's Village, TELUSphere expansion and, if approved, the RAV station located at 2nd Avenue. Cost sharing with other levels of government and agencies would be explored and reported to Council as part of a proposed financial and operating model. Capital funding for the Downtown Streetcar expansion is being considered as part of the 2006 to 2008 Capital Plan.

IMPACT OF DELAY : Design work would not be completed without funds

PROJECT TIMING:
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # A-6c

DEPARTMENT: ENGINEERING
DIVISION: STREETS

PROGRAM: MAJOR PROJECTS

SUB-PROGRAM/PROJECT TITLE:
Growth and system expansion in area-specific DCL areas

PROJECT DESCRIPTION:
Urban Transportation Showcase Program

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approved	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 2,000,000**	**$0**	**$0**	**$ 0**	**$ 2,000,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$	Senior Governments	$
Materials	$	Property Owners	$
Equipment	$	DCL funding	$
Contract	$2,000,000	Other	$
Overhead	$		$
Other	$		$
Total	$2,000,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

This funding will offset the $2M from the $20M of borrowing authority approved by the voters for the City's share projects receiving senior government cost sharing for the Urban Transportation Showcase Program (RTS 3940).

The funding was provided on an interim basis for the Urban Transportation Showcase Program until approval of the 2005 budget.

SCOPE:

IMPACT OF DELAY:

PROJECT TIMING:
Start Date (month/year) :
Completion Date(month/year):

FOR INTERNAL USE ONLY:
Order Group: **Order Number:**

ENGINEERING COMMUNICATIONS

Project Number	Program - 2005	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
B1	ABOVE GROUND TERMINALS	$ 45	$ 0	$ 45
B2	UNDERGROUND CABLE REPLACEMENT	$ 200	$ 0	$ 200
B3	UNDERGROUND CABLE EXPANSION	$ 400	$ 0	$ 400
	DEBENTURE COSTS	$ 0	$ 0	$ 0
	TOTAL – 2005 COMMUNICATIONS CAPITAL BUDGET	$ 645	$ 0	$ 645

2005 BASIC CAPITAL BUDGET

Reference # B1

DEPARTMENT: ENGINEERING
DIVISION: TRANSPORTATION

PROGRAM: Communications

SUB-PROGRAM or PROJECT TITLE:
Above Ground Cable Test Terminals

SUB-PROGRAM or PROJECT DESCRIPTION:
The project involves the installation of above ground terminals in cabinets to increase accessibility to cable circuits

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$45,000**	**$0**	**$0**	**$0**	**$45,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$10,100	Senior Governments	$
Materials	$14,200	Property Owners	$
Equipment	$16,200	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$4,200		
Other (IMS – RTS 4586)	$300		
Total	$45,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

The City has long owned an extensive underground communications network that is used for inter-office communications, for centralized control of traffic signals, and for monitoring various facilities and operations. It consists of both older copper wire and newer fiber optic cable. This program provides access points for cable troubleshooting and circuit routing. Cabinets are placed in strategic locations where cables intersect. This allows for circuit rerouting to be done without creating extensive splices in underground chambers. The project is a continuation of a program started in previous capital plans.

SCOPE:

IMPACT OF DELAY: This funding is required to raise the underground splice boxes to above ground terminal boxes. This is the preferred standard which makes troubleshooting for circuits easier and has been part of an ongoing program in conjunction with installing fiber cables and replacement of cables.

PROJECT TIMING:
Start Date (month/year) : January/2005
Completion Date(month/year): December/ 2005

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # B2

DEPARTMENT:ENGINEERING **PROGRAM: Communications**
DIVISION:TRANSPORTATION

SUB-PROGRAM or PROJECT TITLE:
Underground Cable Replacement

SUB-PROGRAM or PROJECT DESCRIPTION:
This program is part of the ongoing annual replacement of approximately two miles of underground cable.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$200,000**	**$0**	**$0**	**$0**	**$200,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$44,900	Senior Governments	$
Materials	$62,900	Property Owners	$
Equipment	$72,000	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$19,000		
Other (IMS – RTS 4586)	$1,200		
Total	$200,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This project is a continuation of the replacement program.

The average service life of the large cables that make up the 110 kilometres of our underground plant is 40 years. A life cycle replacement program of two percent per year has been in effect since 1981 in an attempt to keep this valuable facility from deteriorating. The underground cable plant is an invaluable resource that represents a minimum of $2,000,000 annual savings in lease line costs.

SCOPE:

IMPACT OF DELAY: This funding is for replacing the aging copper cable which is used mainly for traffic signal communications linking up the over 710 locations city - wide. This cable in many situations has become worn out, brittle, cracking and has outlived it's life expectancy of 20 years and was installed in the early 1980's.

PROJECT TIMING:
Start Date (month/year) : January/ 2005
Completion Date(month/year): December/ 2005

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET — Reference # B3

DEPARTMENT:ENGINEERING — **PROGRAM: Communications**
DIVISION:TRANSPORTATION

SUB-PROGRAM or PROJECT TITLE:
Underground Communications Network Expansion

SUB-PROGRAM or PROJECT DESCRIPTION:
This project will increase the sizes of some cables, add additional copper cables and add some fiber optic cables to the underground cable system.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$400,000**	**$0**	**$0**	**$0**	**$400,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$90,000	Senior Governments	$
Materials	$125,900	Property Owners	$
Equipment	$143,900	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$37,800		
Other (IMS – RTS 4586)	$2,400		
Total	$400,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This project would increase the capacity of the underground copper cable system, as well as add fibre-optic cable to the underground plant. This would be done to complement the fibre network we are obtaining through telecommunications agreements. Cable will be installed in those locations where gaps in the network exist and where City plant is the most cost effective solution. Specific locations and cost benefit will be prioritized in more detail as the plan proceeds.

SCOPE:

IMPACT OF DELAY: This funding is required to expand and build the backbone for the fiber cable network. This work includes installing fiber to the new library at Knight and Kingsway, new community centre at Main and Kingsway and replacing Telecom lease lines throughout the City. The work is planned and prioritized in conjunction with IT and our own network.

PROJECT TIMING:
Start Date (month/year) : January/2005
Completion Date(month/year): December/2005

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

ENGINEERING STREET LIGHTING

Project Number	Program - 2005	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
C1	RENOVATE AND REPLACE PLANT	$ 1,250	$ 0	$ 1,250
C2	NEW LOCAL IMPROVEMENTS	$ 240	$ 200	$ 40
	DEBENTURE COSTS	$ 0	$ 0	$ 0
	TOTAL – 2005 STREET LIGHTING CAPITAL BUDGET	$ 1,490	$ 200	$ 1,290

2005 BASIC CAPITAL BUDGET

Reference # C1

DEPARTMENT:ENGINEERING **PROGRAM: Street Lighting**
DIVISION: TRANSPORTATION

SUB-PROGRAM or PROJECT TITLE:
Renovate and Upgrade Plant

SUB-PROGRAM or PROJECT DESCRIPTION:
Ongoing program to address issues related to the Street Lighting Plant

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$1,250,000**	**$0**	**$0**	**$0**	**$1,250,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$407,500	Senior Governments	$
Materials	$509,400	Property Owners	$
Equipment	$101,900	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$223,700		
Other (IMS – RTS 4586)	$7,500		
Total	$1,250,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This project involves upgrades and renovations to many aspects of the Street Lighting Plant. These include conduit replacement, circuit protection fuses, splices along trolley routes, rusty pole replacements, service panel replacements, embedded pole replacements, luminaire replacements, and improving lighting levels. The program objectives are to ensure that the existing plant is upgraded and maintained to a level that provides safe and effective operation to meet the needs of the City of Vancouver and its residents.

SCOPE:

Detailed studies and inspections are undertaken each year to determine locations that need replacement so that funds can be targeted for areas that need immediate action.

IMPACT OF DELAY

The infrastructure is aging and major portions of it need upgrading. Delays increase the probability that citizens will be exposed to hazards due to falling poles or energized poles and panels.

PROJECT TIMING:
Start Date (month/year) : January/ 2005
Completion Date(month/year): December/2005

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # C2

DEPARTMENT:ENGINEERING **PROGRAM: Street Lighting**
DIVISION: TRANSPORTATION

SUB-PROGRAM or PROJECT TITLE:
Local Improvements

SUB-PROGRAM or PROJECT DESCRIPTION:
Ongoing program to address local improvement petitions

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$240,000**	**$0**	**$0**	**$200,000**	**$40,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$81,900	Senior Governments	$
Materials	$101,900	Property Owners	$200,000
Equipment	$20,000	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$36,000		
Other (IMS – RTS 4586)	$200		
Total	$240,000	**Total Other Funding Sources**	$200,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$6,000**	**$6,000**	**$6,000**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
Funding is to address ongoing local improvements for street, lane and pedestrian lighting which will be advanced during the period of 2003-2005 in response to petition requests. The funding could be used by BIAs and other commercial groups as seed money for these types of projects though the local improvement process. This program helps create a more secure and pleasant environment for pedestrians and residents.

This project assists the Police Dept with surveillance and crime detection by adding lighting in poorly lit or unlit places. In addition, this project provides for the upgrade of lighting in conjunction with curb and gutter work done by the Streets Operations Branch

SCOPE:
Projects will be advanced to the Court of Revision scheduled throughout 2005

IMPACT OF DELAY

Projects that are approved through the Court of Revision would be unfunded.

PROJECT TIMING:
Start Date (month/year) : January/ 2005
Completion Date(month/year): December/2005

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

ENGINEERING SEWERS & DRAINAGE

Project Number	Program - 2005	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
D1	**SYSTEM REPLACEMENT/SEPARATION**			
	1) Main Sewer Reconstruction	24,367	7,760	16,607
	2) Connection and Manhole Reconstruction	356	0	356
	3) Local Repairs & Catch Basin and Spur Reconstruction	620	220	400
	4) Upgrade and Replacement of Pump Stations	593	0	593
	SUBTOTAL – SYSTEM REPLACEMENT/ SEPARATION	**$ 25,936**	**$ 7,980**	**$ 17,956**
D2	**SYSTEM MANAGEMENT**			
	1) Television Inspection	50	0	50
	2) Investigation for Design	111	0	111
	SUBTOTAL - SYSTEM MANAGEMENT	**$ 161**	**$ 0**	**$ 161**
D3	**OTHER POLLUTION ABATEMENT**			
	1) Liquid Waste Management Plan	0	0	0
	2) Sewer Separation on Private Property	293	0	293
	SUBTOTAL - OTHER POLLUTION ABATEMENT	**$ 293**	**$ 0**	**$ 293**
D5	**PUBLIC SEWER CONNECTIONS**	**$8,200**	**$8,200**	**$0**
	DEBENTURE COSTS	**$ 0**	**$ 0**	**$ 0**
	TOTAL – 2005 SEWERS CAPITAL BUDGET	**$ 34,590**	**$ 16,180**	**$ 18,410**

2005 BASIC CAPITAL BUDGET

Reference # D1

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:

System Replacement/Separation

SUB-PROGRAM or PROJECT DESCRIPTION:
This program consists of the renewal of sewer mains, connections, manholes, street drains and pump stations.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 25,936,000**	**$0**	**$0**	**$ 7,980,000**	**$ 17,956,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 3,920,800	Senior Governments	$ 7,760,000
Materials	$ 4,070,300	Property Owners	$
Equipment	$ 4,706,600	DCL/CAC funding	$
Contract	$ 8,178,500	Other (Translink – MRN OMR)	$ 220,000
Overhead	$ 1,496,100		
Street Cut & Others	$ 3,456,000		
Other (IMS – RTS 4586)	$ 107,700		
Total	$ 25,936,000	**Total Other Funding Sources**	$ 7,980,000

COST SAVING AND OTHER BENEFITS:
Optimizes sewer maintenance budgets and reduces flow based GVS&DD levies.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

N/A

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

To execute the strategic plan of continuous sewer replacement that spreads the costs of capital work more evenly among taxpayers over time and allows staff to maintain a stable, well-trained labor force in accordance with the City's goal of replacing 1% of the system annually based on an anticipated 100 year life for the new pipes being constructed. This strategic plan was approved by Council in 1981 as part of the Sewers Long Range Plan and reaffirmed by Council in 1991 as part of the City's Design and Service Level Standards. It was also approved in each subsequent Capital Plan and reaffirmed when Council endorsed the Liquid Waste Plan submission to the Province in 2000 and 2001.

SCOPE: continued on next page

IMPACT OF DELAY: Delays would restrict the City's ability to continually reduce CSOs and to eliminate them by 2050, per City commitment in the Liquid Waste Management Plan.

PROJECT TIMING:
Start Date (month/year):
Completion Date (month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:

System Replacement/Separation

PROJECT SUMMARY (continued)

SCOPE

This program is effective in preventing serious collapse of sewers and in addressing major flooding problems in the City. It also has a major environmental benefit by addressing Vancouver's sewage overflows to our local waters. As this program progresses, sewage overflows will be reduced and eventually eliminated. It complies with Provincial policy and objectives for combined sewer overflow reduction and elimination, and is necessary to meet our commitments under the Liquid Waste Management Plan. In addition, as the sewer system is reconstructed, a reduction in dry weather flows to the Iona Sewage Treatment Plant will occur, thus offsetting the City's Regional District sewage levy.

Vancouver's first sewers were constructed in about 1890, and the system has continued to expand over the last century to its present configuration. The first significant replacement of our original sewers began in the early 1960s. Throughout the 1970s, higher levels of annual replacement of up to 2% of the system occurred. During this busy period, for example, much of the original West End sewers were reconstructed.

The table below summarizes the age of our sewer system:

Age of the Sewers System

Year of Construction	Length (kilometres)	Length (%)	Age*
Pre-1930	627	31	over 74
1930-1959	528	27	45-74
1960 to date	829	42	0-44

* many sewers built prior to 1930 have unknown ages, particularly those located in the former municipalities of South Vancouver and Point Grey

In selecting sewers to be replaced in our annual program, a number of factors are considered including the age, condition and capacity of the pipes, flooding risk reduction and pollution abatement benefits. Information from television inspections, flow monitoring, and maintenance programs is used to identify sewers that need to be rebuilt due to physical deterioration or inadequate service. Engineering analysis such as computer flow modelling is also used to assess the system's capacity.

In conjunction with the replacement program, the sewer infrastructure is being changed from a combined system (single pipes which carry storm water and sewage mixed together) to a separated system (separate storm pipes and sanitary pipes). This reduces combined sewage overflows by either concentrating the sanitary sewage in the lines discharging to the sewage treatment plant or relieving the system by redirecting storm water from sanitary lines into the surrounding waters. Sewage that overflows into the local waters increases fecal coliform levels and other pollutants that can affect human health and marine life. This program addresses the CityPlan's next step in achieving environmental improvements as outlined above.

The City has also received funding under the Canada-B.C. Infrastructure Program to accelerate sewer separation in order to reduce combined sewer overflows in a shorter time frame. The Federal, Provincial and City governments equally fund these programs.

Also included in the system replacement program are funds for the renewal of sewer connections and manholes, repairs of catch basins and spurs, and the upgrading or replacement of pump stations. Details of these subprograms can be found in the

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:

System Replacement/Separation

PROJECT SUMMARY (continued)

SCOPE

project submissions.

An additional source of funds for system replacement are sewer connection permit fees. Depending on the level of building construction, we anticipate that fees of between $6 million and $8 million will be collected annually during the 2003 - 2005 Capital Plan. The City has approximately 100,000 sewer connections totalling over 900 kilometres in length, and these funds are used to rebuild the line between the main sewer and the property being redeveloped.

Program/work priority in some funding areas often change subsequent to the time the budget forecast was made. During the first two years of this capital plan, shifting in capital work priority/schedule had taken place to better respond to changing sewer infrastructure work requirements and to coincide with street paving projects. Staff anticipates that further revisions are necessary to be made to work priority/schedule in 2005. As a result, a number of budget allocation adjustments are necessary to reflect the revised levels of funding required for each sub-programs in 2005.

1. Main Sewer Reconstruction

Summary of the 11 Basin Areas and their estimated 2005 budgets:

Basin Description	2005 Estimates
Fraser River	$ 1,085,000
West Point Grey	$ 1,462,000
Balaclava	$ 1,137,000
Kitsilano/S. Granville	$ 10,000
Cambie/Heather	$ 3,525,000
Terminal Avenue	$ 270,000
Downtown Pennisula	$ 130,000
Grandview-Woodland	$ 219,000
Hastings-Sunrise	$ 1,077,000
China Creek	$ 7,250,000
Still Creek	$442,000
Canada BC Funding	$ 7,760,000
Subtotal	$24,367,000

These estimates reflect some allocation adjustments are required among the System Replacement/Separation program in this final year of the Capital Plan.

1A Fraser River **$ 1,085,000**

The Fraser River drainage area is comprised of eight distinct basins covering approximately 10,000 acres of Vancouver, between Burnaby and the UEL, on the south slope of the City. The original sewers were built at various times starting in the 1910's (on the west side and in Marpole), right up to present day (Fraser Lands). Previous Capital Plans have provided for the replacement of many of the old combined sewers in Marpole and undersized and/or deteriorated sewers in miscellaneous basins. The long range plan for sewer replacement anticipates that the majority of the remaining sewers will need to be

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:

System Replacement/Separation

PROJECT SUMMARY (continued)

SCOPE

replaced in the first half of this century. Funding allowance has been made for reconstruction of the most seriously undersized and/or deteriorated sewers in this area in the 2003-2005 Capital Plan. However, the work plan for this basin needs to expand to carry out some sewer replacement work prior to paving of Blenheim Street scheduled for 2005. This latter work was not anticipated when the 2003-2005 Capital Plan was developed. 2005 Funding allocation has been updated for this basin to meet the revised work schedules.

1B West Point Grey **$ 1,462,000**

The 1,300 acre West Point Grey basin lies generally north of 22nd Avenue, between the UEL and Waterloo Street, and is tributary to English Bay. The original sewers were built between 1908 and the mid 1920's, and will need to be replaced over the next 15 years. Our plan is to continue the sewer reconstruction work in this area that we started in the late 1980's. Due to the unanticipated increase in the number of street paving projects and some recent flooding problems registered in this area, more reconstruction work have been carried out in 2004 and the same increase level of construction work is planned for 2005. Therefore, increase in budget allocation is recommended for this basin in 2005.

1C Balaclava **$ 1,137,000**

The Balaclava sewer catchment drains more than 2,300 acres of the City's north slope parallel to Puget and Valley Drive. The oldest sewers in the basin, north of 12th Avenue and in Shaughnessy, were built between 1910 and 1916 and are in primarily fair to poor condition. Sewers in the remainder of the area were built during construction programs from the 1920's to the 1960's and will be replaced over the next 50 years. Reconstruction of the most deteriorated sewers began during the 1991-93 Plan and funds will be required to continue this program in 2005.

However, due to a postponement of Broadway paving from 2005 to 2006, a major sewer reconstruction job has postponed and as a result, a lower funding level is allocated to this basin in 2005. Some funds originally planned for this basin can therefore be reallocated to other areas that have a more urgent need.

1D Kitsilano-South Granville **$ 10,000**

This 940 acre area drains to English Bay and False Creek. The remaining original sewers were constructed between 1907 and 1914 and are in mostly fair to poor condition. Since its original construction, this area has redeveloped to become a dense multiple dwelling district, west of Burrard Street and south of Broadway, with most of the remaining area comprised of large scale commercial developments. As a result, most of the remaining original sewers are generally undersized for present developments. In addition, combined sewer overflows from this basin discharge to receiving waters serving large numbers of various recreational users. Due to these factors, a twenty year program to replace the original sewer system was initiated in 1984. The majority of the construction work planned for this capital plan has completed in 2003 and therefore a reduced budget allocation is recommended for this basin in 2005.

1E Cambie-Heather **$ 3,525,000**

This is a large 2,160 acre basin drains the north slope of the City and extends along the entire south side of False Creek . The original sewers in this area were constructed at various times over a 50 year period beginning around 1900. Many of the oldest

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:

System Replacement/Separation

PROJECT SUMMARY (continued)

SCOPE

sewers were replaced as part of the south False Creek, Fairview Slopes and Fairview Heights redevelopments. Complete replacement of the remaining original sewers is planned over the next 40 years. Reconstruction during the 2003-2005 Capital Plan will focus on those areas which have been rezoned and redeveloped in recent years as well as on the most deteriorated pipes. In addition, due to the overall RAV schedule work plan, sewer work coordinated with the Main Street Showcase Street work was advanced ahead of original schedule. Staff estimate increase of funds for 2005 is required for this basin to meet changing requirements.

1F Terminal Avenue **$ 270,000**

The Terminal Avenue outfall, located at the east side of False Creek, drains over 900 acres of the City. The drainage basin generally is bounded by 15th Avenue, Pender Street, Clark Drive and False Creek. The basin contains one of the oldest industrial areas of Vancouver and many of the original sewers have been replaced in the last 25 years. For 2005, funds for minor sewer replacement work will be required to reduce combined overflows and provide some improvement to water quality in False Creek.

1G Downtown Peninsula **$ 130,000**

Reconstruction of the original sewer systems of the 1,300 acre Downtown Peninsula is almost complete. This program originally began approximately 30 years ago with the rezoning of the West End and continues during this Plan. For 2005, funds are required for continued sewer replacement work.

1H Grandview-Woodlands **$ 219,000**

The original sewer system in the Grandview/Woodlands area was constructed around 1910 and today serves mostly dense industrial, commercial and multiple dwelling developments. This 1,630 acre basin is generally between Clark Drive and Nanaimo Street, and north of the Grandview Cut draining to Burrard Inlet. The area is also tributary to the Clark Drive outfall which is the largest combined sewer overflow point in the City. Sewer separation in this area is a high priority as it provides pollution reduction benefits at Clark Drive. However, due to a postponement of Commercial Drive paving from 2005 to 2006, a major sewer reconstruction job has postponed as well. As a result, funding requirements for this basin will be lower than anticipated for the 2003-2005 Capital Plan. Some funds originally planned for this basin can therefore be reallocated to other higher priority sewer work.

1I Hastings-Sunrise **$ 1,077,000**

The 1,560 acre Hastings Sunrise basin lies east of Nanaimo Street and generally north of First Avenue and drains north to Burrard Inlet. Almost all of the original sewers, which were built at various times between about 1900 and the late 1920's, are still in service today. The sewer's long range plan projects the replacement of sewers in this area to be carried out over a 20 year period. Work in this area will reduce and eventually eliminate combined sewer overflows at the Cassiar outfall as well as provide environmental benefits at the Clark Drive outfall. In addition to the original planned work, sewer work coordinated with paving work on Penticton Street was advanced from 2006 to 2005. Staff estimates increase in funding allocation for this basin is required in 2005 to cover this additional sewer work.

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:

System Replacement/Separation

PROJECT SUMMARY (continued)

SCOPE

1J China Creek **$ 7,250,000**

The China Creek basin comprises about 3,050 acres of mostly single family homes in an area bounded roughly by Main Street, 12th Avenue, Nanaimo and 41st Avenue. This north sloping area lies immediately west of the Still Creek basin and drains to Burrard Inlet through the Clark Drive outfall. The original sewers in the area were built at various times between the 1910's and the 1960's. Many sewers are damaged due to settlement of the peat found in pockets within the area. In 2005, funds are required for the replacement of the most deteriorated sewers in the area.

The City's share of the Canada-B.C. Infrastructure Program is funded in this budget.

1K Still Creek **$ 442,000**

This 2,350 acre separated sewer area drains the extreme east side of Vancouver between the Burrard Inlet and Fraser River watersheds with the area's stormsewer system draining to Still Creek. Except for the Kingsway corridor built in the 1920's and 30's, most of the area's sewer system was built in the 1950's and should be adequate for another 30 to 40 years. The 2003-2005 Capital Plan has funding allowance for only a small scale of sanitary pipe replacements in this basin. However through routine inspection, sewer inspector discovered the block of Cecil/Euclid South could potentially flow into Still Creek. Staff has since carried out sewer separation work to eliminate the risk of contaminating the creek. Increase in funds therefore are needed to allocate to this basin in 2005 to cover this work.

1L Canada-B.C. Infrastructure Program **$ 7,760,000**

In 2003 the City was given a $27.4 million Canada-B.C. Infrastructure Program Award for additional sewer separation in the China Creek basin in the 2003-2005 capital plan. Under the agreement of the Canada-B.C. Infrastructure Program, the City will receive $18.26 million from the two senior governments during the current capital plan. Funding for the City's share (1/3) will be provided in the annual budget allocations for the China Creek area over the current Capital Plan. It is estimated that the City will receive about $ 7.76 million of the $18.26 million in 2005.

Sub-Total Main Sewer Reconstruction: $ 24,367,000

2. Connection and Manhole Reconstruction **$ 356,000**

The City has approximately 100,000 sewer connections totalling about 935 kilometres in length. Many of these have structurally failed or have been blocked by penetrating tree roots. This results in sewage backing up into homes on a periodic basis causing major inconveniences to home owners as well as health concerns and potential liability for the City. Through our public sewer connection permits fees, many of the old and inadequate connections are rebuilt when new buildings are constructed or substantial renovations are undertaken. However, a number of old connections to existing houses that are not being redeveloped experience blockages that cannot be dealt with cost effectively with preventative maintenance. This program provides funding to reconstruct connections to these properties.

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:

System Replacement/Separation

PROJECT SUMMARY (continued)

SCOPE

In addition to connections, the City also has over 25,000 sewer manholes. While they are replaced at the time of main sewer reconstruction, there is an ongoing need to repair or construct ones in areas not scheduled for main sewer replacement.

During 2004, some workforce from the small crews that generally carry out connection and manhole reconstruction work were being redeployed to the large construction crews to make up four large construction crews to meet increased construction work schedule due to the Canada/B.C. Infrastructure Project. Some less critical connection and manhole reconstruction work have since been deferred and as a result this budget is under expended in 2004. This unexpended budget will be used in 2005. Hiring and training are being carried out in recent months to bring workforce in this area back to the previous levels to adequately address connection backlogs due to manpower shortage in 2004. Overall funds required for the 2003-2005 are lower than originally anticipated and therefore can be reallocated to other priority work.

3. Local Repairs: Catch Basins and Spurs **$ 400,000** **(Basic Capital Budget $400,000, Translink $220,000)**

There are about 45,000 catch basins in the City and about 320 kilometres of spur sewers that connect them to the mains. This street drainage system has been developed (since 1900) in conjunction with our street paving program and some of it is starting to fail with resulting street drainage problems. This results in increased liability for flooding which can cause property damage and hazards to vehicle travel. Poor drainage also permits water penetration into the road base which causes a weakening and deterioration of the road structure. Repairs have extended the life of some sections, but replacement or relining of the worst sections is necessary as they become apparent.

Vehicle impact loading, deterioration due to age and tree roots are the main causes of catch basin drain failures. In the past, we have only been able to address the most critical failures. We are finding that it is better to repair more of the problem areas now than it is to leave them as ongoing maintenance problems.

Due to higher than usual rainfall experienced in late 2004 and early 2005, more repairs have been carried out to address many unanticipated drainage system failures and flooding problems. Increase in funding allocation is therefore recommended for this account in 2005.

TransLink funding of **$220,000** through the Major Road Network (MRN) Operation, Maintenance and Repair (OMR) program will be assigned for the reconstruction of catch basin/spurs on the MRN roads in 2005.

4. Upgrade and Replacement of Pump Stations **$ 593,000**

There are 26 sewage pump stations and force mains, of various ages, within the City's sewer network. In the course of normal operations, the partial or complete replacement of pumps and equipment is required as they wear out. Increasing development and sewage flows can also necessitate replacement.

Funds in 2005 will be used for critical miscellaneous replacement and refurbishment of equipment work at various stations. Staff estimates that there might be some unused money at the end of 2005 for carry forward to the 2006-2008 Capital Plan to help fund the major pump stations replacement work planned for three locations.

2005 BASIC CAPITAL BUDGET — Reference # D2

DEPARTMENT: ENGINEERING — **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:
System Management

SUB-PROGRAM or PROJECT DESCRIPTION:
Projects, data collection and analysis necessary to support cost-efficient work programs.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 161,000**	**$0**	**$0**	**$0**	**$ 161,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 44,700	Senior Governments	$
Materials	$ 4,000	Property Owners	$
Equipment	$ 11,900	DCL/CAC funding	$
Contract	$ 69,600	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 18,900		
Other	$ 10,900		
Other (IMS – RTS 4586)	$ 1,000		
Total	$ 161,000	**Total Other Funding Sources**	$ 0

COST SAVING AND OTHER BENEFITS:
N/A

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

N/A

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

The system management program provides funds to support information gathering and research projects. This provides key information that is used to prioritize our 1% replacement program and establish routine maintenance programs.

SCOPE:
CONTINUED ON NEXT PAGE

IMPACT OF DELAY: Needs to be done to support System Replacement/Separation D1

PROJECT TIMING:
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

DEPARTMENT:ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SERVICES

SUB-PROGRAM or PROJECT TITLE
System Management

PROJECT SUMMARY (continued)

1 **TV INSPECTION OF SEWERS** **$ 50,000**

The ongoing closed-circuit television inspection program allows us to visually inspect and assess the condition of our sewers from the inside. It provides essential information for planning sewer design and maintenance programs and in establishing priorities for the reconstruction program. This inspection allows us to optimize our replacement program by potentially preventing the collapse of some sewers and extending the useful life of others.

Additionally, this visual inspection enables us to optimize our maintenance programs by determining which sewers are prone to maintenance problems. Maintenance problems such as tree-root clogged sewers can go undetected until problems, such as flooding, occur.

This program was being scaled back in 2004 in anticipation of an improved new technology to come out and therefore under expended in 2004. The intention of postponing some inspection jobs until the new technology is available was that the latter will allow staff to pin point problem locations more accurately and therefore be able to maximize the effectiveness of our inspection dollars. However, the introduction of this new technology has been delayed. This unexpended budget in 2004 will be used in 2005 and therefore a reduced amount of budget will be allocated to this program in 2005. Funds originally planned for this account in the 2003-2005 Capital can be reallocated to other priority work in accordance with our revised work plan.

2 **INVESTIGATION FOR DESIGN** **$ 111,000**

This program provides funds for a variety of tools that support cost-effective capital work programs. Tools consistently used for this purpose include sewer system modeling, field monitoring of sewer flows, construction site exposures, soundings of underground facilities, and investigation of new products and technical standards for sewer design and construction and the improvement of field survey and data collection methods. This work often requires consultants to provide current technical expertise in the field of structural, environmental, and municipal engineering.

Designers also rely on facilities management tools to monitor the changes in the capacity of the sewer system caused by new development and/or blockages in the system. Past flooding events in the City highlighted the need for more effective data collection and retrieval methods to ensure limited capital resources are applied most cost-effectively to maintain system capacity.

Funding allocation for this program is requested as planned.

2005 BASIC CAPITAL BUDGET

Reference # D3

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SERVICES

SUB-PROGRAM or PROJECT TITLE:
Other Pollution Abatement

SUB-PROGRAM or PROJECT DESCRIPTION:
Pollution abatement achieved through Liquid Waste Management Plan and Sewer Separation on Private Property.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 293,000**	**$0**	**$0**	**$ 0**	**$ 293,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 207,700	Senior Governments	$
Materials	$ 6,000	Property Owners	$
Equipment	$ 31,800	DCL/CAC funding	$
Contract	$ 0	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$ 33,800		
Other	$ 11,900		
Other (IMS – RTS 4586)	$ 1,800		
Total	$ 293,000	**Total Other Funding Sources**	$ 0

COST SAVING AND OTHER BENEFITS:
n/a

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

This program compliments the City's combined sewer reduction initiatives by providing immediate separation benefits. This program is particularly important because of the Provincial requirements to eliminate combined sewer overflows by the year 2050 and because of the 1995 change in the GVRD's cost allocation method.

SCOPE: CONTINUED ON NEXT PAGE

IMPACT OF DELAY: This is an integral part of System Replacement/Separation (D1) to continually reduce and eliminate CSOs in important water bodies (e.g. False Creek).

PROJECT TIMING:
Start Date (month/year) :
Completion Date(month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE
Other Pollution Abatement

PROJECT SUMMARY (continued)

SCOPE

1. LIQUID WASTE MANAGEMENT PLAN **$ 0**

The Liquid Waste Management Plan (LWMP) was approved by the Province in 2002. This plan establishes commitments for sewage treatment, combined sewer overflows, and stormwater discharges for both Regional and municipal systems under the Province's Waste Management Act. The City and the GVRD are now working on implementing key commitments outlined in the Plan for Vancouver. Funds for this work are included in current budgets.

During 2005, the City will be required to continue analyzing and developing detailed planning scenarios for our sewer system to support the work program which has been outlined in the LWMP. This includes additional joint GVRD and City studies examining combined sewer overflow reduction methods and strategies with the aid of computer modelling as well as the initial development of an Integrated Stormwater Management Plan for the Still Creek Watershed. While we have been successful over the past several years in supporting the LWMP efforts without additional staff, some non-professional technical assistance is required in 2005. In previous Capital Budgets, approval was given for a temporary Engineering Assistant II. It is proposed that this position be extended in 2005. Sufficient funds exist from previously approved LWMP budgets and therefore no additional funding is required in this budget.

2. SEWER SEPARATION ON PRIVATE PROPERTY **$ 293,000**

This program was established by Council in 1978 in order to achieve the pollution control benefits of a separated sewer system. This program also allows for a maximum $1,000 reimbursement towards the cost of plumbing alterations on private property and provides for a separated connection to the main sewer. The program has mainly focused on the False Creek area and the West End and to a lesser degree on the Downtown Eastside/Strathcona, Still Creek and Fraser River areas. The major benefit of the program has been a reduction in the fecal coliform levels in adjacent waters, as well as the removal of other industrial pollutants which may inadvertently be discharging through the stormsewer system.

Today, there are additional benefits from this program. The approved LWMP requires the reduction and elimination of combined sewer overflows in Vancouver by the year 2050. This program is needed to achieve these goals and minimize Provincial requirements for more costly short-term improvements to reduce Vancouver's sewage overflows.

In addition, because the program helps to reduce dry weather flows to the Iona Sewage Treatment Plant, it will help offset the Regional District's annual sewerage levy to Vancouver.

In 1995, sewer separation was completed in the Yaletown drainage basin resulting in the elimination of the Drake Street combined sewer overflow. Similarly, in 1999 sewer separation was completed in the downtown South Granville area resulting in the elimination of the Granville Street combined sewer overflow. In 2000 and 2001 considerable separation work occurred west of Granville Street in the West End eliminating the Parklane CSO and reducing combined sewer overflows at the Denman Street outfall.

During the first two years of this plan, less connections that required separating in the City's streets than anticipated were experienced. Also, some workforce was redeployed from this program to work on cross connections problems and carry out main reconstruction design investigation work relating to Still Creek and False Creek. As a result, this program was under expended and therefore a reduced amount of budget allocation is required for this account in 2005. Funds originally planned for this account in the 2003-2005 Capital Plan can be reallocated to other priority work in accordance with our revised work plan.

2005 BASIC CAPITAL BUDGET — Reference # D5

DEPARTMENT: ENGINEERING — **PROGRAM: Sewers & Drainage**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:

Public Sewer Connections

SUB-PROGRAM or PROJECT DESCRIPTION:
Installation of public sewer connections on residential and commercial properties

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$ 8,200,000**	**$0**	**$0**	**$ 8,200,000**	**$ 0**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$ 1,622,600	Senior Governments	$
Materials	$ 2,623,600	Property Owners	$8,200,000
Equipment	$ 1,262,600	DCL/CAC funding	$
Contract	$	Translink	$
Overhead	$ 1,069,700		
Street Cut & Others	$ 1,621,500		
Other	$		
Total	$ 8,200,000	**Total Other Funding Sources**	$8,200,000

COST SAVING AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

N/A

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:

In 2004, the City installed approximately $7,800,000 worth of public sewer connections. For 2005, we anticipate a similar level of residential and commercial construction activity. These costs are recovered from public sewer connection fees charged to developers and builders

SCOPE:

IMPACT OF DELAY:

PROJECT TIMING:
Start Date (month/year):
Completion Date (month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number**

ENGINEERING WATERWORKS

Project Number	Program - 2005	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
E1	**AGING INFRASTRUCTURE REPLACEMENT**			
	a) Distribution Main Replacement	7,589	600	6,989
	b) Transmission Main Replacement	0	0	0
	c) Replacement of Meters & Services	2,028	0	2,028
	d) Replacement of Fire Hydrants	228	0	228
	SUBTOTAL – AGING INFRASTRUCTURE REPLACEMENT	**$ 9,845**	**$ 600**	**$ 9,245**
E2	**ADDRESSING GROWTH**			
	a) Transmission Capacity Program	0	0	0
	b) Fire Upgrading for Development	33	0	33
	c) Conservation Capital Projects	0	0	0
	d) New Meters & Services	3,400	0	3,400
	e) Minor Improvements to the System	184	0	184
	SUBTOTAL – ADDRESSING GROWTH	**$ 3,617**	**$ 0**	**$ 3,617**
E4	**INVESTIGATION, MONITORING & CONTROL**			
	a) Telemetry System	0	0	0
	b) Engineering & Site Investigation	100	0	100
	SUBTOTAL – OTHER WORKS	**$ 100**	**$ 0**	**$ 100**
E5	**WATER QUALITY PROJECTS**			
	a) Rechlorination Stations	0	0	0
	b) Water Quality Projects	2,225	0	2,225
	SUBTOTAL – WATER QUALITY PROJECTS	**$2,225**	**$ 0**	**$2,225**
	TOTAL – 2005 WATERWORKS CAPITAL BUDGET	**$ 15,787**	**$ 600**	**$ 15,187**

2005 BASIC CAPITAL BUDGET

Reference # E-1

DEPARTMENT: ENGINEERING
DIVISION: WATER & SEWERS

PROGRAM: Waterworks

SUB-PROGRAM or PROJECT TITLE:
Aging Infrastructure Replacement

SUB-PROGRAM or PROJECT DESCRIPTION:
Replacement of the City's Aging Distribution and Transmission Mains, Meters and Services, and Fire Hydrants

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$9,845,000**	**$600,000**	**$0**	**$0**	**$9,245,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$2,349,600	Senior Governments	$
Materials	$2,349,600	Property Owners	$
Equipment	$1,566,400	DCL/CAC funding	$
Contract	$0	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$1,566,400	Existing Funding Carried Forward (CB2EE2A)	$600,000
Other (specify basis) Street Cutting, Traffic Control, Dump charges & Others	$1,958,000		
Other (IMS – RTS 4586)	$55,500		
Total	$ 9,845,000	**Total Other Funding Sources**	$600,000

COST SAVING AND OTHER BENEFITS:
Prevent leak and break repair costs from increasing. Reduces cost of purchasing water that leaks from the system, and reduces damages to other utilities and private property.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
The City's water system has an estimated replacement value of $1.2 billion. It consists of approximately 1450 km of water mains, plus associated facilities such as pressure regulating stations, and appurtenances such as valves, fire hydrants, and service connections. With such an extensive system, it is important to follow a life-cycle replacement program to eliminate unmanageably large short-term capital expenditures, minimize liability, and lower operating costs.

SCOPE: continued on next page

IMPACT OF DELAY: This program proactively replaces aging infrastructure to prevent water system failures. A delay to this program would reduce the City's ability to provide a safe and reliable water service to customers and would result in higher property damage and maintenance costs.

PROJECT TIMING:
Start Date (month/year):
Completion Date (month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

2005 BASIC CAPITAL BUDGET

Reference # E-1

DEPARTMENT: ENGINEERING
DIVISION: WATER& SEWERS

PROGRAM: Water Works

SUB-PROGRAM or PROJECT TITLE
Aging Infrastructure Replacement

PROJECT SUMMARY (continued)

SCOPE:

Program/work priorities often change subsequent to the time the Capital Plan budget forecast was made. To address our changing infrastructure funding requirements, it is requested that budget allocation adjustments be made in this program. These changes will not result in any increase to the total 2003-05 Capital Plan funding allotment.

1a) Distribution Main Replacement: $6,989,000

2005 Budget Request:	6,989,000
Transfer from Previous Year (CB2EE2A):	600,000
2005 Gross Budget:	7,589,000

The City's distribution watermain network consists of 1,380 kilometres of pipelines with a replacement value of approximately $1 billion. Since 1994, this program has been organized to minimize the pipeline life cycle costs and to replace water mains in a uniform manner. Over the course of this work, a significant number of high maintenance, lower design life pipelines have been replaced, and the replacement rate in this Capital Plan has been lowered from 1.0% to 0.8%.

This program reduces pipeline maintenance costs and system leakage, limits damage to City and private property caused by water main failures, and helps to ensure continued safe and reliable water service to customers. Construction will continue throughout 2005.

Significant inflationary increases in construction cost and a need to do more work on arterial roads to coordinate with the construction schedules of other Engineering Department divisions have resulted in expenditures exceeding the Capital Plan projection. It is recommended that the 2005 budget allocation be increased to accommodate these increases. It is also recommended that a transfer be made to bring forward an under expended budget of $600,000 from the 2004 Transmission Capacity program (E2a) to this program to meet the increased funding needs in 2005.

1b) Transmission Main Replacement: $ 0

With the exception of a single minor project, transmission main replacement work scheduled for the 2003-2005 Capital Plan has been completed. Sufficient funding is available from the previous year's unspent balance to complete this program.

DEPARTMENT: ENGINEERING
DIVISION: WATER & SEWERS

PROGRAM: Water Works

SUB-PROGRAM or PROJECT TITLE
Aging Infrastructure Replacement

PROJECT SUMMARY (continued)

1c) Aging Water Meter & Service Replacement: $2,028,000

1c-1) Aging Water Meter Replacement: $0

This program focuses on replacing old water meters that have reached the end of their useful service life. The City has approximately 14,000 meters, which are maintained on a regular basis to ensure accurate billing and require replacement every 10 to 15 years.

As water meters age, they 'under register' consumption and the result is lost revenue for the City. This 'under registering' can also result in a larger than expected bill for the customer when the meter is finally replaced. A proactive replacement program helps minimize these occurrences.

Meter replacement work will continue throughout 2005 to ensure accurate customer billing. Existing funds from previous budgets will be sufficient to complete this work. To address higher than expected program costs in service replacements, it is recommended that an increase in budget allocation be made to the Aging Service Replacement program in 2005.

1c-2) Aging Water Service Replacement: $2,028,000

The City has approximately 105,000 water services, which are replaced if they leak or break due to excessive corrosion or if they have lost hydraulic capacity. The design life of a service pipe is approximately 30 to 50 years, and approximately 30,000 of these pipes are now at least 50 years old. Service pipes are also replaced as part of the distribution main replacement program and new installations funded by redevelopments.

This program reduces service pipe maintenance costs, minimizes damage to City and private property due to pipe failures, and helps to ensure safe and reliable water service to customers. Service replacement work will continue throughout 2005.

Significant inflationary increases in construction cost combined with a higher than anticipated service pipe failure rate and an increased need to coordinate this work with street paving and sewers construction projects have caused expenditures to exceed Capital Plan projections for this program. It is recommended that the unallocated balance of $350,000 in the Aging Meter Replacements 2003-05 Capital Plan be directed to this program.

1d) Aging Fire Hydrant Replacement: $228,000

The City has approximately 6,000 fire hydrants, some of which date back to the 1920's. A considerable number of hydrants will be replaced through the distribution main replacement program; however, some hydrants need to be replaced outside of the distribution main replacement program due to corrosion attack and/or mechanical failure.

This program reduces hydrant maintenance costs and leakage, limits damage to property caused by hydrant failures, and helps to ensure continued reliable water for fire fighting. Construction will continue intermittently throughout 2005.

To reduce maintenance costs, the replacement criterion for fire hydrants has been modified to replace aging hydrants that have experienced mechanical failure and are beyond the economic service life expectation. While this will result in a net overall savings to the City, it has increased the Capital funding need beyond the amount allocated in the 2003-2005 Capital Plan. In 2005, staff recommends that $228,000 be allocated to Fire Hydrant Replacement from unallocated budgets in other programs.

2005 BASIC CAPITAL BUDGET — Reference # E-2

DEPARTMENT: ENGINEERING — **PROGRAM: Waterworks**
DIVISION: WATER & SEWERS

SUB-PROGRAM \PROJECT TITLE:
Addressing Growth

SUB-PROGRAM\ PROJECT DESCRIPTION:
Addresses increased domestic and fire fighting water demands created by population growth, including metering and conservation to manage the resulting demands.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$3,617,000**	**$0**	**$0**	**$0**	**$3,617,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$898,900	Senior Governments	$
Materials	$826,900	Property Owners	$
Equipment	$611,200	DCL/CAC funding	$
Contract	$0	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$575,200		
Other (specify basis) Street Cutting, Traffic Control, Dump charges & Others	$683,100		
Other (IMS – RTS 4586)	$21,700		
Total	$ 3,617,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:
This program ensures that the City's water system meets new water demand requirements caused by population growth, and addresses existing flow and reliability shortcomings. Water conservation programs reduce bulk water costs and allow for the deferral of transmission watermain construction and the need for additional storage capacity.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This section of the Capital Plan addresses increased domestic and fire fighting water demands created by population growth, including metering and conservation programs to manage the resulting demands. Vancouver is experiencing rapid growth that is occurring primarily through densification by conversion of industrial lands to mixed residential-commercial uses.

Population growth across the City increases domestic water demand, which affects primarily the water transmission system (City and GVWD large mains, storage, and pumping). Local densification results in higher fire-flow demands, which generally is served by the (smaller) water distribution mains in the immediate neighbourhood of the development. New developments also require new water services and meters.

In Vancouver, recurring lawn sprinkling regulations have largely counteracted the effect of population growth on peak domestic water demands during the 1990's. Also, most water service installations are now developer-funded, and distribution system improvements necessitated by growth are cost-shared with developers. In addition, cooperative design with the GVWD has facilitated several joint transmission projects, and allowed for the deferal of other City projects. As a result, the funding needs for this program have decreased from a peak of $26.7 million during '94 - '96, to a proposal of $7.6 million (net) during 2003 - 2005, including new funding for water metering.

SCOPE: continued on next page

IMPACT OF DELAY: This program is necessary to maintain the City's ability to accommodate new development.

Start Date (month/year):
Completion Date (month/year):
FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

DEPARTMENT: ENGINEERING
DIVISION: WATER & SEWERS

PROGRAM: Water Works

SUB-PROGRAM or PROJECT TITLE
Addressing Growth

PROJECT SUMMARY (continued)

SCOPE:

2a) Transmission Capacity Program: $0

This program funds any necessary improvements to the transmission system to address water supply deficiencies during high demand periods. No Transmission Capacity work is planned in 2005, and it is requested that the $600,000 unspent balance from previous years be transferred to the Distribution Main Replacement program (E1a).

2b) Fire Upgrading for Developments: $33,000

This program funds the local system improvements that are sometimes necessary to accommodate the increases in fire-flow water demand brought by new high density development projects. The City's practise is to seek cost-sharing from developers for any upgrades required. In areas where a deficiency exists prior to redevelopment, the City funds the upgrades to eliminate the current deficiency and the developer is charged for the additional work that is required because of the redevelopment. This program provides funding for the City's share of the water system upgrade cost.

Projects in this program are difficult to predict. They depend upon the amount of development activity in the City and the specific locations of those developments. To complete the projected work in 2005, a budget allocation of $33,000 is recommended for this program.

2c) Conservation Capital Projects: $0

The City will spend about $28 million in 2005 on water purchased from the GVWD, and this cost is projected to rise rapidly in future years to finance large scale projects such as the upcoming filtration plant for the Seymour and Capilano sources. With water becoming more expensive, the economic benefits of some water reducing projects has become more apparent. 2005 projects will focus on reducing the Parks Board use of drinking water for ornamental purposes, primarily by developing supplemental sources and installing circulation systems. Sufficient funds are available from the previous year's unspent balance.

DEPARTMENT: ENGINEERING
DIVISION: WATER & SEWERS

PROGRAM: Water Works

SUB-PROGRAM or PROJECT TITLE
Addressing Growth

PROJECT SUMMARY (continued)

SCOPE:

2d) New Meters & Services $3,400,000

2d-1) New Meter Installations: $3,400,000

The water consumption of all customers, with the exception of single family and duplex residential connections, is metered. Water Meters are owned and maintained by the City and the capital cost of the Meters are recovered through rental fees set in the utility bill. Funds are required for the purchase of new Meters, remote readouts, and Meter parts.

In late 2004, Council recommended the implementation of a voluntary metering program for current un-metered residential customers, as well as a mandatory program for new developments. A report recommending the process and fee structure for this program will be going to Council in the spring of 2005. In anticipation of the approval of this program, it is recommended that funding be budgeted in accordance with the 2003-2005 Capital Plan. However, if this initiative does not commence in 2005, funding for this project will be carried forward to the 2006-2008 Capital Plan.

New Meters are installed as necessary to keep up with development demand.

2d-2) New Service Connections: $0

New services are self-funded by development, and are constructed as necessary to keep up with development demand.

2e) Minor Improvements to the System: $184,000

This is an ongoing program of a variety of minor works that are not associated with the major capital programs. Work includes items such as valve chambers, short water main installations or replacements, flow tests, and computer design work.

Construction will take place intermittently throughout 2005.

2005 BASIC CAPITAL BUDGET

Reference # E-4

DEPARTMENT: ENGINEERING
DIVISION: WATER & SEWERS

PROGRAM: Waterworks

SUB-PROGRAM or PROJECT TITLE:
Investigation, Monitoring & Control

SUB-PROGRAM or PROJECT DESCRIPTION:
This program gathers Waterworks information for system design and control. It also provides funding for investigation of new materials and technologies.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$100,000**	**$0**	**$0**	**$0**	**$100,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$14,900	Senior Governments	$
Materials	$6,000	Property Owners	$
Equipment	$4,900	DCL/CAC funding	$
Contract	$0	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$15,900	Existing Funding	$
Other (specify basis) Street Cutting, Traffic Control, Dump charges & Others	$57,700		
Other (IMS –RTS 4586)	$600		
Total	$100,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:
Provides funds for research and investigation of new products, materials and technology that may lead to greater efficiency.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
This program gathers Waterworks information for system design and control. It also provides funding for investigation of new materials and technologies.
In an ongoing effort to optimize the water system operation, and plan capital improvements, we gather information on water flow, pressure, quality, leaks and breaks, material condition, soil conditions etc. from throughout the City. This information is gathered through sensing equipment connected to our telemetry system, from manual sampling and inspection programs, and shared information with the GVWD and other utilities.
This program funds the waterworks telemetry system, as well as other engineering and site investigations, including new waterworks technologies.
SCOPE: continued on next page

IMPACT OF DELAY: Delays to this program would reduce the City's ability to plan improvements to ensure continued acceptable service levels, and provide real-time alerts to problems with the water system.

PROJECT TIMING:
Start Date (month/year):
Completion Date (month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

DEPARTMENT: ENGINEERING
DIVISION: WATER & SEWERS

PROGRAM: Water Works

SUB-PROGRAM or PROJECT TITLE
Investigation, Monitoring & Control

PROJECT SUMMARY (continued)

SCOPE:

4a) Telemetry System: $0

This is an ongoing program to upgrade and expand the Waterworks telemetry system, which remotely monitors pressures and flows. This information is used to minimize damage due to failures, and to optimize system operation and planning. The system uses computerized and radio communication equipment, which is subject to similar ongoing upgrading, needs that computer systems require. The information that is collected and stored by the telemetry system is essential for monitoring water demands, system breaks, and system performance as it alerts staff to problem areas.

Telemetry system work proposed for 2005 includes improving radio communication from stations that presently provide unreliable data transmission and replacing outdated operating software. In addition to this work, new telemetry stations will be installed in problem areas of the City network where system pressures need to be accurately monitored.

Telemetry system work will take place intermittently throughout 2005. Existing funding from previous year's unspent balance is sufficient for this program.

4b) Engineering and Site Investigation: $100,000

This program exists to fund investigations aimed at improving construction processes, evaluating emerging technologies, planning of water system improvements and testing of waterworks materials. Work will take place intermittently throughout 2005.

2005 BASIC CAPITAL BUDGET — Reference # E-5

DEPARTMENT: ENGINEERING — **PROGRAM: Waterworks**
DIVISION: WATER & SEWERS

SUB-PROGRAM or PROJECT TITLE:
Water Quality Projects

SUB-PROGRAM or PROJECT DESCRIPTION:
Capital Projects that reduce the number of dead end, low flow and tuberculated watermains.

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$2,225,000**	**$0**	**$0**	**$0**	**$2,225,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$442,300	Senior Governments	$
Materials	$66,400	Property Owners	$
Equipment	$265,400	DCL/CAC funding	$
Contract	$0	Other (please specify e.g. Translink, ICBC, donation)	$
Overhead	$353,900	Existing Funding	$
Other (specify basis) Street Cutting, Traffic Control, Dump charges & Others	$1,083,600		
Other (IMS – RTS 4586)	$13,400		
Total	$ 2,225,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS:
Improving water quality to adhere to Canadian Drinking Water Guideline limits.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)
OBJECTIVES:
Recent incidents with several small water systems in Canada have highlighted the importance of maintaining water quality in all water systems. Of fundamental importance is the avoidance of waterborne health problems due to bacterial or chemical contamination. Additional considerations include the economic and health effects of corrosive water on unlined metal pipes, and customer complaints concerned with the appearance, taste and odour of the water.
The City purchases its water from the GVWD, who is responsible for source protection and primary water treatment, and who provides good quality water. However, issues within the local distribution system are the City's responsibility. These include maintaining adequate chlorine residuals, addressing areas with chronic low flows, providing suitable monitoring, addressing cross-connection risks, and other distribution system issues which create water quality concerns.
This program funds minor capital improvements which will improve water quality, and provides contingency funding for the construction of additional rechlorination stations if and when they are required.
SCOPE: continued on next page
IMPACT OF DELAY: Delay's to this program would inhibit the City's ability to reduce stagnation in low flow areas of the water system and ensure the City's long term compliance with Canadian Drinking Water Quality Guidelines.

PROJECT TIMING:
Start Date (month/year):
Completion Date (month/year):

FOR BUDGET OFFICE USE ONLY:
Order Group: **Order Number:**

DEPARTMENT: ENGINEERING
DIVISION: WATER & SEWERS

PROGRAM: Waterworks

SUB-PROGRAM or PROJECT TITLE
Water Quality Projects

PROJECT SUMMARY (continued)

SCOPE:

Program/work priorities often change subsequent to the time the Capital Plan budget forecast was made. To address our changing infrastructure funding requirements, it is requested that budget allocation adjustments be made in this program. These changes will not result in any increase to the total 2003-05 Capital Plan funding allotment.

5a) Rechlorination Stations: $ 0

The 2003-2005 Capital Plan included $2,500,000 of contingency funding for the possible construction of two additional City rechlorination stations. The City and GVWD have identified several areas within Vancouver which still receive negligible chlorine residuals, and may require the City to construct and operate additional chlorination facilities. However, the final affected areas are expected to change once the District completes its filtration projects for the Capilano and Seymour reservoirs (Vancouver's primary water sources) in approximately 2008. Staff, therefore, recommends no construction work to be carried out until more accurate and updated information is available. In the meantime, it is requested that funds be allocated to Miscellaneous Water Quality Projects (E5-b) to address deficiencies on the Stanley Park water system.

5b) Miscellaneous Water Quality Projects: $2,225,000

This program has historically funded capital improvements to ensure adequate protection of water quality throughout the distribution system. Such projects have typically been goal-oriented towards improving chlorine residuals, and involve system modifications that include the elimination of dead end pipes and flow control valving.

It is requested that $2,225,000 be directed to address water quality deficiencies in the Stanley Park water system. Past applications to fund this work from the Canada Infrastructure Grants Program have been denied, and the Stanley Park water system continues to experience stagnation problems and chlorine residuals that are insufficient to meet Canadian Drinking Water Quality Guidelines expectations. Therefore, it is recommended that there be no further delay to this work, and that funding be made available from the 2003-05 Capital Plan Rechlorination Stations program (E5-a).

ENGINEERING YARDS

Project Number	Program - 2005	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
F1	YARDS IMPROVEMENTS	$ 615	$ 0	$ 615
	DEBENTURE COSTS	$ 0	$ 0	$ 0
	TOTAL – 2005 YARDS CAPITAL BUDGET	$ 615	$ 0	$ 615

2005 BASIC CAPITAL BUDGET

Reference # F-1

DEPARTMENT: ENGINEERING **PROGRAM: Yards**
DIVISION: DEPARTMENTAL SERVICES

SUB-PROGRAM or PROJECT TITLE: Yard Improvements - Manitoba Works Yard Building Renovations

SUB-PROGRAM or PROJECT DESCRIPTION:

Second phase of the Manitoba Yard Operations Building renovation project to accommodate staff presently in separate trailers and revise layouts to suit reorganized Branches and supporting offices

	Project Total Cost	Previous Years Funding Carried Forward	2005 Advance Approval	Other Sources of Funding	Basic Capital Budget Requested
Project Costs	**$615,000**	**$0**	**$0**	**$0**	**$615,000**

BUDGET (Include functional breakdown):		**OTHER FUNDING SOURCES**	
Direct Labour	$	Senior Governments	$
Materials	$	Property Owners	$
Equipment	$	DCL/CAC funding	$
Contract	$	Other (please specify e.g. Translink, ICBC, donation)	$
Other (IMS –RTS 4586)	$ 3,700		
Other – consultants, contractors	$ 611,300		
Total	$ 615,000	**Total Other Funding Sources**	$0

COST SAVING AND OTHER BENEFITS: Operational benefits due to the consolidation of staff from outside trailer units with staff within the Operations Building.

IMPACT ON OPERATING BUDGET:	**2005**	**2006**	**2007**
(Added Basic)	**$0**	**$0**	**$0**

PROJECT SUMMARY: (Consider Objectives, Scope, Timing, Costs, & Functional breakdown)

OBJECTIVES:

Renovation of Manitoba Yard Operations Building with relocation of some facilities to the Central Stores Building to accommodate staff presently in separate trailers and to revise office layouts to suit reorganized Branches and supporting offices.

Work involves selection of consultants to carry out functional planning, detailed design, approvals and contract tendering followed by construction of the renovations.

SCOPE:

The funding presently available in the Yards budget is not adequate to complete the entire Operations Building renovation project due to the reallocation of some funding to complete the National Yards construction. The funding requested and approved to date will allow the completion of all design work which will incorporate construction phasing to allow partial completion of the renovation work with available funding. The balance of funding to complete the work is being considered in the 2006-08 Capital Plan submissions for Engineering Services.

IMPACT OF DELAY

This project has already been delayed to allow completion of the National Yard project. Further delays will result in more deterioration of temporary trailers which will require additional maintenance work. Operations Branches will continue to be impacted negatively due to current inefficiency of staff locations and office layouts.

PROJECT TIMING:

Start Date (month/year) : January 2005
Completion Date(month/year): December 2005

FOR BUDGET OFFICE USE ONLY:

Order Group: **Order Number:**

Pre-2000 & 2000-02 Engineering Capital Closeouts

City of Vancouver
May 2005

Introduction

The following is a summary of the capital projects identified for closeout in the Engineering Capital programs, including Streets, Traffic Signals, Solid Waste, Parking Meter and the Asphalt Aggregate Plant. Accounts being closed represent projects which commenced prior to the year 2000, and programs/projects provided in the 2000-2002 Capital Plan, for which funding and expenditures occurred over a number of years.

A summary of the account closeout for each capital area is provided herein. Explanations are provided for projects which have variances in excess of the established limit of $50,000 and 15% of the approved budget. The net overall balance resulting from the closeout in each area is summarized in this report. This includes a recommended allocation of surpluses and deficits for various 2000 - 2004 accounts, and utilization of existing financing from the Capital Financing Fund and the Solid Waste Capital Reserve for the closeout of two pre 2000 capital accounts.

2000 - 2002 Capital Account Closeouts

Streets Accounts Closeout Summary

The purpose of this summary is to close and balance various accounts for the 2005 Streets Capital Closeout for programs A1 to A6, but excluding Traffic Signals Program A3, which is discussed separately. Specifically, this report recommends that Streets accounts for programs totaling $49.1 million from the 2000 - 2002 Capital Plan be closed. These accounts represent projects for which, as a group, funding and expenditures occurred over a number of years.

This Streets Capital Closeout summary, as detailed in Table 1, completes the accounting for streets construction work involving expenditures of over $51.3 million. This money funded various projects including the Stanley Park S-curve, the Downtown Heritage Railway, traffic calming, street reconstruction, Local Improvement street paving and curbing, lane paving, sidewalk construction, a variety of transit roadway improvements, property acquisition and minor street alterations. This work resulted in a 2000-2002 Streets Plan shortfall of $2,186,596. This shortfall can be offset by allocating funds from Streets Capital programs as follows, and as detailed in Table 1:

- Non-MRN Arterial Streets 2003 and 2004
- Arterial Safety Improvements 2001 Unallocated
- Aging Uncurbed Arterials 2000-2003
- Minor Property Acquisition 2000-2002.

These funding sources are available primarily because projects were reprioritized and work was delayed to following years in order to address the shortfalls from the 2000 - 2002 Plan accounts.

An explanation of variances in excess of established limits (i.e. $50,000 and 15% of the approved budget) is provided in Table 3. In instances where a project is funded with more than 60% external funding (e.g. TransLink funded arterial road reconstruction, Stanley Park S-curve construction) the budget totals and variance indicated are based on the grossed up total to provide a better indication of the size of the project.

Table 1 – Streets Accounts Closeout Summary (Actuals as of April 15, 2005)

Program or Project Description	Budget ($)	Actual($)	Balance ($)	Variance
Streets 2000-02 Capital Programs for Closeout				
A1 – Infrastructure				
Non MRN Repair Arterial Streets	7,067,000	7,340,734	(273,734)	(3.87%)
MRN Repair Arterial Streets 00-02***	8,912,979	10,555,732	(1,642,753)	(18.43%)
MRN Repair Arterial Streets 2003***	1,313,854	515,630	798,224	60.75%
Repair Local Streets	1,135,000	1,173,889	(38,889)	(3.43%)
Major Maintenance Structures	250,000	286,365	(36,365)	(14.55%)
Pavement & Material Research	140,000	140,567	(567)	(0.41%)
Subtotal	**18,818,833**	**20,012,917**	**(1,194,084)**	**(6.35%)**
A2 – Pedestrians & Bikes				
New Sidewalks	455,219	482,661	(27,442)	(6.03%)
Sidewalk Reconstruction LI	581,297	549,330	31,967	5.50%
Sidewalk Reconstruction Partial Block	664,500	569,970	94,530	14.23%
Curb Ramp Program	2,100,000	2,196,559	(96,559)	(4.60%)
Bicycle Network	122,000	189,760	(67,760)	(55.54%)
Beautification & Street Trees	329,500	310,829	18,671	5.67%
Pedestrian & Other Structures	93,940	104,938	(10,998)	(11.71%)
Greenways	250,000	368,453	(118,453)	(47.38%)
Subtotal	**4,596,456**	**4,772,500**	**(176,044)**	**(3.83%)**
A4 - Transit & Safety				
Arterial Improvements	1,050,750	933,240	117,510	11.18%
Aging Uncurbed Arterials	515,000	-	515,000	100.00%
Bus Shelters	48,310	605	47,705	98.75%
Bus Slabs & Landings	529,108	560,423	(31,315)	(5.92%)
Property Fund	270,000	278,998	(8,998)	(3.33%)
Subtotal	**2,413,168**	**1,773,266**	**639,902**	**26.52%**
A5 – Local Area Traffic				
Local Area & Other	975,800	1,185,148	(209,348)	(21.45%)
Higher Zone Streets	580,001	711,032	(131,031)	(22.59%)
Residential Streets	3,259,997	3,188,196	71,801	2.20%
Higher zone Lanes	200,842	228,886	(28,044)	(13.96%)
Residential Lanes	2,485,160	2,199,846	285,314	11.48%
Drainage & Utility Relocation	367,650	297,093	70,557	19.19%
Advance Utility Relocation	75,000	2,218	72,782	97.04%
Grade & Open Streets & Lanes	146,649	64,719	81,930	55.87%
Traffic Calming & Speed Humps	526,500	386,379	140,121	26.61%
Minor Property Acquisition	270,000	-	270,000	100.00%
Miscellaneous Projects	324,837	335,148	(10,311)	(3.17%)
Subtotal	**9,212,436**	**8,598,665**	**613,771**	**6.66%**
A6 – Major Projects				
Downtown Heritage Railway	485,000	629,430	(144,430)	(29.78%)
Stanley Park S-curve *(total is gross)*	13,491,611	15,405,831	(1,914,220)	(14.19%)
Miscellaneous Projects	75,000	86,491	(11,491)	(15.32%)
Subtotal	**14,051,611**	**16,121,752**	**(2,070,141)**	**(14.73%)**
Streets 2000-02 Capital Programs Proposed as a Funding Source				
A5 – Local Area Traffic				
2001 Curb Bulges			30,000	
2001 BCB Higher Zoned Streets			264,000	
Subtotal (allocation to 2000-02 Plan)			**294,000**	
Streets 2003-04 Capital Programs Proposed as a Funding Source				
A1 – Infrastructure				
2003 BCB Non- MRN Rehabilitation			400,000	
2004 BCB Non- MRN Rehabilitation			1,287,699	
A4 – Transit & Safety				
2003 BCB – Aging Uncurbed Arterials			35,301	
A5 – Local Area Traffic				
2003 BCB - Local Area Traffic			169,596	
Subtotal (allocation to 2000-02 Plan)			**1,892,596**	
TOTAL			**0**	

Table 2 - Streets Accounts Variance Explanations

Order Group	Program	Budget ($)	Actual ($)	Balance ($)	Variance
2000-02/03	**Infrastructure**				
CA1EA1AAX1 CA2EA1AAX1 CA3EA1AAX1	MRN Program 2000-02***	8,912,979	10,555,732	(1,642,753)	(18%)
CB3EA1AAX1	MRN Program 2003***	1,313,854	515,630	798,224	61%
	MRN Program Total 00-03	10,226,833	11,071,362	($844,529)	(8%)

***Totals indicated are gross.

This program is primarily funded by TransLink. The accounts being closed in this category had a total budget of over $10 million over the period 2000-03, of which the City's share was $4.5 million (40%). The over expenditure from 2000-02 is a result of the City's increased efforts within this timeframe to rehabilitate arterial roads with regional significance. Specifically, during this period a number of road sections were below established pavement quality standards and thus did not qualify for TransLink Major Road Network (MRN) Funding. Therefore, from 2000-02 there was a concerted effort to reconstruct substandard roads within the MRN to qualify for future external funding. This work was offset by reduced spending on arterials in subsequent years.

CA2EA1A002	Powell/Dundas; Campbell to Nanaimo	$1,158,000	$541,901	$616,099	53%

Initially the scope of this project was to involve a full reconstruction of the street. However, as work proceeded it was determined that a significant portion of the improvement could be accomplished by implementing maintenance procedures. Thus the scope of work was reduced and the project was completed at a lower overall cost.

CA2EA1A004	Commercial 9th to 12th	$430,000	$895,965	($465,965)	(108%)

Unexpected cost overruns occurred with this project for two reasons: prolonged inclement weather was experienced during construction, which increased the length of time required for the work; the scope of work was increased to accommodate street beautification initiatives which were not originally anticipated.

CA3EA1A001	Water Street	$200,000	$444,402	($244,402)	(122%)

Unanticipated costs on this project were primarily a result of increased scope and scheduling issues. Specifically, the increased scope included the purchase of new pavers, additional curb and gutter reconstruction, repair of cuts to decorative sidewalks, and additional traffic management, contract labour and equipment costs.

CA2EA1B001	69th Ave; Manitoba to Main	$120,000	$312,070	($192,070)	(160%)

This project presented an opportunity to test different asphaltic concrete mixes, and as a result, the full roadway was reconstructed rather than completing only a partial reconstruction as initially anticipated. This increased scope of work resulted in additional costs. However, this additional work was considered good value since it is anticipated to benefit future street improvement projects and may result in future cost savings.

Table 2 continued...

2000 – 2002	**Transit & Safety**				
CA1EA4BXX1 CA2EA4BXX1 CA3EA4BXX1	Aging Uncurbed Arterials	$515,000	$0	$515,000	100%

An unexpended balance is available in this program because work which had been planned was deferred in order to set aside funding for the Streets' shortfall. Unappropriated funding of $515,000 is therefore available in this program to balance the accounts.

CA1EA4A001	Left Turn Bay Marine at Cambie	$235,000	$123,446	$111,554	47%

The unexpended balance resulting from the completion of this project is due to an ICBC funding contribution of $150,000, which was not anticipated when the budget was established.

CA2EA4AB01	Bus Bulge; Commercial at 6th	$80,000	$167,447	($87,447)	(109%)

This project involved the construction of the City's first bus bulge. Since this was new work, the project involved a greater level of uncertainty, compared to other projects where experience has been gained. Providing continuous slope in the curb and gutter to allow for adequate drainage, while at the same time increasing the length out and around the bulge proved much more difficult than was initially anticipated. To provide the required slope, it was necessary to reconstruct a considerably greater area of the roadway than was initially planned, which ultimately led to increased expenditures.

CA2EA4AXX1	Arterial Safety Improvements (Unallocated)	$174,250	$0	$174,250	100%

The unexpended unallocated balance in this account is proposed as a funding source to help balance the accounts being closed by this report.

2000 – 2002	**Local Area Traffic**				
CA1EA5A006	Diagonal Diverter; Franklin/Semlin	$42,000	$92,802	($50,802)	(121%)

This project involved the construction of a new, more effective diagonal diverter design. In order to maximize the effectiveness of the design, various bollard and curb options were tested. This additional work resulted in increased expenditures beyond what was originally anticipated.

CA2EA5A006	School Crosswalk Traffic Sign Colour Change	$65,000	$128,476	($63,476)	(98%)

Additional expenditures on this project were due to increases in scope. While the sign replacement project was being carried out, it was necessary to almost double the number of signs originally planned for manufacture to comply with new standards of providing a sign at each entry point, instead of only providing one sign at a 45 degree angle.

Table 2 continued...

CA3EA5A007	Knight St Bridge Landscape Improvements	$50,000	$184,093	($134,093)	(268%)

Due to the maturity of the landscape, the quantity of material to clear and grub and the associated quantity of replacement topsoil, the cost to restore this site prior to seeding was higher than anticipated. In addition, because of unseasonably dry weather during and following construction of this project, watering was required to establish the grass, which was also not originally anticipated. These factors combined to increase costs on this project.

CA1EA5FB01 CA2EA5FB01 CA3EA5FB01	Advance Utility Relocation	$75,000	$2,218	$72,782	97%

An unexpended balance is available in this program because less utility relocation related to local improvements was required than was anticipated. Unappropriated funding of $72,782 is therefore available in this program to help balance the accounts.

CA2EA5GXX1 CA3EA5GXX1	Grade & Open Street Lanes	$146,649	$64,719	$81,930	56%

Fewer lanes were opened during this period than anticipated. Therefore, unappropriated funding of $81,930 is available in this program to balance the accounts.

CA1EA5HXX1 CA2EA5HXX1 CA3EA5HXX1	Minor Property Acquisition	$270,000	$0	$270,000	100%

An unexpended balance is available in this program because acquisitions were funded directly from project accounts. Unappropriated funding of $270,000 is therefore available in this program to balance the accounts.

CA1EA5IC01 CA2EA5IC01	Traffic Calming & Speed Humps	$490,000	$356,030	$133,970	27%

Public consultation and traffic checks that were originally budgeted to be part of the speed hump program were instead conducted using existing programs and staffing. In addition, crews became more efficient as they gained experience installing this new type of traffic calming measure and the public process required delayed implementation of many projects to subsequent years, thus resulting in the above-mentioned unexpended balance.

2000 – 2002 Major Projects

CA2EA6A	Downtown Heritage Railway (DHR)	$485,000	$629,430	($144,430)	(30%)

The DHR Science World Extension - Phase I and Phase II was over budget by approximately $144,000 due a number of unanticipated occurrences leading to an increase in scope of work. Unexpected soil conditions (sandstone that required blasting) and the management of contaminated soil was responsible for approximately $120,000. The remaining overruns resulted from additional upgrades to the tram barn to meet building code.

Table 2 continued...

Order Group	Program	Budget ($)	Actual ($)	Balance ($)	Variance
2000 – 2002	**Other**				
CA1GC5***	Stanley Park S-curve	$13,491,611	$15,405,831	($1,914,220)	(14%)

*** Totals indicated are gross.

In May 1998, The Province approved the rehabilitation of the Lions Gate Bridge and improvements to the Stanley Park causeway from the bridge to Stanley Park Overpass. In order to standardize the roadway and improve the safety of the S Curve portion of the causeway (Stanley Park Overpass to Georgia St.), Council approved the reconstruction of the Stanley Park "S" Curve in February 2000. There were five agencies involved in the project, including The Province, ICBC, TransLink, Vancouver Park Board and City of Vancouver. The total project cost was $15.4 million and the City's share of the cost was $4 million.

The project involved:

a) increasing safety and visibility to pedestrian and cyclist facilities
b) improving the safety of the "S" Curve roadway by:
   -minor realignment of the roadway
   -re-constructing the roadway
   -improving lighting conditions
   -improving drainage and runoff
   -increasing lane widths
   -reconstruction of the lane control system
   -reducing potable water in Devonian Pond
   -improving pedestrian, skater and cyclist safety in Chilco underpass
c) reducing traffic congestion by separating Stanley Park and Lion's Gate Bridge traffic
d) increasing "green" space by converting Chilco Bus Loop into a park and converting an existing parking lot into a new bus loop
e) improving transit access into Stanley Park by reconstructing Pipeline Road and constructing the new bus loop.

The total budget for the project was $13.5 million and the total expenditures were $15.4 million, which results in a shortfall of approximately $1.9 million (14.19% deficit). The unexpected costs with the S Curve project were unique, unavoidable, and resulted in good value.

The project went through a far greater planning process, taking more time and involving more stakeholders than originally planned when the $13.5 million budget was established. That said, the end product is significantly better because of the more thorough process undertaken. The resulting increased scope and project duration resulted in a 14% over expenditure.

In more specific terms, the changes included; the reconstruction of Pipeline Road, the addition of a new sewer force main, use of storm water for Devonian Park, and landscape and urban design scope changes to the causeway, following the more elaborate design of the connecting Georgia Street project, and Devonian pond. Some cost increases were for reasons beyond the City's control and resulted from: unexpected underground utilities, unworkable road base, project constraints from Department of Fisheries and Ocean (DFO) at Coal Harbour, scope changes at the GVRD's watermain and a new electrical room. These issues resulted in delays and scope changes, which ultimately increased construction and consultant costs.

Traffic Signal Account Closeout Summary

The purpose of this summary is to close and balance 2000 - 2002 Traffic Signal Capital accounts (Streets Capital Plan program A3). These accounts, detailed in Table 3, represent projects for which, as a group, funding occurred over the period of the 2000 - 2002 Capital Plan, or were carried forward from previous Plans.

The net overall unexpended balance resulting from the closeout of Traffic Signal accounts from the 2000 - 2002 Capital Plan is $963,630. Ongoing projects will be brought forward to the 2005 Capital Plan and surplus funds are recommended to be transferred forward to the 2005 Traffic Signal Capital accounts as indicated in Table 4. Explanation of variances in excess of established limits are provided in Table 5.

Table 3 - Traffic Signals 2000-02 Capital Programs (Actuals as of April 15, 2005)

Program or Project Description	Budget ($)	Actual ($)	Unexpended Balance ($)	Variance (%)
A3 – Traffic Signals				
New Ped & Vehicular Signals	2,729,465	2,343,333	386,132	14.15%
Modify Existing Signals	1,937,312	1,915,010	22,302	1.15%
Replace Aging Signal Plant	1,355,000	1,232,963	122,038	9.01%
ICBC Program	-	(107,775)	107,775	n/a
TSMS System Upgrade	558,519	367,796	190,723	34.15%
Signals Unallocated	166,172	31,512	134,660	81.04%
Total surplus (deficit)	**6,746,468**	**5,782,838**	**963,630**	**14.28%**

Table 4 - Proposed Allocation of Funding Surplus (Deficit) to be Carried Forward to 2005 BCB Program A3

Program or Project Description	Budget ($)
2005 New Ped & Vehicular Signals	520,357
2005 Modify Existing Signals	22,737
2005 Replace Aging Signal Plant	122,038
TSMS System Upgrade	190,723
BC Hydro LED project	107,775
Total surplus (deficit)	**963,630**
Net transfer to 2005 Capital Plan	**963,630**

Table 5 - Traffic Signals Accounts Variance Explanations

Order Group	Program	Budget ($)	Actual ($)	Balance ($)	Variance
2000 – 2002	**Traffic Signals**				
CA3EA3A	New Pedestrian and Vehicle Signals	$1,113,465	$819,833	$293,632	26%

In 2002 the City received a total of $229,540 from ICBC and TransLink towards the installation of 10 Pedestrian Signals, 2 Traffic Signals, and 2 Special Crosswalks. These additional funding sources were noted in the 2002 Traffic Signal Program Report to Council, but the actual amounts could not be reported since the submissions to TransLink and ICBC were not approved until after the Signal Program was approved by City Council.

It is requested that the funding surplus of $386,132 from the 00-02 Capital Plan be carried forward to the 2005 Plan for new pedestrian and vehicular signals to improve the current level of service for the program.

CA3EA3F	TSMS System Upgrade	$558,519	$367,796	$190,723	34%

This project is related to the City's Central Traffic Control System and the design of upgrades of communications to the traffic signal controllers. This program is still on-going. It is requested that the program be transferred to the current 2005 Capital Plan.

CA3EA3G	Signals Unallocated	$166,172	$31,512	$134,660	81%

It is requested that the unexpended balance of funds be transferred to the current 2005 Capital Plan, program A3d Replace Aging Signal Plant. This program provides funding to rebuild the City's aging signal infrastructure. Current Plan funding for this program is approximately $600,000 less than originally requested. This additional funding would help to provide an increased level of service for the program and move the City to a more sustainable infrastructure program.

CA1EA3ICX1 CA2EA3ICX1 CA3EA3ICX1	ICBC Program	$0	($107,775)	$107,775	n/a

This funding from ICBC relates to material costs for traffic safety and signal visibility upgrades at existing traffic signals. It is requested that this funding surplus be transferred to the BC Hydro LED Traffic Project.

Pre-2000 Capital Account Closeouts

The following are programs/projects from previous Capital Plans were completed a number of years ago but have not been administratively closed out. The projects are described below, with recommendations for allocation.

New Asphalt Plant, Aggregate Handling Facility and Materials Testing Laboratory (C07F)

In June of 1997, City Council authorized Engineering Services to purchase the property at 900 East Kent Avenue from the Property Endowment Fund for the purpose of constructing a new asphalt plant, aggregate handling facility and materials testing lab. In August 1998, a budget of $16.28 million was approved for the design and construction of these facilities and construction began shortly after. The Grand Opening of these facilities took place on October 6th, 1999.

This project was completed in 1999, but had not been included in previous closeouts. There remains a net deficit of $252,911 (1.5%) resulting from this work. It is proposed that this shortfall be added to the existing loan from the Capital Financing Fund for this project, to be repaid within the original terms, as established by the Director of Finance.

Solid Waste - Landfill (C07G)

During the period 1986 to 2000 a range of capital projects were undertaken at the Vancouver Landfill. The projects included the initial landfill gas collection system, upgrades to the leachate pump station, a replacement landfill administration building, the construction of the composting facility, implementation of the high voltage power supply, and others. There was a net $139,327 (2.0%) deficit on a budget of approximately $7,000,000.

The majority of these projects were funded with loans from the Solid Waste Capital Reserve with repayment by Landfill users through tipping fees. On this basis, it is recommended that the shortfall be added to current Solid Waste Capital Reserve loans, with terms acceptable to the Director of Finance, with costs allocated to users of the Landfill facility.

Parking Meter Program (C07H)

There was an over-expenditure of $17,789 (3.2%) which occurred in 1997 as part of a $550,000 capital purchase of parking meter equipment. This is part of a $1 million program change which generates a net of roughly $3 million annually to the City.

It is recommended that the deficit be funded from the 2005 Parking Meter Equipment group, which is funded by the Parking Meter Replacement Fund.