APPENDIX 1 – to City Services & Budgets Committee Report

Submissions for …

2004 Engineering Basic Capital Budget

City of Vancouver
May 2004

ENGINEERING SUMMARY

Project Number	Program – 2004	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
A	STREETS	$ 37,480	$ 17,492	$ 19, 988
B	COMMUNICATIONS	$ 655	$ 0	$ 655
C	STREET LIGHTING	$ 2,332	$ 229	$ 2,103
D	SEWERS	$ 36,830	$ 14,520	$ 22,310
E	WATERWORKS	$ 12,177	$ 266	$ 11,911
F	YARDS	$ 820	$ 0	$ 820
	TOTAL – 2004 ENGINEERING	$ 90,294	$ 32,507	$ 57,787

ENGINEERING STREETS

Project Number	Program – 2004	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
A1	**INFRASTRUCTURE**			
	a) Repair of Deteriorated Arterial Streets	6,205	2,705	3,500
	b) Repair of Deteriorated Local Streets	300	0	300
	c) Major Maintenance – Structures	190	160	30
	e) Pavement and Materials Research	90	0	90
	SUBTOTAL – INFRASTRUCTURE	**$ 6,785**	**$ 2,865**	**$ 3,920**
A2	**PEDESTRIANS & BICYCLES**			
	a) New Sidewalks	550	280	270
	b) Sidewalk Reconstruction – Local Improvements	400	130	270
	c) Sidewalk Reconstruction – Partial Blocks	1,068	198	870
	d) Curb Ramp Program	500	0	500
	e) Bicycle Network	1,185	0	1,185
	f) Beautification and Street Trees	1,000	650	350
	g) Pedestrian & Other Structures	70	0	70
	h) Greenways	450	0	450
	SUBTOTAL – PEDESTRIANS & BICYCLES	**$ 5,223**	**$ 1,258**	**$ 3,965**
A3	**TRAFFIC SIGNALS**			
	a) Traffic Signal Program	1,145	180	965
	b) Modification of Existing Signals	580	235	345
	d) Replace Aging Signal Plant	784	186	598
	SUBTOTAL – TRAFFIC SIGNALS	**$ 2,509**	**$ 601**	**$ 1,908**
A4	**TRANSIT & SAFETY**			
	a) Arterial Improvements	790	565	225
	b) Aging Uncurbed Arterials	400	0	400
	d) Bus Slabs & Landings	230	0	230
	SUBTOTAL – TRANSIT & SAFETY	**$ 1,420**	**$ 565**	**$ 855**

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ENGINEERING STREETS

Project Number	Program – 2004	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
A5	**LOCAL AREA TRAFFIC PLANS & OTHER IMPROVEMENTS**			
	a) Installation of Neighbourhood Traffic Controls	500	0	500
	b) Higher Zoned Streets – LI	1,400	200	1,200
	c) Residential Streets – LI	2,770	370	2,400
	d) Higher Zoned Lanes – LI	280	160	120
	e) Residential Lanes – LI	1,525	525	1,000
	f) Drainage & Utility Relocation Prior to Paving	250	0	250
	g) Grade/Open Streets & Lanes	50	0	50
	h) Minor Property Acquisition	120	0	120
	i) Traffic Circles & Speed Humps – LI	58	58	0
	SUBTOTAL – LOCAL AREA TRAFFIC PLANS & OTHER IMPROVEMENTS	**$ 6,953**	**$ 1,313**	**$ 5,640**
A6	**MAJOR PROJECTS**			
	d) Urban Transportation Showcase	13,890	10,890	3,000
	SUBTOTAL – MAJOR PROJECTS	**$ 13,890**	**$ 10,890**	**$ 3,000**
	DEBENTURE COSTS	**$ 700**	**$0**	**$ 700**
	TOTAL – 2004 STREETS CAPITAL BUDGET	**$ 37,480**	**$ 17,492**	**$ 19,988**

2004 BASIC CAPITAL BUDGET — Project # A-1a1

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Infrastructure**

PROJECT TITLE:

Repair of Deteriorated Non MRN Arterial Streets

PROJECT DESCRIPTION:

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

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

Funding of $3.5 million per year is required to maintain the condition of the arterial streets in this category at the current level. However for 2004, $400,000 will be diverted to the MRN category (A-1a2) to improve MRN pavements with a Pavement Quality Index (PQI) less than 5.5.

Advance funding of $1,500,000 for this program was approved by Council on February 24th 2004.

OBJECTIVES:

For 2004, construction will include projects such as:

- Hornby St., Pacific Blvd to Nelson St.
- 4th Avenue, Northwest Marine Dr. to Blanca

BUDGET (include functional breakdown):

Direct Labour:	**$ 380,000**	
Materials:	**$ 1,500,000**	
Equipment:	**$ 631,000**	
Other (please specify):	**$ 589,000**	Overhead (Engineering, Design, Inspection)
Total:	**$ 3,100,000**	

TIMING:

Throughout the year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 3,100,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$1,500,000**	Advance Approvals of 2004 BCB Funding

2004 Basic Capital Budget Requested: **$ 1,600,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA1AX1** **Order Number:** **30006958**

2004 BASIC CAPITAL BUDGET — Project # A-1a2

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Infrastructure**

PROJECT TITLE:

Repair of Deteriorated MRN Arterial Streets

PROJECT DESCRIPTION:

Rehabilitation of arterial streets on the Major Road Network (MRN)

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

Funds for the reconstruction of that portion of the Arterial street system included in the regional Major Road Network (MRN) are provided by TransLink. However, the City is required to improve MRN arterials with an original pavement quality index (PQI) rating less than 5.5 before we can receive additional Translink funding for these roads.

OBJECTIVES:

1. MRN roads with a PQI rating greater than 5.5

For 2004, funding from TransLink of $2.7m has been included for capital works on MRN streets with a PQI of 5.5 or more.

2. MRN roads with a PQI rating less than 5.5

Once MRN roads with an original PQI rating less than 5.5 are improved to a rating above 5.5, reconstruction funding for all MRN roadways will be provided by Translink. For 2004, it is proposed to divert $400,000 from the Non MRN category (A-1a1) for this upgrading. An example of a City funded MRN project planned for 2004 is the rehabilitation of Seymour Street, from Pacific Blvd to Cordova St.

BUDGET (include functional breakdown):

Direct Labour:	**$ 380,000**	
Materials:	**$ 1,500,000**	
Equipment:	**$ 631,000**	
Other (please specify):	**$ 594,000**	Overhead (Engineering, Design & Inspection)
Total:	**$ 3,105,000**	

TIMING:

Throughout 2004

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 3,105,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$2,705,000**	Translink (MRN – OMR)
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 400,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA1AAX1** **Order Number:** **30006959**
30006927

2004 BASIC CAPITAL BUDGET — Project # A-1b

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Infrastructure**

PROJECT TITLE:

Repair of Deteriorated Local Streets

PROJECT DESCRIPTION:

Reconstruction of improved local streets which have deteriorated due to poor soils, extensive utility cuts or heavier than normal traffic.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

The large number of local streets (e.g. non-arterial) which were improved in the 1960's and 1970's with concrete curb and asphalt pavement are generally well maintained with normal maintenance programs. However, this program is necessary to deal with the local streets which have deteriorated more rapidly than normal due to poor soils, extensive utility cuts or heavier than normal traffic and can no longer be economically maintained.

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OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 72,900**	
Materials:	**$ 85,100**	
Equipment:	**$ 85,000**	
Other (please specify):	**$ 57,000**	Overhead (Engineering, Design & Inspection)
Total:	**$ 300,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 300,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 300,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EA1BX1** **Order Number:** **30006961**

2004 BASIC CAPITAL BUDGET Project # A-1b

DEPARTMENT: ENGINEERING **PROGRAM: Infrastructure**

PROJECT TITLE:

Repair of Deteriorated Local Streets

PROJECT DESCRIPTION:

Reconstruction of improved local streets which have deteriorated due to poor soils, extensive utility cuts or heavier than normal traffic.

PROJECT SUMMARY (continued)

There are several areas in Vancouver where developments and streets have been constructed over old peat bogs. There are many blocks of previously improved streets in these areas which require reconstruction because they have sunken badly resulting in large sections which do not drain properly as well as providing poor driving surfaces. Also, during the repair of utility cuts there is the opportunity to improve adjacent sections of pavement or curb which are in poor condition and which should also be replaced. These blocks are expensive to construct and therefore only a few reconstructions of this type are built each year.

Total funding of $300,000 is required for 2004 to complete the necessary street repair work. It is also proposed to divert $50,000 of the 2003 -2005 Capital Plan funding from this area to Project A-5f for investigations for design or for Streets related construction improvements.

2004 BASIC CAPITAL BUDGET — Project # A-1c

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Infrastructure**

PROJECT TITLE:
Major Maintenance of City Structures

PROJECT DESCRIPTION:
Maintenance of Major Bridges

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)
HISTORY:

1. Major Bridges – Joint Replacement

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. Some work has been done over the last six years and it is proposed to continue the rebuilding in 2004 at a cost of $30,000.

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OBJECTIVES:
To rebuild the joints on an ongoing basis in order to keep them secure and minimize the possibility of major joint replacements, and to establish a program to rehabilitate the bridge bearings.

BUDGET (include functional breakdown):

Direct Labour:	**$7,300**	
Materials:	**$8,500**	
Equipment:	**$8,500**	
Other (please specify):	**$165,700**	Overhead (Engineering, Design & Inspection), Consultants
Total:	**$190,000**	

TIMING:
Summer/Fall

COST SAVINGS AND OTHER BENEFITS:
Reduces the possibility of a major capital expenditure in the future.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 190,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 160,000**	Pre-2000 BCB Funding from C07A1C0003

2004 Basic Capital Budget Requested: $ 30,000

FOR INTERNAL USE ONLY:
Order Group: **CB2EA1CX1** **Order Number:** **30006962**
30006960

2004 BASIC CAPITAL BUDGET	Project #	A-1c

DEPARTMENT: ENGINEERING **PROGRAM: Infrastructure**

PROJECT TITLE:

Major Maintenance of City Structures

PROJECT DESCRIPTION:

Maintenance of Major Bridges

PROJECT SUMMARY (continued)

2. Granville Bridge Bearing Rehabilitation

The steel truss portions of the Granville Bridge are supported on roller bearings enclosed in steel boxes filled with a lubricant. A report has been made to Council requesting that a consulting firm be engaged for a detailed assessment report on the rehabilitation of the bearings, at an estimated cost of $70,000. The report also recommends approving $90,000 of funding for phase 1 of the rehabilitation work to be performed once the assessment has been completed. Funding for this work is provided from the Pre-2000 Streets Major Maintenance Capital Accounts in order group C07A1C003, order 10000439, as outlined to Council.

2004 BASIC CAPITAL BUDGET — Project # A-1e

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Infrastructure**

PROJECT TITLE:

Pavement and Materials Research

PROJECT DESCRIPTION:

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

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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.

OBJECTIVES:

In 2004 the following research initiatives are currently proposed:

- Open graded, low noise pavement review
- Upgrade of Reclaimed Asphalt Pavement (RAP) testing
- Pavement Skid Resistance testing review.
- Continued evaluation of existing asphaltic concrete pavement test sections and new sections placed.

BUDGET (include functional breakdown):

Direct Labour:	**$ 44,000**	
Materials:	**$ 7,000**	
Equipment:	**$ 21,900**	
Other (please specify):	**$ 17,100**	Overhead (Engineering, Design & Inspection)
Total:	**$ 90,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 90,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	
2004 Basic Capital Budget Requested:		**$ 90,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA1EX1** **Order Number:** **30006963**

2004 BASIC CAPITAL BUDGET Project # A-2a

DEPARTMENT: ENGINEERING **PROGRAM: Pedestrians & Bikes**

PROJECT TITLE:

New Sidewalks

PROJECT DESCRIPTION:

City-wide program to construct sidewalks on arterial streets and pedestrian collector routes. This program also constructs sidewalks in residential areas as requested by petitions.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

The goals of the City's sidewalk construction program, as approved by Council on April 8, 2004 are:

- To complete the sidewalk network to include sidewalks on doth 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
- 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

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OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 133,700**	
Materials:	**$ 155,900**	
Equipment:	**$ 155,900**	
Other (please specify):	**$ 104,500**	Overhead (Engineering, Design & Inspection)
Total:	**$ 550,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 550,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 280,000**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 270,000**

FOR INTERNAL USE ONLY:

Order Group: CB2EA2AX1 **Order Number: 30006964**

2004 BASIC CAPITAL BUDGET Project # A-2a

DEPARTMENT: ENGINEERING **PROGRAM: Pedestrians & Bikes**

PROJECT TITLE:

New Sidewalks

PROJECT DESCRIPTION:

City-wide program to construct sidewalks on arterial streets and pedestrian collector routes. This program also constructs sidewalks in residential areas as requested by petitions.

PROJECT SUMMARY (continued)

Construction of new sidewalks is being given a higher priority in accordance with Council's direction and CityPlan. The construction of additional walks has become more urgent with the recent implementation of designated wheelchair accessible transit routes. Also, the demand for a continuous sidewalk system has increased significantly with the rapid increase in use of power wheelchairs and scooters which allow seniors and persons with disabilities to travel longer distances.

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.

Council is currently considering changes to funding levels for sidewalk construction.

Approval of this submission will constitute approval to proceed with construction of 100% City share walks around schools and parks etc.

Funding in this section dies not reflect the shift approved by Council on April 8, 2004 as the budget preparation was completed before this date. The new program approved by Council would shift approximately $1,200,000 from Street and Lane local improvements into new sidewalk construction. In 2004 we will make this shift by beginning to initiate sidewalks at a higher level as approved and will forward a resolution to formally move the funding together with the first local improvement report on the sidewalk projects. Street and Lane projects will be capped to ensure the funds are available to make this shift.

2004 BASIC CAPITAL BUDGET — Project # A-2b

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Pedestrians & Bikes**

PROJECT TITLE:

Sidewalk Reconstruction – Local Improvements

PROJECT DESCRIPTION:

Reconstruction of full blocks of badly deteriorated sidewalks and installation of trees under the Local Improvement Program.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This program addresses the deterioration of our sidewalk infrastructure by replacing full block lengths of old, broken, and worn out sidewalks, with the costs shared between the City and property owners adjacent individual projects. This 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.

OBJECTIVES:

After 15 years, the amount of outstanding work has been reduced significantly. Funds are still required to deal with the remaining work, other sidewalks as they deteriorate, petition requests, sidewalks damaged by underground utility construction, and also some poor condition sidewalk areas involving full City share (e.g. adjacent foreshore or parks). This program includes tree planting in areas where trees do not currently exist.

BUDGET (include functional breakdown):

Direct Labour:	**$ 97,200**	
Materials:	**$ 113,400**	
Equipment:	**$ 113,400**	
Other (please specify):	**$ 76,000**	Overhead (Engineering, Design & Inspection)
Total:	**$ 400,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

Reduce street maintenance

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 400,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 130,000**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 270,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA2BX1** **Order Number:** **30006965**

2004 BASIC CAPITAL BUDGET — Project # A-2c1

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Pedestrians & Bikes**

PROJECT TITLE:

Sidewalk Reconstruction primarily due to tree damage – Partial Blocks.

PROJECT DESCRIPTION:

Reconstruction of partial block lengths of sidewalk generally damaged by trees.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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 2004 will focus on Commercial streets, and will continue to 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 long term.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 150,700**	
Materials:	**$ 175,700**	
Equipment:	**$ 175,800**	
Other (please specify):	**$ 117,800**	Overhead (Engineering, Design & Inspections)
Total:	**$ 620,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

Reduce street maintenance

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 620,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 620,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EA2CX1** **Order Number:** **30006966**

2004 BASIC CAPITAL BUDGET — Project # A-2c2

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Pedestrians & Bikes**

PROJECT TITLE:

Sidewalk Reconstruction – Partial Blocks.

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 SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 60,700**	
Materials:	**$ 70,900**	
Equipment:	**$ 71,400**	
Other (please specify):	**$ 47,000**	Overhead (Engineering, Design & Inspection)
Total:	**$ 250,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

Reduce street maintenance, safety,

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 250,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 250,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EA2CX1** **Order Number:** **30006966**

2004 BASIC CAPITAL BUDGET — Project # A-2c3

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Pedestrians & Bikes**

PROJECT TITLE:

Pedestrian Infrastructure Rehabilitation on MRN roads

PROJECT DESCRIPTION:

Reconstruction and rehabilitation of sidewalks in poor condition as identified by the annual street survey, poor condition walk adjacent major street and utility replacement projects, and other pedestrian and transit infrastructure on MRN roads.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This program is a continuation of the other Sidewalk Reconstruction programs, but is specifically for MRN roads. As part of the TransLink Major Road Network (MRN) Operations, Maintenance and Rehabilitation (OMR) program, funding is available for reconstruction of sidewalks and other pedestrian infrastructure for MRN designated roads. $198,000 of the 2004 TransLink funding has been allocated for this area.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 48,100**	
Materials:	**$ 56,100**	
Equipment:	**$ 56,500**	
Other (please specify):	**$ 37,300**	Overhead (Engineering, Design & Inspection)
Total:	**$ 198,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

Reduce street maintenance, safety

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 198,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 198,000**	TransLink (MRN – OMR)
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 0

FOR INTERNAL USE ONLY:

Order Group: **CB2EA2CX1** **Order Number:** **n/a**

2004 BASIC CAPITAL BUDGET — Project # A-2d

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Pedestrians & Bikes**

PROJECT TITLE:

Curb Ramp Program

PROJECT DESCRIPTION:

Construction of curb ramps at street and lane corners to provide level access to sidewalks

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This program installs curb ramps at street and lane corners to provide level, uninterrupted access to the sidewalks. Primarily, this is done for persons with disabilities. However, the program also benefits many seniors who are using power scooters to maintain their mobility and independence, as well as people with strollers. These uses have resulted in an increased demand for curb ramps at specific locations, as well as an increase in demand for provision of multiple ramps along destination routes to commercial areas, community centres, etc.

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OBJECTIVES:

To perform this work on an on-going basis.

BUDGET (include functional breakdown):

Direct Labour:	**$ 121,500**	
Materials:	**$ 141,800**	
Equipment:	**$ 141,700**	
Other (please specify):	**$ 95,000**	Overhead (Engineering, Design & Inspections)
Total:	**$ 500,000**	

TIMING:

Throughout the year

COST SAVINGS AND OTHER BENEFITS:

Reduces the possibility of a major capital expenditure in the future.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 500,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 500,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EA2DX1** **Order Number:** **30006968**

2004 BASIC CAPITAL BUDGET Project # A-2d

DEPARTMENT: ENGINEERING **PROGRAM: Pedestrians & Bikes**

PROJECT TITLE:

Curb Ramp Program

PROJECT DESCRIPTION:

Construction of curb ramps at street and lane corners to provide level access to sidewalks

PROJECT SUMMARY (continued)

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

There are approximately 9,700 locations in the City which require ramps. This number will be reduced by approximately 300 during 2004.

2004 BASIC CAPITAL BUDGET — Project # A-2e

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Pedestrians & Bikes**

PROJECT TITLE:

Vancouver Bicycle Network

PROJECT DESCRIPTION:

Improvements to cycling facilities and routes in Vancouver

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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, nineteen bikeways comprising over 140km have been completed or are about to be completed as part of this network.

(continued on next page)

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.

BUDGET (include functional breakdown):

Direct Labour:	**$ 427,000**	
Materials:	**$ 367,000**	
Equipment:	**$ 213,000**	
Other (please specify):	**$ 178,000**	Overhead (Engineering, Design & Inspection)
Total:	**$ 1,185,000**	

TIMING:

2004

COST SAVINGS AND OTHER BENEFITS:

Development of sustainable transportation alternative: cycling

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$20,000**	**$55,000**

PROJECT COST:

Total Cost:	**$1,185,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 1,185,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA2EX1** **Order Number:** **30006969**

2004 BASIC CAPITAL BUDGET	Project #	A-2e

DEPARTMENT: ENGINEERING **PROGRAM: Pedestrians & Bikes**

PROJECT TITLE:

Vancouver Bicycle Network

PROJECT DESCRIPTION:

Improvements to cycling facilities and routes in Vancouver

PROJECT SUMMARY (continued)

Further expansion of the bicycle network is planned for 2004: Gladstone Bikeway, Balaclava/Carnarvon Bikeway, and striping 4th Avenue. As part of the Downtown Transportation Plan, the bike lanes on Hornby Street will be striped in 2004. Design and consultation will begin on several of the other routes approved in the Downtown Transportation Plan. Enhancements planned on existing routes include Union/Main bike signal, and new path extension at New Brighton. Boundary/22nd intersection cycling improvements are planned. Events such as the opening of the Georgia Street bike lanes, Pacific Boulevard bike lanes, Kent Avenue bikeway, Trans Canada Trail connection/bridge to Burnaby, and the Windsor Bikeway are planned for June Bike Month. Cycling maps will be produced. Cycling pushbuttons will be added at about 20 intersections.

For 2004 it is anticipated this category will require overall funding of $1,185,000.

2004 BASIC CAPITAL BUDGET — Project # A-2f

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Pedestrians & Bikes**

PROJECT TITLE:

Beautification & Street Trees

PROJECT DESCRIPTION:

Beautification projects and Local Improvement street tree planting

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This program funds beautification projects for installation of non-standard capital works within the street right-of-way and a Local Improvement category for the planting of trees in commercial areas. Capital funding of $350,000 is requested for projects covered by this program that will arise during the course of 2004. The property owner's share of beautification projects is typically two-thirds.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 243,000**	
Materials:	**$ 284,000**	
Equipment:	**$ 283,000**	
Other (please specify):	**$ 190,000**	Overhead (Engineering, Design & Inspections)
Total:	**$ 1,000,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 1,000,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 650,000**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 350,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA2FX1** **Order Number:** **30006970**

2004 BASIC CAPITAL BUDGET — Project # A-2g

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Pedestrian & Bikes**

PROJECT TITLE:

Pedestrian & Other Structures

PROJECT DESCRIPTION:

Construction and Major Maintenance of Overhead Pedestrian Bridges and other miscellaneous structures

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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 $70,000 be provided for this work in 2004. Approval of this submission will constitute approval to proceed with spending the funds.

OBJECTIVES:

To perform this work on an on-going basis.

BUDGET (include functional breakdown):

Direct Labour:	**$ 17,000**	
Materials:	**$ 19,900**	
Equipment:	**$ 19,800**	
Other (please specify):	**$ 13,300**	Overhead (Engineering, Design & Inspections)
Total:	**$ 70,000**	

TIMING:

Throughout the year

COST SAVINGS AND OTHER BENEFITS:

Reduces the possibility of a major capital expenditure in the future.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 70,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 70,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EA2GX1** **Order Number:** **30006971**

2004 BASIC CAPITAL BUDGET — Project # A-2h

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Pedestrians & Bikes**

PROJECT TITLE:
Greenways

PROJECT DESCRIPTION:
Greenways Projects

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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

This funding request seeks $450,000 for 2004 Basic Capital. In addition, $1,000,000 of the 2003-2005 Capital Plan Budget for Greenways will be transferred to the Urban Transportation Showcase Program (A-6d Major projects) in 2004 due to Greenways' funding commitment for the Showcase.

OBJECTIVES:

In 2004, Greenways will continue to develop and build ongoing and new greenway projects including but not limited to the Carrall Greenway, the Central Valley Trail, the Marine Drive Golf Course portion of the Fraser River Trail, and the 11th Avenue Greenway. Neighbourhood Greenways will also respond to requests across the City, including those resulting from Community Visioning, such the 43rd Avenue Neighbourhood Greenway.

BUDGET (include functional breakdown):

Direct Labour:	**$ 154,900**	
Materials:	**$ 25,800**	
Equipment:	**$ 77,400**	
Other (please specify):	**$ 191,900**	Overhead, External design and public process work
Total:	**$ 450,000**	

TIMING:
Work throughout the year.

COST SAVINGS AND OTHER BENEFITS:
This budget includes costs (approx. $120,000) related to consultants and temporary help required to assist staff during high production and time sensitive project phases. This allows for a more efficient level of core staff during non peak times.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 450,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 450,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA2HX1** **Order Number:** **30006972**

2004 BASIC CAPITAL BUDGET — Project # A-3a

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Traffic Signals**

PROJECT TITLE:

New Pedestrian and Vehicular Signals

PROJECT DESCRIPTION:

New Pedestrian and Traffic Signal Installations

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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.

There are 11 new signals and 3 new special crosswalks budgeted for 2004: 9 pedestrian signals with an average cost of $77,000 per location, 2 vehicular signals with an average cost of $91,000 per location, and 3 special crosswalks with an average cost of $30,000 per location. Further details on this project will be reported as part of the 2004 Traffic Signal Program.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 377,850**	
Materials:	**$ 412,200**	
Equipment:	**$ 240,450**	
Other (please specify):	**$ 114,500**	Overhead
Total:	**$ 1,145,000**	

TIMING:

Within 2004 fiscal year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 1,145,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 180,000**	$110,000 ICBC; $70,000 TransLink
Existing City Funding:	**$ 647,000**	Advance Approvals of 2004 BCB Funding

2004 Basic Capital Budget Requested: $ 318,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EA3AX1** **Order Number:** **30006973**
30006974
30006975

2004 BASIC CAPITAL BUDGET Project # A-3b

DEPARTMENT: ENGINEERING **PROGRAM: Traffic Signals**

PROJECT TITLE:

Signal Construction – Modification of Existing Signals

PROJECT DESCRIPTION:

Modification, Upgrade, and Retrofitting Existing Pedestrian and Traffic Signals

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This project 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.

(continued on next page)

OBJECTIVES:

Pedestrian Indicators:	$ 55,000
Left Turn Phasing:	$ 250,000
Audible Signals:	$ 45,000
Signal Modifications:	$ 65,000
Intelligent Transportation Systems:	$ 30,000
Tertiary Signal Heads:	$ 135,000
TOTAL	$ 580,000

BUDGET (include functional breakdown):

Direct Labour:	**$ 191,400**	
Materials:	**$ 249,400**	
Equipment:	**$ 81,200**	
Other (please specify):	**$ 58,000**	Overhead
Total:	**$ 580,000**	

TIMING:

Within 2004 fiscal year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 580,000**	
Less Funding From Other Sources:		
Senior Government	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 235,000**	$85,000 ICBC; $150,000 TransLink (TRRIP)
Existing City Funding:	**$ 345,000**	Advance Approvals of 2004 BCB Funding

2004 Basic Capital Budget Requested: $ 0

FOR INTERNAL USE ONLY:

Order Group: CB2EA3BX1 **Order Number: 30006976**
30006977
30006978

2004 BASIC CAPITAL BUDGET	Project #	A-3b

DEPARTMENT: ENGINEERING **PROGRAM: Traffic Signals**

PROJECT TITLE:

Signal Construction – Modification of Existing Signals

PROJECT DESCRIPTION:

Modification, Upgrade, and Retrofitting Existing Pedestrian and Traffic Signals

PROJECT SUMMARY (continued)

Pedestrian Indicators

In 1991 Council began a program to place pedestrian indicators at a number of existing traffic signals to improve visibility and safety. This modification program will continue in 2004.

Left-turn Arrows

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 and it is anticipated that they will contribute $150,000 from their Transit Related Road Infrastructure Program (TRRIP) in 2004.

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. A trial is occurring to evaluate adding tactile components to an audible signal to assist those with sight and hearing loss. 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 and it is expected they will contribute $85,000 towards this program. The program is budgeted at $135,000 for 2004 with the City portion being $50,000.

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 (ITS) 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.

2004 BASIC CAPITAL BUDGET — Project # A-3d

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Traffic Signals**

PROJECT TITLE:
Replace Aging Signal Plant

PROJECT DESCRIPTION:
Renovation and replacement of aging signal equipment at existing signalized intersections

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)
HISTORY:

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.

(continued on next page)

OBJECTIVES:

Rebuild Traffic Signal Intersections	$ 450,000
Replace Rusty Traffic Signal Poles	$ 30,000
Underground/Overhead Spans	$ 50,000
Upgrade Signal Heads and Backboards	$ 30,000
Conflict Monitors/Racks/Loop Amplifiers	$ 224,000
TOTAL	$ 784,000

BUDGET (include functional breakdown):

Direct Labour:	**$ 219,520**	
Materials:	**$ 399,840**	
Equipment:	**$ 86,240**	
Other (please specify):	**$ 78,400**	Overhead
Total:	**$ 784,000**	

TIMING:
Within 2004 fiscal year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 784,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 186,000**	TransLink (MRN – OMR)
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 598,000**

FOR INTERNAL USE ONLY:
Order Group: **CB2EA3DX1** **Order Number:** **30006979**
30006928

2004 BASIC CAPITAL BUDGET	Project #	A-3d

DEPARTMENT: ENGINEERING **PROGRAM: Traffic Signals**

PROJECT TITLE:

Replace Aging Signal Plant

PROJECT DESCRIPTION:

Renovation and replacement of aging signal equipment at existing signalized intersections

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 ongoing program, 3 or 4 intersections will be rebuilt in 2004 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 2004.

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 2004 at an approximate cost of $6,000 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 2004.

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 2004 has not been determined.

Conflict Monitors & Controller Rack Assemblies and Loop Amplifiers

This equipment is reaching its design life. The functions that may be impacted include signal head operation, communication with the central computer, detection of pedestrians and vehicles, and monitoring of the lights for illegal or abnormal combinations called conflicts. This program is for the retrofitting of existing signalized intersections with new communication equipment.

TransLink OMR funding of $186,000 for these programs will be used for signals on the Major Road Network.

2004 BASIC CAPITAL BUDGET	Project #	A-4a1

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Transit and Safety**

PROJECT TITLE:

Arterial Improvements: Enhancements at Pedestrian Crossings

PROJECT DESCRIPTION:

Design and construction of geometric modifications to enhance pedestrian crossing conditions

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

Staff are continuing to evaluate alternative measures to enhance pedestrian safety and comfort at 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.

BUDGET (include functional breakdown):

Direct Labour:	**$ 53,430**
Materials:	**$ 24,660**
Equipment:	**$ 31,510**
Other (please specify):	**$ 27,400**
Total:	**$ 137,000**

TIMING:

Within 2004 fiscal year

COST SAVINGS AND OTHER BENEFITS:

Improvements to pedestrian realm and safety.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 2,000**	**$ 2,000**

PROJECT COST:

Total Cost:	**$ 137,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 12,000**	Development Cost Levies
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 125,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA4AAX1** **Order Number:** **30006981**
30006984

2004 BASIC CAPITAL BUDGET — Project # A-4a2

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Transit & Safety**

PROJECT TITLE:

Arterial Improvements: Geometric Modifications

PROJECT DESCRIPTION:

Design and Construction of geometric modifications on a number of Arterial streets.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This submission will provide funding for the design and construction of a number of discrete related geometric modifications to improve the safety, transit operations, and access at selected locations on arterial streets. These include realignments, medians, corner bulges, and other alternative streetscape design measures to improve the safety of motorists (transit and private automobile) and cyclists using the roadway while increasing the visibility and awareness of pedestrians crossing at intersections.

OBJECTIVES:

The design work for any proposed geometric modifications will be subject to public consultation and be reported back to Council for approval. Cost sharing opportunities with TransLink, ICBC, and other potential sources will be pursued on a project by project basis, to ensure that costs are fairly allocated. Potential locations for geometric changes that are currently being reviewed by staff are Cambie 15th to 17th, and Heather at 12th Avenue. Projects would be coordinated with any activity by developers in the area. $225,000 of funding will be provided by VGH, and $90,000 will come from DCL funding.

BUDGET (include functional breakdown):

Direct Labour:	**$ 122,000**	
Materials:	**$ 101,000**	
Equipment:	**$ 88,000**	
Other (please specify):	**$ 104,000**	Overhead surcharge, consult/contractor services
Total:	**$ 415,000**	

TIMING:

Late 2004 thru early 2005.

COST SAVINGS AND OTHER BENEFITS:

Road safety

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 1,000**	**$ 2,500**

PROJECT COST:

Total Cost:	**$ 415,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 315,000**	$225,000 from VGH & $90,000 from DCL's
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 100,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA4AAX1** **Order Number:** **30006982**
30006985
30006986

2004 BASIC CAPITAL BUDGET — Project # A-4a3

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Transit & Safety**

PROJECT TITLE:

Implementation of the Downtown Transportation Plan

PROJECT DESCRIPTION:

Construction of miscellaneous Downtown Transportation Plan initiatives such as corner bulges and other geometric changes.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

The Downtown Transportation Plan (DTP) was approved by Council on July 9, 2002. The DTP makes over 80 recommendations to improve downtown accessibility and liveability by creating a balanced transportation system that includes adjusting the road network, enhancing public transit, promoting a walkable downtown, creating a network of bike lanes, maintaining efficient goods movement, managing parking supply and implementing intelligent transportation systems.

OBJECTIVES:

This program will fund the additional cost of installing opportunistic street improvements, such as corner bulges and curb realignments, concurrently with other construction activities to reduce costs and inconvenience to the public. The changes would be of benefit to a number of road users including pedestrians and would be consistent with the goals of the DTP. This funding will allow for the installation of approximately 10 corner bulges throughout the downtown peninsula.

BUDGET (include functional breakdown):

Direct Labour:	**$ 70,000**	
Materials:	**$ 58,000**	
Equipment:	**$ 50,000**	
Other (please specify):	**$ 60,000**	Overhead, consult/contractor services
Total:	**$ 238,000**	

TIMING:

Within 2004 Fiscal year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 1,000**	**$ 4,000**

PROJECT COST:

Total Cost:	**$ 238,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 238,000**	Development Cost Levies
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 0

FOR INTERNAL USE ONLY:

Order Group: **CB2EA4AAX1** **Order Number:** **300006987**

2004 BASIC CAPITAL BUDGET — Project # A-4b

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Transit & Safety**

PROJECT TITLE:
Aging Uncurbed Arterials

PROJECT DESCRIPTION:
Construction of pavement and curbs and planting trees on aging unimproved arterial and secondary arterial streets.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)
HISTORY:

There are many blocks of arterial, secondary arterial and collector streets which are in poor condition and require improvements. Many of these streets have an aging road structure base which is not solid enough to support the heavy traffic loads. Improvements of these streets will allow for better distribution of traffic over the entire arterial street network which would reduce traffic volumes on residential side streets.

In 2004, $400,000 is required to conduct the work that is planned for this year.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 49,000**	
Materials:	**$ 194,000**	
Equipment:	**$ 81,000**	
Other (please specify):	**$ 76,000**	Overhead (Engineering, Design & Inspections)
Total:	**$ 400,000**	

TIMING:
Throughout the year.

COST SAVINGS AND OTHER BENEFITS:
Reduce street maintenance

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 400,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 400,000**

FOR INTERNAL USE ONLY:
Order Group: **CB2EA4BX1** **Order Number:** **30006988**

2004 BASIC CAPITAL BUDGET

Project # A-4d

DEPARTMENT: ENGINEERING **PROGRAM: Transit & Safety**

PROJECT TITLE:

Bus Pads and Passenger Landing Area Improvements

PROJECT DESCRIPTION:

Bus Pads and Passenger Landing Area Improvements at Bus Stops

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This program involves the installation of concrete roadway pads at bus stops to upgrade transit operation and reduce street maintenance and also the installation of concrete passenger areas at bus stops to upgrade pedestrian/accessibility surfaces.

Bus Stop Roadway Area Improvement

Transit operation at bus stops creates significant pavement deterioration. The bus company and the City identify bus stop locations where the installation of roadway pads is appropriate. The installation of roadway pads improves transit operation and reduces street maintenance. *(continued on next page)*

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 56,000**	
Materials:	**$ 65,000**	
Equipment:	**$ 65,300**	
Other (please specify):	**$ 43,700**	Overhead (Engineering, Design & Inspections)
Total:	**$ 230,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

Reduce street maintenance

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 230,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 230,000

FOR INTERNAL USE ONLY:

Order Group: CB2EA4DAX1 **Order Number: 30006989**

2004 BASIC CAPITAL BUDGET	Project #	A-4d

DEPARTMENT: ENGINEERING **PROGRAM: Transit & Safety**

PROJECT TITLE:

Bus Pads and Passenger Landing Area Improvements

PROJECT DESCRIPTION:

Bus Pads and Passenger Landing Area Improvements at Bus Stops

PROJECT SUMMARY (continued)

Bus Stop Passenger Area Improvement

The installation of concrete passenger areas is appropriate for the upgrade of bus stops for the 'Accessible Trolley Bus Project' and at other locations in the City. TransLink indicates the accessible trolley bus fleet is projected for implementation starting in 2005. There is a requirement to upgrade pedestrian and accessibility surface at many locations in 2004 for the 2005 project implementation.

The funding request for 2004 is $ 230,000.

2004 BASIC CAPITAL BUDGET — Project # A-5a

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

PROJECT TITLE:

Local Area Traffic Plans & Other Improvements

PROJECT DESCRIPTION:

Neighbourhood traffic calming plans and other local street improvements

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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.

(continued on next page)

OBJECTIVES:

To enhance the liveability 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.

BUDGET (include functional breakdown):

Direct Labour:	**$ 225,000**	
Materials:	**$ 85,000**	
Equipment:	**$ 105,000**	
Other (please specify):	**$ 85,000**	Overhead (Engineering, Design & Inspection)
Total:	**$ 500,000**	

TIMING:

2004

COST SAVINGS AND OTHER BENEFITS:

More liveable neighbourhoods.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 10,000**	**$ 25,000**

PROJECT COST:

Total Cost:	**$ 500,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 500,000

FOR INTERNAL USE ONLY:

Order Group: CB2EA5AX1 **Order Number: 30006990**

2004 BASIC CAPITAL BUDGET	Project #	A-5a

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

PROJECT TITLE:

Local Area Traffic Plans & Other Improvements

PROJECT DESCRIPTION:

Neighbourhood traffic calming plans and other local street improvements

PROJECT SUMMARY (continued)

Neighbourhood-wide traffic calming plans will be finalized for Grandview-Woodlands/Napier. 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 2004 by installing speed humps.

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).

For 2004, this category will require overall funding of $500,000. Remaining funds from the 2003 program year will also be allocated to fund these projects.

2004 BASIC CAPITAL BUDGET — Project # A-5b

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

PROJECT TITLE:

Higher Zoned Streets – Local Improvements

PROJECT DESCRIPTION:

Paving, curbing and planting street trees adjacent industrial, commercial and multiple dwelling areas.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

Paving and curbing of higher-zoned streets is done by local improvement, either by Petition or on the Initiative. 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.

(continued on next page)

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 171,000**	
Materials:	**$ 680,000**	
Equipment:	**$ 283,000**	
Other (please specify):	**$ 266,000**	Overhead (Engineering, Design & Inspections)
Total:	**$ 1,400,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$1,400,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$200,000**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 865,000**	Previously Approved 2004 BCB Funding

2004 Basic Capital Budget Requested: **$ 335,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA5BX1** **Order Number:** **30006991**

2004 BASIC CAPITAL BUDGET	Project #	A-5b

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

PROJECT TITLE:

Higher Zoned Streets – Local Improvements

PROJECT DESCRIPTION:

Paving, curbing and planting street trees adjacent industrial, commercial and multiple dwelling areas.

PROJECT SUMMARY (continued)

Higher-zoned street paving addresses the infrastructure problem by replacing old, worn out, and high maintenance strip pavements with new paved curbed streets designed to meet current traffic loading. Individual projects are subject to Council approval, normally through the Local Improvement process.

Other benefits from this program can be:
- improved streets extend the bicycle network
- installation of street trees
- improved conditions for sidewalk installation

In accordance with Council's requests, increased flexibility has been brought to this program in multi-family residential areas (where appropriate) by providing alternate street widths and allowing the inclusion of corner bulges where desired.

Funding of $865,000 was approved by Council on November 4, 2003 in advance of 2004 Streets Basic Capital Budget for the reconstruction of the surrounding roads adjacent to the New National Works Yard as part of the Higher Zoned Streets – Local Improvements reconstruction program.

2004 BASIC CAPITAL BUDGET Project # A-5c

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

PROJECT TITLE:

Residential Streets – Local Improvements

PROJECT DESCRIPTION:

Installation of pavement, curbs and planting trees on residential streets

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

Paving and curbing of residential streets is done by Local Improvement either by Petition or on the Initiative. This program is used mostly to meet property owner demand for improvements on their block. Residential street paving addresses the infrastructure concern by replacing old worn out and high maintenance strip pavements with new paved and curbed streets. Individual projects are subject to Council approval, normally through the Local Improvement process.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 337,700**	
Materials:	**$ 1,346,000**	
Equipment:	**$ 560,000**	
Other (please specify):	**$ 526,300**	Overhead (Engineering, Design & Inspection)
Total:	**$ 2,770,000**	

TIMING:

Throughout the year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 2,770,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 370,000**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 2,400,000

FOR INTERNAL USE ONLY:

Order Group: CB2EA5CX1 **Order Number: 30006992**

2004 BASIC CAPITAL BUDGET	Project #	A-5c

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

PROJECT TITLE:

Residential Streets – Local Improvements

PROJECT DESCRIPTION:

Installation of pavement, curbs and planting trees on residential streets

PROJECT SUMMARY (continued)

Funding has been included in the 2003 – 2005 Streets Capital Plan for the numerous residential street improvements which need to be initiated. These include initiatives that reduce the backlog of unimproved flankage streets which are difficult to improve under the petition process, streets which have major maintenance problems and projects which take advantage of situations where unimproved streets have been damaged by utility cuts and to which the cost of utility repair can be credited to reduce the overall cost of the street improvement.

Increased flexibility has been brought to this program by including corner bulges where desired (and where appropriate). Increasing the flexibility still further with alternate street widths and parking arrangements, curvy alignments, concrete bounded asphalt strip pavements etc., is also being pursued.

2004 BASIC CAPITAL BUDGET Project # A-5d

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

PROJECT TITLE:

Higher Zoned Lanes – Local Improvements

PROJECT DESCRIPTION:

Initiated and petition paving of industrial, commercial and multiple dwelling area lanes.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 34,800**	
Materials:	**$ 136,000**	
Equipment:	**$ 56,000**	
Other (please specify):	**$ 53,200**	Overhead (Engineering, Design & Inspection)
Total:	**$ 280,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 280,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 160,000**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 120,000

FOR INTERNAL USE ONLY:

Order Group: CB2EA5DX1 **Order Number: 30006993**

2004 BASIC CAPITAL BUDGET Project # A-5e

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

PROJECT TITLE:

Residential Lanes – Local Improvements

PROJECT DESCRIPTION:

Grading, drainage and paving of residential lanes

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

Since 1972 we have been engaged in a program of low cost paving of residential lanes. This 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.

This program is petition-based, and has been fairly consistent in recent years. Funding has been included in the 2003 – 2005 Streets Capital Plan to allow initiation of some projects in the RT5 and RT6 zoning areas, which are difficult to petition for due to absentee landlords, as well as projects with specific maintenance or drainage problems.

(continued on next page)

OBJECTIVES:

Reduce the problems such as dust, mud, potholes and drainage problems associated with unpaved lanes.

BUDGET (include functional breakdown):

Direct Labour:	**$ 185,300**	
Materials:	**$ 745,000**	
Equipment:	**$ 305,000**	
Other (please specify):	**$ 289,700**	Overhead (Engineering, Design & Inspection)
Total:	**$ 1,525,000**	

TIMING:

Throughout the year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 1,525,000**
Less Funding From Other Sources:	
Senior Government:	**$ 0**
Property Owners:	**$ 525,000**
Other (please specify):	**$ 0**
Existing City Funding:	**$ 0**

2004 Basic Capital Budget Requested: $ 1,000,000

FOR INTERNAL USE ONLY:

Order Group: CB2EA5EX1 **Order Number: 30006994**

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

PROJECT TITLE:

Residential Lanes – Local Improvements

PROJECT DESCRIPTION:

Grading, drainage and paving of residential lanes

PROJECT SUMMARY (continued)

In response to Council's direction, paving of residential lanes now includes the option of centre strip paving or full width paving. In addition, staff are presently reviewing the results of the 3 experimental "Country Lane" projects to determine if this can be offered as a Local Improvement option in the future. It is important to calculate the construction and maintenance costs of a Country Lane and evaluate its effectiveness as an alternative to the traditional paved lane.

2004 BASIC CAPITAL BUDGET Project # A-5f

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

PROJECT TITLE:

Drainage Prior to Paving & Advance Utility/Design/Investigations/Surveying Work

PROJECT DESCRIPTION:

Drainage and utility/design/investigations/surveying work required in advance of project approval

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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. Funding of $200,000 is requested from the Capital Plan allocation in this area, and it is requested that an additional $50,000 of funding be used from the 2003 – 2005 Capital Plan allocations in A-1b (Repair of Deteriorated Local Streets) in this area for investigations for design and for Streets related construction improvements.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 61,000**	
Materials:	**$ 71,000**	
Equipment:	**$ 70,500**	
Other (please specify):	**$ 47,500**	Overhead (Engineering, Design & Inspection)
Total:	**$ 250,000**	

TIMING:

Throughout the year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 250,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 250,000

FOR INTERNAL USE ONLY:

Order Group: CB2EA5FX1 **Order Number: 30006995**

2004 BASIC CAPITAL BUDGET Project # A-5g

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

PROJECT TITLE:
Grade and Open Streets and Lanes

PROJECT DESCRIPTION:
Open streets and lanes as required

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)
HISTORY:
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 2004, to provide for opening such needed lanes or roadways as the opportunities arise during the course of the year.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 12,000**	
Materials:	**$ 14,500**	
Equipment:	**$ 14,000**	
Other (please specify):	**$ 9,500**	Overhead (Engineering, Design & Inspection)
Total:	**$ 50,000**	

TIMING:
Throughout the year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 50,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	
2004 Basic Capital Budget Requested:		**$ 50,000**

FOR INTERNAL USE ONLY:
Order Group: CB2EA5GX1 **Order Number: 30006996**

2004 BASIC CAPITAL BUDGET Project # A-5h

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

PROJECT TITLE:
Minor Property Acquisition

PROJECT DESCRIPTION:
Purchase of small pieces of property

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)
HISTORY:
Minor property acquisition is required for corner cut-offs and other minor widening. A funding level of $120,000 is requested for 2004.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 0**	
Materials:	**$ 0**	
Equipment:	**$ 0**	
Other (please specify):	**$ 120,000**	Property Acquisition Costs and associated fees
Total:	**$ 120,000**	

TIMING:
Throughout the year

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 120,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 120,000

FOR INTERNAL USE ONLY:
Order Group: CB2EA5HX1 **Order Number: 30006997**

2004 BASIC CAPITAL BUDGET Project # A-5i

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

PROJECT TITLE:

Traffic Circles & Speed Humps – Local Improvements

PROJECT DESCRIPTION:

Construction of Traffic Circles and Speed Humps as desired by adjacent property owners.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

Historically, speed humps have been installed in paved lanes if desired by the majority of adjacent property owners to help control the speed of traffic using the lane. In 1995, construction of traffic circles desired by adjacent property owners was implemented as a new Local Imp rovement program. Both of these facilities are fully funded by the property owners.

It is anticipated that there will be a number of speed humps in 11 lanes that will be constructed in 2004.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 14,100**	
Materials:	**$ 16,500**	
Equipment:	**$ 16,400**	
Other (please specify):	**$ 11,000**	Overhead (Engineering, Design & Inspections)
Total:	**$ 58,000**	

TIMING:

Throughout the year.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 58,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 58,000**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 0

FOR INTERNAL USE ONLY:

Order Group: CB2EA5I **Order Number: n/a**

2004 BASIC CAPITAL BUDGET — Project # A-6d

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Major Projects**

PROJECT TITLE:

Urban Transportation Showcase Program

PROJECT DESCRIPTION:

Urban Transportation Showcase Program

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

In 2001, the Greater Vancouver Regional District and Translink (GVRD /GVTA) applied for a grant from Transport Canada under the Urban Transportation Showcase Program (UTSP). The Program was developed to encourage cities to adopt more energy-efficient transportation, land use patterns and practices. In April 2003, Council endorsed the City's participation in the UTSP, and on February 24, 2004, Council approved the allocation of funds for the City's share of the funding, including $2,000,000 in funding from the $20 million cost share debenture authority. This submission outlines the City's funding commitments. *(continued on next page)*

OBJECTIVES:

As described in detail in the April 2003 report to Council, six projects are outlined in the Urban Transportation Showcase Program Grant application. These projects are: Hybrid Bus Demonstration Project; Central Valley Greenway; Travelsmart: Individualized Travel Marketing Program; Main Street Transportation and Pedestrian Priority; Transit Villages; and Goods Movement Efficiency and Green House Gas Study. Three of these projects will include direct City funding.

BUDGET (include functional breakdown):

Direct Labour:	**$ 0**	
Materials:	**$ 0**	
Equipment:	**$ 0**	
Other (please specify):	**$ 13,890,000**	Showcase project costs where the City is providing funding
Total:	**$ 13,890,000**	

TIMING:

Planning and public consultation will begin in 2004. Construction will begin in 2005 and will be completed in 2007.

COST SAVINGS AND OTHER BENEFITS:

The Federal government has committed $8.8 M to the Regional UTSP Project. The GVTA will share approximately one third of the total cost.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 13,890,000**	
Less Funding From Other Sources:		
Senior Government(s):	**$ 9,260,000**	Federal Government and GVTA funding
Property Owners:	**$ 0**	
Other (please specify):	**$ 900,000**	RTPO Payment for Clark/Glen Station
Existing City Funding:	**$ 730,000**	2002 BCB funding from CA3EA2H – see details

2004 Basic Capital Budget Requested: **$ 3,000,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EA6D** **Order Number:** **30006998** **30007001** **30006999** **30007000**

DEPARTMENT: ENGINEERING **PROGRAM: Major Projects**

PROJECT TITLE:
Urban Transportation Showcase Program

PROJECT DESCRIPTION:
Urban Transportation Showcase Program

PROJECT SUMMARY (continued)

At the Regular Council Meeting of February 24, 2004, Council approved the Report 'Funding for Urban Transportation Showcase Program' (RTS 03940) and participation in the Urban Transportation Showcase Program, with the City funding $4.63 million of the total project costs. The total project will cost $16,590,000, with $13,890,000 of projects occurring within the City. The final details of the program are currently being negotiated.

In the Council report, $1.63 million of the City's funding was to come from existing 2002 BCB Greenways accounts. Subsequent to the February Council Report, we have confirmed that the Rapid Transit Project Office (RTPO) will be making a $900,000 payment relating to the completion of the Clark/Glen Skytrain station this year. We now recommend using this funding, along with $730,000 from the 2002 BCB Greenways accounts, for the $1.63 million. This change will leave $900,000 of funding in the 2000 – 2002 Greenways accounts for other existing projects that have not been completed.

$1,000,000 of the City's funding will be provided from the 2003 – 2005 Capital Plan allocation for Greenways (A2h) in this 2004 BCB submission. $2,000,000 of additional funding is to be provided in the 2004 BCB from the $20 million borrowing authority approved by the voters for the City's share of projects receiving senior government cost sharing.

There is $730,000 of existing funding that will be provided to this project from existing 2002 BCB Greenways accounts from monies received from the Province for the Central Valley Greenway. The City will also receive a $900,000 payment from the Rapid Transit Project Office for the Clark/Glen Skytrain station this year, and it is proposed to allocate these funds to the Showcase projects. Total funding from other City sources is $1,630,000 and is detailed below:

Order Group	Description	Budget
CA3EA2HA06	2002 BCB – Central Valley Greenway Funding	$ 17,000
CA3EA2HA 07	2002 BCB – Central Valley Greenway Funding	$ 713,000
	RTPO Payment	$ 900,000
	TOTAL	$ 1,630,000

Project Budgets (projects where the City will be contributing funding):

Project	Total Cost	City's Portion	External Funding
Central Valley Greenway	$ 6,390,000	$ 2,130,000	$ 4,260,000
Main Street	$ 4,500,000	$ 1,500,000	$ 3,000,000
Transit Villages	$ 3,000,000	$ 1,000,000	$ 2,000,000
Total	**$ 13,890,000**	**$ 4,630,000**	**$ 9,260,000**

ENGINEERING COMMUNICATIONS

Project Number	Program – 2004	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
B1	**ABOVE GROUND TERMINALS**	**$ 40**	**$ 0**	**$ 40**
B2	**UNDERGROUND CABLE REPLACEMENT**	**$ 200**	**$ 0**	**$ 200**
B3	**UNDERGROUND CABLE EXPANSION**	**$ 400**	**$ 0**	**$ 400**
	DEBENTURE COSTS	**$ 15**	**$ 0**	**$ 15**
	TOTAL – 2004 COMMUNICATIONS CAPITAL BUDGET	**$ 655**	**$ 0**	**$ 655**

2004 BASIC CAPITAL BUDGET Project # B-1

DEPARTMENT: ENGINEERING **PROGRAM: Communications**

PROJECT TITLE:

Above Ground Cable Test Terminals

PROJECT DESCRIPTION:

The project involves the installation of above ground terminals in cabinets to increase accessibility to cable circuits.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

The City has long owned an extensive underground communications network that is used for communications, for centralized control of traffic signals, and for monitoring various facilities and operations. It consists of both older copper wire and newer fibre optic cable. This program provides access to test 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 going into splices in manholes. The project is a continuation of a program started in previous Capital Plans.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 9,000**	
Materials:	**$ 12,600**	
Equipment:	**$ 14,400**	
Other (please specify):	**$ 4,000**	Overhead
Total:	**$ 40,000**	

TIMING:

The work will be done over 2004.

COST SAVINGS AND OTHER BENEFITS:

Benefits include faster repair of circuit faults.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$40,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 40,000**

FOR INTERNAL USE ONLY:

Order Group: CB2EB1 **Order Number: 10019629**

2004 BASIC CAPITAL BUDGET — Project # B-2

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Communications**

PROJECT TITLE:

Underground Cable Replacements

PROJECT DESCRIPTION:

This project is part of the on-going annual replacement of approximately two miles of underground cable.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This project is a continuation of the replacement program.

The average service life of the large cables that make up the 70 miles 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.

OBJECTIVES:

This program provides for the life cycle replacement of underground communications cable.

BUDGET (include functional breakdown):

Direct Labour:	**$ 45,000**	
Materials:	**$ 63,000**	
Equipment:	**$ 72,000**	
Other (please specify):	**$ 20,000**	Overhead
Total:	**$200,000**	

TIMING:

The work will be done over 2004.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 200,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 200,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EB2** **Order Number:** **10019630**

2004 BASIC CAPITAL BUDGET — Project # B-3

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Communications**

PROJECT TITLE:

Underground Communications Network Expansion

PROJECT DESCRIPTION:

This project will increase the sizes of some cables, add additional copper cables, and add some fibre optic cables to the underground cable system

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

The demand for more communications circuits to support the rapidly increasing City broadband communications requirements is ongoing. The creation of local area networks that need to be interconnected, increasing number of data circuits for telemetry, and teleconferencing circuits plus E1 data require expansion. Cables under City control provide secure, cost effective solution. Specific locations and cost benefit will be analysed in more detail as the plan proceeds.

OBJECTIVES:

This project would increase the capacity of the underground copper cable system, as well as continue a program of adding fibre optic cable to the underground plant. This would be done to complement the fibre network we are obtaining through telecommunications agreements. Locations would be chosen where caps in the network exist and where City plant is the most cost effective solution. Specific locations and cost benefit will be analysed in more detail as the plan proceeds.

BUDGET (include functional breakdown):

Direct Labour:	**$ 90,000**	
Materials:	**$ 126,000**	
Equipment:	**$ 144,000**	
Other (please specify):	**$ 40,000**	Overhead
Total:	**$ 400,000**	

TIMING:

The work will be done over 2004.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 400,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 400,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EB3** **Order Number:** **10019631**

ENGINEERING STREET LIGHTING

Project Number	Program – 2004	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
C1	RENOVATE AND REPLACE PLAN	$ 2,003	$ 0	$ 2,003
C2	NEW LOCAL IMPROVEMENTS	$ 269	$ 229	$ 40
	DEBENTURE COSTS	$ 60	$ 0	$ 60
	TOTAL – 2004 STREET LIGHTING CAPITAL BUDGET	$ 2,332	$ 229	$ 2,103

2004 BASIC CAPITAL BUDGET — Project # C-1

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Street Lighting**

PROJECT TITLE:

Renovate And Upgrade Plant

PROJECT DESCRIPTION:

The project involves the ongoing renovation and upgrade of the Street Lighting Plant

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This is an ongoing capital program to address issues related to the Street Lighting Plant.

OBJECTIVES:

This project involves upgrades and renovations to many aspects of the Street Lighting Plant. These include conduit replacement, circuit protection fuses, trolley route splicing, rusty pole replacement, service panel replacement, kiosk replacement, service panel locks, embedded poles replacement, luminaire replacement and adding additional street lighting. 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.

(continued on next page)

BUDGET (include functional breakdown):

Direct Labour:	**$ 706,020**	
Materials:	**$ 761,370**	
Equipment:	**$ 175,070**	
Other (please specify):	**$ 360,540**	Overhead
Total:	**$ 2,003,000**	

TIMING:

The work will be completed over 2004.

COST SAVINGS AND OTHER BENEFITS:

There is some indication that lower wattage lamps may be feasible resulting in lower energy costs to the City. A feasibility study is currently underway that is scheduled for comp letion in approximately one year.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 2,003,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 2,003,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EC1** **Order Number:** **30007002**

2004 BASIC CAPITAL BUDGET	Project #	C-1

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Street Lighting**

PROJECT TITLE:

Renovate And Upgrade Plant

PROJECT DESCRIPTION:

The project involves the ongoing renovation and upgrade of the Street Lighting Plant

PROJECT SUMMARY (continued)

The Streets section has a local improvement program to add curbs and gutters for the residents. Their projects create an opportunity for the Street Lighting section to upgrade the lighting in the area at the same time in order to meet the recommendations of the Illuminating Engineering Society of North America. By doing the upgrades at the same time, there will be overall cost savings compared to two independent upgrades. There is currently funding available from previous local improvement budgets (order group CA3EC2E) which can be transferred into the 2004 current infill lighting program during the closeout of those accounts.

2004 BASIC CAPITAL BUDGET — Project # C-2

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Street Lighting**

PROJECT TITLE:

New Local Improvements

PROJECT DESCRIPTION:

The project involves the ongoing local improvements for street, lane and pedestrian lighting

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

This is an ongoing capital program to address local improvement petitions.

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. As well, it assists the Police Department with crime surveillance and detection.

BUDGET (include functional breakdown):

Direct Labour:	**$ 35,200**	
Materials:	**$ 176,300**	
Equipment:	**$ 9,100**	
Other (please specify):	**$ 48,400**	Overhead
Total:	**$ 269,000**	

TIMING:

Projects will be advanced to the Courts of Revision scheduled throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 269,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 229,000**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 40,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EC2X1** **Order Number:** **30007003**

ENGINEERING SEWERS

Project Number	Program – 2004	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
D1	**SYSTEM REPLACEMENT/SEPARATION**			
	1) Main Sewer Reconstruction	25,835	6,500	19,335
	2) Connection and Manhole Reconstruction	917	0	917
	3) Local Repairs & Catch Basin and Spur Reconstruction	470	220	250
	4) Upgrade and Replacement of Pump Stations	200	0	200
	SUBTOTAL – SYSTEM REPLACEMENT/ SEPARATION	**$ 27,422**	**$ 6,720**	**$ 20,702**
D2	**SYSTEM MANAGEMENT**			
	1) Television Inspection	211	0	211
	2) Investigation for Design	106	0	106
	SUBTOTAL - SYSTEM MANAGEMENT	**$ 317**	**$ 0**	**$ 317**
D3	**OTHER POLUTION ABATEMENT**			
	1) Liquid Waste Management Plan	0	0	0
	2) Sewer Separation on Private Property	543	0	543
	SUBTOTAL - OTHER POLUTION ABATEMENT	**$ 543**	**$ 0**	**$ 543**
D5	**PUBLIC SEWER CONNECTIONS**	**$ 7,800**	**$7,800**	**$ 0**
	DEBENTURE COSTS	**$ 748**	**$ 0**	**$ 748**
	TOTAL – 2004 SEWERS CAPITAL BUDGET	**$ 36,830**	**$ 14,520**	**$ 22,310**

2004 BASIC CAPITAL BUDGET — Project # D-1

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Sewers & Drainage**

PROJECT TITLE:

System Replacement/Separation

PROJECT DESCRIPTION:

This program consists of the renewal of sewer mains, connections, manholes, street drains and pump stations.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

The City of Vancouver has adopted a strategy of continuous sewer replacement instead of periodic large construction programs. Some other cities have neglected their infrastructure until crises develop, and then faced financial difficulties and large, inefficient and disruptive reconstruction programs. In contrast, Vancouver has had an ongoing replacement program for sewers that spreads the costs of capital work more evenly among taxpayers over time and allows us to maintain a stable, well-trained labour force. The program replaces 1% of the system annually based on an anticipated 100 year life for the new pipes being constructed. This policy 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.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 6,091,700**	
Materials:	**$ 6,323,700**	
Equipment:	**$ 7,311,900**	
Other (please specify):	**$ 7,694,700**	Street Cuts, Overhead, and others
Total:	**$ 27,422,000**	

TIMING:

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 27,422,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 6,500,000**	CBCIP Funding
Property Owners:	**$ 0**	
Other (please specify):	**$ 220,000**	TransLink (MRN – OMR)
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 20,702,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2ED1** **Order Number:**

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**

PROJECT TITLE:

System Replacement/Separation

PROJECT DESCRIPTION:

This program consists of the renewal of sewer mains, connections, manholes, street drains and pump stations.

PROJECT SUMMARY (continued)

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	632	32	over 73
1930-1959	533	27	44-73
1960 to date	809	41	0-43

* 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 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

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**

PROJECT TITLE:
System Replacement/Separation

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

PROJECT SUMMARY (continued)
are used to rebuild the line between the main sewer and the property being redeveloped.

The following is a summary of the 11 Basin Areas and their estimated 2004 budgets:

Basin Description	2004 Estimates
Fraser River	$ 1,820,000
West Point Grey	$ 5,030,000
Balaclava	$ 2,820,000
Kitsilano/S. Granville	$ 1,430,000
Cambie/Heather	$ 2,010,000
Terminal Avenue	$ 170,000
Downtown Pennisula	$ 300,000
Grandview-Woodland	$ 1,270,000
Hastings-Sunrise	$ 680,000
China Creek	$ 3,750,000
Still Creek	$ 55,000
Canada BC Funding	$ 6,500,000

1A Fraser River **$ 1,820,000 a/c# 30007004**

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 replaced in the first half of this century. In 2004, funds are required to continue reconstruction of the most seriously undersized and/or deteriorated sewers in this area.

1B West Point Grey **$ 5,030,000 a/c#30007005**

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. The current sewer reconstruction program for this area began in the late 1980's and funds are required in 2004 to continue this program. Due to the need to scheduled Sewers works in advance of street paving in 2003 and 2004, most of the funds for West Point Grey in the current capital plan were allocated in the 2003 and 2004 budget years.

1C Balaclava **$ 2,820,000 a/c#30007006**

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 2004.

As a result of the reconstruction of the old sewers under this Plan, stormwater runoff will be separated from the sanitary system to allow stormwater to potentially be diverted into the original stream through Tatlow Park. This work will benefit Vancouver by opening up old streams for aesthetic and recreational benefits, as well as helping to reduce our combined sewer

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**

PROJECT TITLE:
System Replacement/Separation

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

PROJECT SUMMARY (continued)

overflows and providing a decrease in dry weather flows to the Iona Sewage Treatment Plant. Decreasing flows to the treatment plant helps to offset the Greater Vancouver Regional District levy for sewage treatment.

1D Kitsilano-South Granville **$ 1,430,000 a/c#30007007**

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. Funds are required in 2004 to continue with this program which will help decrease sewage overflows to English Bay.

1E Cambie-Heather **$ 2,010,000 a/c#30007008**

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 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.

1F Terminal Avenue **$ 170,000 a/c#30007009**

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. However, proposed development in the area will require additional sewer work. As well, some of the original 1910-1920 sewers south of the industrial area still remain and will be reconstructed over the next decade. Proposed development in the area will require additional sewer work including the construction of a force main from a sewage pumping station in the area. Additional separation in the area will also reduce combined sewer overflows and provide some improvement to the water quality in False Creek. For 2004, sewer replacement work will be required as part of development of the old industrial lands.

1G Downtown Peninsula **$ 300,000 a/c#30007010**

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 2004, funds are required for continued sewer replacement work.

1H Grandview-Woodlands **$ 1,270,000 a/c#30007011**

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. To date, most of the Grandview Woodlands area has been separated. Funding in 2004 is required to assist in completing the separation of this area.

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**

PROJECT TITLE:
System Replacement/Separation

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

PROJECT SUMMARY (continued)

1I Hastings-Sunrise **$ 680,000** **a/c#30007012**

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. During this Plan, the most deteriorated sewers will be reconstructed

1J China Creek **$ 3,750,000** **a/c#30007013**

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 2003, 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 estimated at $3,250,000 is funded in this budget.

1K Still Creek **$ 55,000** **a/c#30007014**

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 only work expected over the next several decades is replacement of sewers developing structural defects due to poor soil conditions and replacement or relining of porous sanitary sewers which might contaminate the creek. Funds are required in 2004 for replacing sanitary pipes with structural defects.

1L Canada-B.C. Infrastructure Program $ **6,500,000** **a/c#30007015, 30007059**

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 $ 6.5 million of the $18.26 million in 2004.

Sub-Total Main Sewer Reconstruction: $ 25,835,000

2. Connection and Manhole Reconstruction **$ 917,000** **a/c#30007016**

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.

In addition to connections, the City also has over 25,000 sewer manholes. While they are replaced at the time of main sewer

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**

PROJECT TITLE:
System Replacement/Separation

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

PROJECT SUMMARY (continued)

reconstruction, there is an ongoing need to repair or construct ones in areas not scheduled for main sewer replacement.

Based on an assessment of the conditions of these facilities, funding of $917,000 is required in 2004.

3. Local Repairs: Catch Basins and Spurs $ 470,000 a/c#30007017, 30007018

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.

$250,000 of funding is required in 2004 based on video assessment of the system and the number of recent drainage system failures.

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 2004.

4. Upgrade and Replacement of Pump Stations $ 200,000 a/c#30007019

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. Less frequently, an entire station structure or force main needs to be reconstructed at a much greater cost. Most of the capital work is scheduled for the last year of the current capital plan. In 2004, funds are required for miscellaneous replacement and refurbishment of equipment at various stations.

2004 BASIC CAPITAL BUDGET — Project # D-2

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Sewers & Drainage**

PROJECT TITLE:

System Management

PROJECT DESCRIPTION:

Projects, data collection and analysis necessary to support cost-efficient work programs.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

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.

(continued on next page)

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 89,100**	
Materials:	**$ 8,600**	
Equipment:	**$ 23,400**	
Other (please specify):	**$ 195,900**	Contract, Consultant services, Overhead and others
Total:	**$ 317,000**	

TIMING:

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 317,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 317,000

FOR INTERNAL USE ONLY:

Order Group: **CB2ED2** **Order Number:**

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**

PROJECT TITLE:
System Management

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

PROJECT SUMMARY (continued)

1 **TV INSPECTION OF SEWERS** **$ 211,000** **a/c#30007020**

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.

2 **INVESTIGATION FOR DESIGN** **$ 106,000** **a/c#30007021**

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.

2004 BASIC CAPITAL BUDGET	Project #	D-3

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Sewers & Drainage**

PROJECT TITLE:
Other Pollution Abatement

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

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)
HISTORY:

(continued on next page)

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 386,500**	
Materials:	**$ 10,700**	
Equipment:	**$ 69,200**	
Other (please specify):	**$ 76,600**	Street Cuts, Overhead, and others
Total:	**$ 543,000**	

TIMING:

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 543,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 543,000**

FOR INTERNAL USE ONLY:
Order Group: **CB2ED3** **Order Number:** **30007022**

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**

PROJECT TITLE:
Other Pollution Abatement

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

PROJECT SUMMARY (continued)

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 2004, 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 2004. In previous Capital Budgets, approval was given for a temporary Engineering Assistant II. It is proposed that this position be extended in 2004. Sufficient funds exist from previously approved LWMP budgets and therefore no additional funding is required in this budget.

2. SEWER SEPARATION ON PRIVATE PROPERTY $ 543,000 a/c#30007022

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. Funds are required in 2004 to continue this program. In addition, the program will focus in other areas to compliment the main sewer separation program.

DEPARTMENT: ENGINEERING **PROGRAM: Sewers & Drainage**

PROJECT TITLE:
Public Sewer Connections

PROJECT DESCRIPTION:
Installation of public sewer connections on residential and commercial properties.

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)
HISTORY:

Public Sewer Connections $ 7,800,000

In 2003, the City installed approximately $ 7,500,000 worth of public sewer connections. For 2004, 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.

OBJECTIVES:

BUDGET (include functional breakdown):

Direct Labour:	**$ 1,775,000**	
Materials:	**$ 2,870,000**	
Equipment:	**$ 1,381,200**	
Other (please specify):	**$ 1,773,800**	Street Cuts, Rubble Removal, Overhead, and Others
Total:	**$ 7,800,000**	

TIMING:

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 7,800,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 7,800,000**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 0

FOR INTERNAL USE ONLY:
Order Group: CB2ED5 **Order Number: n/a**

ENGINEERING WATERWORKS

Project Number	Program – 2004	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
E1	**DISTRIBUTION SYSTEM**			
	a) Distribution Main Replacement	6,692	0	6,692
	d) Replacement of Meters & Services	2,225	200	2,025
	e) Replacement of Fire Hydrants	200	66	134
	SUBTOTAL – DISTRIBUTION SYSTEM	**$ 9,117**	**$ 266**	**$ 8,851**
E2	**ADDRESSING GROWTH**			
	a) Transmission Capacity Program	600	0	600
	b) Fire Upgrading for Development	67	0	67
	c) Conservation Capital Projects	100	0	100
	d) New Meters & Services	600	0	600
	e) Minor Improvements to the System	190	0	190
	SUBTOTAL – ADDRESSING GROWTH	**$ 1,557**	**$ 0**	**$ 1,557**
E4	**OTHER WORKS**			
	a) Telemetry System	100	0	100
	b) Engineering & Site Investigation	133	0	133
	SUBTOTAL – OTHER WORKS	**$ 233**	**$ 0**	**$ 233**
E5	**WATER QUALITY PROJECTS**			
	b) Water Quality Projects	670	0	670
	SUBTOTAL – WATER QUALITY PROJECTS	**$ 670**	**$ 0**	**$670**
	DEBENTURE COSTS	**$ 600**	**$ 0**	**$ 600**
	TOTAL – 2004 WATERWORKS CAPITAL BUDGET	**$ 12,177**	**$ 266**	**$ 11,911**

2004 BASIC CAPITAL BUDGET — Project # E-1a

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Replacement of Aging Distribution Watermains

PROJECT DESCRIPTION:

Replacement of distribution watermains in various locations throughout the City.

PROJECT SUMMARY:

HISTORY:

The City's distribution watermain network consists of over 1,400 kilometres of pipelines with a replacement value of approximately $1 billion. Since 1994, this program has been organized to minimise the pipeline life cycle costs and to replace watermains in a uniform manner. Over the course of this work, past Capital Plans have replaced a significant number of high maintenance, lower design life watermains, allowing the replacement rate in this Capital Plan to be lowered from 1.0% to 0.8%.

OBJECTIVES:

Replace 0.8% of the City's distribution water system.

BUDGET:

Direct Labour:	**$ 1,460,000**	
Materials:	**$ 2,130,000**	
Equipment:	**$ 1,440,000**	
Other (please specify):	**$ 1,662,000**	(Overhead, Contract/Consultant Services, Waste Disposal Fees)
Total:	**$ 6,692,000**	

TIMING:

Construction will continue throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

This programs reduces pipeline maintenance costs and system leakage, limits damage to City and private property caused by watermain failures, and helps to ensure continued safe and reliable water service to customers.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 6,692,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	
2004 Basic Capital Budget Requested:		**$ 6,692,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE1AX1** **Order Number:** **30007023**

2004 BASIC CAPITAL BUDGET

Project # E-1d1

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Replacement of Aging Meters

PROJECT DESCRIPTION:

Replacement of aging water meters at various locations throughout the City.

PROJECT SUMMARY:

HISTORY:

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

OBJECTIVES:

Replace aging meters, as necessary, to ensure accurate customer billing.

BUDGET:

Direct Labour:	**$ 100,000**	
Materials:	**$ 180,000**	
Equipment:	**$ 15,000**	
Other (please specify):	**$ 55,000**	(Overhead, Contract/Consultant Services)
Total:	**$ 350,000**	

TIMING:

Meter replacement work will continue throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

Water meters under register consumption as they age, and when one remains in service too long before replacement the result is a larger than expected bill for the customer. A proactive replacement program helps minimise these occurrences.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 350,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 350,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE1D1X1** **Order Number:** **30007026**

2004 BASIC CAPITAL BUDGET — Project # E-1d2

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Replacement of Aging Service Pipes

PROJECT DESCRIPTION:

Replacement of aging service pipes at various locations throughout the City.

PROJECT SUMMARY:

HISTORY:

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. It is requested that $200,000 in unexpended funding from the 2003 New Meters Capital Budget be transferred to this program to address recent higher than expected service pipe failure rates. Service pipes are also replaced as part of the distribution main replacement program and new installations funded by redevelopments.

OBJECTIVES:

Replace aging service pipes, as necessary, to minimise maintenance expenditures.

BUDGET:

Direct Labour:	**$ 560,000**	
Materials:	**$ 440,000**	
Equipment:	**$410,000**	
Other (please specify):	**$ 465,000**	(Overhead, Contract/Consultant Services, Waste Disposal Fees)
Total:	**$ 1,875,000**	

TIMING:

Service replacement work will continue throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

This program reduces service pipe maintenance costs, minimises damage to City and private property due to pipe failures, and helps to ensure safe and reliable water service to customers.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 1,875,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 200,000**	2003 BCB Funding from CB1EE2D1

2004 Basic Capital Budget Requested: **$ 1,675,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE1D2X1** **Order Number:** **30007028**
30007060

2004 BASIC CAPITAL BUDGET — Project # E-1e

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Replacement of Fire Hydrants

PROJECT DESCRIPTION:

Replacement of fire hydrants independently from watermain replacement programs.

PROJECT SUMMARY:

HISTORY:

The City has approximately 6,000 fire hydrants dating 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. It is requested that $66,000 in unexpended funding from the 2003 Fire Upgrading for New Developments Capital Budget will be transferred to this program to offset recent higher than expected hydrant failures caused by aging and mechanical failure.

OBJECTIVES:

Fund the renewal of those hydrants that require replacement due to corrosion attack and/or mechanical failure.

BUDGET:

Direct Labour:	**$ 66,000**	
Materials:	**$ 57,000**	
Equipment:	**$ 42,000**	
Other (please specify):	**$ 35,000**	Overhead, Contract Services, Waste Disposal Fees
Total:	**$ 200,000**	

TIMING:

Construction will continue intermittently throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

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.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 200,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 66,000**	2003 BCB Funding from CB1EE2B

2004 Basic Capital Budget Requested: **$ 134,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE1EX1** **Order Number:** **30007030**
30007031

2004 BASIC CAPITAL BUDGET — Project # E-2a

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Transmission Capacity Program

PROJECT DESCRIPTION:

Construction of transmission mains to improve reliability and restore pressure in the City's water system.

PROJECT SUMMARY:

HISTORY:

The City and Lower Mainland are experiencing rapid population growth and changes in land use which strain the City and GVRD water systems. The result has been a gradual decrease in water pressure during high demands and an inadequate volume of water for fire protection. The 2003 Transmission Main Replacement Capital Budget allocated $1,900,000 for the replacement of pipelines on 37th Avenue between West Boulevard and Larch. Due to unanticipated difficult ground conditions, it is requested that $600,000 be allocated to complete this project. The 37th Avenue project meets the Transmission Capacity Program criteria of addressing pressure and flow reliability weaknesses in the City's West Side.

OBJECTIVES:

Transmission system improvements to improve pressure during high demands and supply adequate volume of water to meet current fire protection standards.

BUDGET:

Direct Labour:	**$ 130,000**	
Materials:	**$ 190,000**	
Equipment:	**$ 130,000**	
Other (please specify):	**$ 150,000**	Overhead, Contract/Consultant Services, Waste Disposal Fees
Total:	**$ 600,000**	

TIMING:

Construction will take place during the months of February to April 2004.

COST SAVINGS AND OTHER BENEFITS:

This program ensures that the City's transmission system meets new water demand requirements caused by population growth, and addresses existing flow and reliability shortcomings.

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 600,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	
2004 Basic Capital Budget Requested:		**$ 600,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE2AX1** **Order Number:** **30007032**

2004 BASIC CAPITAL BUDGET — Project # E-2b

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Fire Upgrading for Developments

PROJECT DESCRIPTION:

Upgrading of water system components to increase flow capacity for fire protection for new developments.

PROJECT SUMMARY:

HISTORY:

This program funds the local system improvements that are sometimes necessary to accommodate the increases in 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 category provides funding for the City's share of the water system upgrade cost.

OBJECTIVES:

Fund water system improvements for fire flow capacity increase, as necessary to keep pace with the demands of new development.

BUDGET:

Direct Labour:	**$ 15,000**	
Materials:	**$ 21,000**	
Equipment:	**$ 15,000**	
Other (please specify):	**$ 16,000**	(Overhead, Contract/Consultant Services, Waste Disposal Fees)
Total:	**$ 67,000**	

TIMING:

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.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 67,000**
Less Funding From Other Sources:	
Senior Government:	**$ 0**
Property Owners:	**$ 0**
Other (please specify):	**$ 0**
Existing City Funding:	**$ 0**

2004 Basic Capital Budget Requested: **$ 67,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE2BX1** **Order Number:** **30007033**

2004 BASIC CAPITAL BUDGET — Project # E-2c

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Conservation Capital Projects

PROJECT DESCRIPTION:

Capital construction projects aimed towards water conservation.

PROJECT SUMMARY:

HISTORY:

The City will spend about $26 million in 2004 on water purchased from the GVWD, and this cost is projected to rise rapidly to $34 million per year by 2008. With water becoming more expensive, the economic benefits of some water reducing projects has become more apparent. 2004 projects will focus on reducing the Parks Board use of drinking water for ornamental purposes, primarily by developing supplemental sources and installing circulation systems. Conservation projects under development aim to reduce water consumption at the Charleson Park waterfall and other small water features.

OBJECTIVES:

Reduce the City's expenditures on bulk water purchased from the GVRD.

BUDGET:

Direct Labour:	**$ 0**	
Materials:	**$ 0**	
Equipment:	**$ 0**	
Other (please specify):	**$ 100,000**	Contract/Consultant Services, Overhead
Total:	**$ 100,000**	

TIMING:

Work will take place intermittently throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

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:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 100,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 100,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE2CX1** **Order Number:** **30007047**

2004 BASIC CAPITAL BUDGET — Project # E-2d

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

New Meters and Services

PROJECT DESCRIPTION:

Installation of new services, meter chambers on City streets and on private property, and the purchase of new meters and appurtenances

PROJECT SUMMARY:

HISTORY:

The water consumption of all customers, with the exception of single family and duplex residential connections, is metered. The water meters are owned and maintained by the City. Funds are requested annually for the purchase of new meters, remote readouts, and meter parts. New services are self-funded by development.

OBJECTIVES:

Construct new water meter and service installations as necessary to keep up with development demand.

BUDGET:

Direct Labour:	**$ 0**	
Materials:	**$ 510,000**	
Equipment:	**$ 0**	
Other (please specify):	**$ 90,000**	Overhead
Total:	**$ 600,000**	

TIMING:

Construction will continue throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 600,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 600,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE2D1X1** **Order Number:** **30007048**

2004 BASIC CAPITAL BUDGET — Project # E-2e

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Minor Improvements to the System

PROJECT DESCRIPTION:

This is an ongoing program involves a variety of types of minor projects.

PROJECT SUMMARY:

HISTORY:

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 watermain installations or replacements, flow tests, computer design work and water quality monitoring stations.

OBJECTIVES:

Fund miscellaneous minor works that are not associated with other capital programs.

BUDGET:

Direct Labour:	**$ 0**	
Materials:	**$ 0**	
Equipment:	**$ 0**	
Other (please specify):	**$ 190,000**	Various
Total:	**$ 190,000**	

TIMING:

Construction will take place intermittently throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 190,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 190,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE2EX1** **Order Number:** **30007049**

2004 BASIC CAPITAL BUDGET — Project # E-4a

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Telemetry System

PROJECT DESCRIPTION:

Installation of telemetry equipment for monitoring pressure and flow within the water system and for the remote control of pressure regulating valves and other facilities.

PROJECT SUMMARY:

HISTORY:

The City operates a telemetry system that monitors operational information from approximately 40 sites throughout the water system. 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.

OBJECTIVES:

Telemetry system work proposed for 2004 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.

BUDGET:

Direct Labour:	**$ 0**	
Materials:	**$ 0**	
Equipment:	**$ 0**	
Other (please specify):	**$ 100,000**	Various
Total:	**$ 100,000**	

TIMING:

Telemetry system work will take place intermittently throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 100,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	
2004 Basic Capital Budget Requested:		**$ 100,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE4AX1** **Order Number:** **30007051**

2004 BASIC CAPITAL BUDGET — Project # E-4b

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Engineering and Site Investigation

PROJECT DESCRIPTION:

Engineering and site investigations for material evaluation, research and project planning.

PROJECT SUMMARY:

HISTORY:

Historically this program has existed to fund investigations aimed at improving construction processes, evaluating emerging technologies, planning of water system improvements and testing of waterworks materials.

OBJECTIVES:

Provide funding for a variety of engineering investigations such as:

- new products (valves, meters, etc.) prior to tendering
- testing of water system material properties.
- pilot studies of new construction and rehabilitation techniques.
- computer model calibration for planning transmission projects.

BUDGET:

Direct Labour:	**$ 0**	
Materials:	**$ 0**	
Equipment:	**$ 0**	
Other (please specify):	**$ 133,000**	Various
Total:	**$ 133,000**	

TIMING:

Program work will continue intermittently through 2004.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 133,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 133,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE4BX1** **Order Number:** **30007052**

2004 BASIC CAPITAL BUDGET — Project # E-5b

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Water Quality Projects

PROJECT DESCRIPTION:

Capital Projects that reduce the number of dead end, low flow and tuberculated watermains.

PROJECT SUMMARY:

HISTORY:

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 construction of new piping, flow control valving and small scale re-chlorination stations. (see next page)

(continued on next page)

OBJECTIVES:

Fund capital improvements that reduce the number of dead end, low flow and tuberculated watermains.

BUDGET:

Direct Labour:	**$ 0**	
Materials:	**$ 0**	
Equipment:	**$ 0**	
Other (please specify):	**$ 670,000**	Various
Total:	**$ 670,000**	

TIMING:

Construction for Water Quality projects will continue intermittently throughout 2004.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
	$ 0	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 670,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: **$ 670,000**

FOR INTERNAL USE ONLY:

Order Group: **CB2EE5AX1** **Order Number:** **30007053**

2004 BASIC CAPITAL BUDGET	Project #	E-5b

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Waterworks**

PROJECT TITLE:

Water Quality Projects

PROJECT DESCRIPTION:

Capital Projects that reduce the number of dead end, low flow and tuberculated watermains.

PROJECT SUMMARY (continued)

The 2000 - 2002 Capital Plan included $2,500,000 of contingency funding for the possible construction of two additional City rechlorination stations. This requirement was delayed while the GVWD completed their chlorination station program, thus the funds were not budgeted during the Plan. The City and GVWD have subsequently 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 2007.

In the interim, staff recommend that an additional $500,000 be directed from the 2003-2005 Rechlorination Station Capital Plan to Water Quality Projects to begin a proactive program of discontinuing and looping dead end water mains. Dead end watermains often result in long water residency times and associated taste and odour problems. Also, the amount of residual chlorine in these pipes can dip below Canadian Drinking Water Quality Guidelines limits, reducing the level of protection against cross contamination. Recent investigative work by City and the Provincial Health authority have identified the need to accelerate the elimination of dead end watermains.

ENGINEERING YARDS

Project Number	Program – 2004	Estimated Gross Cost $(000)	Grants & Other Sources $(000)	Basic Capital Budget $(000)
F1	**YARDS IMPROVEMENTS**	**$ 800**	**$ 0**	**$ 800**
	DEBENTURE COSTS	**$ 20**	**$ 0**	**$ 20**
	TOTAL – 2004 YARDS CAPITAL BUDGET	**$ 820**	**$ 0**	**$ 820**

2004 BASIC CAPITAL BUDGET — Project # F-1

DEPARTMENT: **ENGINEERING** **PROGRAM:** **Yards**

PROJECT TITLE:

Yards Improvements - National Works Yard Funding

PROJECT DESCRIPTION:

Funding for remaining work undertaken on the new National Works Yard

PROJECT SUMMARY: (Consider History, Objectives, Timing, Costs, & Functional Breakdown)

HISTORY:

The new National Works Yard is the replacement for the existing Cambie Works Yard. Funding for the new yard was included in previous capital plans and Council approved financing, but due to increased scope prior to construction a funding shortfall of $816,000 was previously identified to Council. It was anticipated that the construction management process undertaken would help to manage this shortfall, but the savings were exceeded by increases in materials and construction costs during the construction period. It is proposed to transfer $800,000 of funding from the Manitoba Yards Improvement project to the National Yards project in order to cover these costs with existing Yards Capital Plan funding sources.

The impact of this will be to reduce the scope or to defer planned improvements at the Manitoba Works Yard.

OBJECTIVES:

To provide for the previously identified funding shortfalls for this project, and to approve the transfer of $800,000 to the National Yards project from the Manitoba Yards Improvement project in the 2004 Yards Basic Capital Budget.

BUDGET (include functional breakdown):

Direct Labour:	**$ 0**	
Materials:	**$ 0**	
Equipment:	**$ 0**	
Other (please specify):	**$ 800,000**	Contractors, Consulting, Overhead
Total:	**$ 800,000**	

TIMING:

Immediately. National Yards became operational in February 2004.

COST SAVINGS AND OTHER BENEFITS:

IMPACT ON OPERATING BUDGET:	**2004**	**2005**	**2006**
(Added Basic)	**$ 0**	**$ 0**	**$ 0**

PROJECT COST:

Total Cost:	**$ 800,000**	
Less Funding From Other Sources:		
Senior Government:	**$ 0**	
Property Owners:	**$ 0**	
Other (please specify):	**$ 0**	
Existing City Funding:	**$ 0**	

2004 Basic Capital Budget Requested: $ 800,000

FOR INTERNAL USE ONLY:

Order Group: **CB2EF1X1** **Order Number:** **30007054**