

ANNUAL REPORT  
OF THE  
CITY ENGINEER

1979

CITY OF FREDERICTON

PUBLIC WORKS DEPARTMENT

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TO HIS WORSHIP THE MAYOR & COUNCILLORS  
OF THE CITY OF FREDERICTON

Madam and Gentlemen:

I submit herewith this report which is a statement of work done in the various City Departments under the direct supervision of the City Engineer.

This report covers the period January 1, 1979 to December 31, 1979 and is written for the purpose of maintaining an accurate record on file of the activities and costs of the various departments.

During the year, along with regular maintenance, City Crews and contractors constructed the following works:

Concrete Curb & Gutter .....	11.50 Miles	(18.51 km)
Concrete Sidewalk .....	2.22 Miles	( 3.58 km)
New Street Construction .....	1.66 Miles	( 2.67 km)
New Pavement (3/4" Dense Mix) .....	6.06 Miles	( 9.76 km)
Recap (1/2" Dense Mix) .....	1.10 Miles	( 1.76 km)
Surface Sealing (3/8" Minus) .....	4.53 Miles	( 7.29 km)
Slurry Sealed City Streets .....	1.94 Miles	( 3.12 km)
Armour Coated City Streets .....	0.92 Miles	( 1.47 km)
Chip Sealed City Streets .....	1.38 Miles	( 2.21 km)
Gravity Sanitary Sewer Mains .....	3.06 Miles	( 4.93 km)
Storm Sewer Mains .....	6.21 Miles	(10.00 km)
Water Mains .....	3.76 Miles	( 6.05 km)

ALSO

- 128 Water Services Installed
- 122 Sanitary Sewer Services Installed
- 3 Sprinklers Installed
- 13 Services Relayed (Water)
- 2 Services Relayed (Sanitary Sewer)
- 480 Water Meters Installed
- 3 Extension of Existing Services
- 66 Service Development Water Installations (Marysville)

Contractors under contract with the Public Works Department of the City of Fredericton in 1979 constructed, completed construction or began construction, on the following projects:

Spade Construction Ltd.

- To installation of services on Cherry Ave., Fulton Ave., and Sierra Dr.

- Spade Construction Ltd. - To installation of services on Broad St., Juniper Ct., and Mulberry Ct.
- Multi-Ventures Ltd. - To installation of services on Angel View Ct.
- Multi-Ventures Ltd. - To installation of services on Mitchell St.
- E. J. Ludford Construction Ltd. - To installation of services on Ascot Ct. and Ascot Dr.
- Industrial Excavating Ltd. - To installation of services on Essex St., Stradford St., and Gloucester Crescent.
- John Kilburn & Sons Ltd. - To installation of services on Talmadge Ct.
- Spade Construction Ltd. - To installation of sanitary sewer on MacFarlane St.
- Spade Construction Ltd. - To installation of storm sewer on Ross Terrace.
- Frecon Ltd. - To installation of storm sewer on Greenwood Dr.
- Industrial Excavating Ltd. - To installation of services on Hanwell Rd. and Prospect St.
- Multi-Ventures Ltd. - To installation of storm sewer on Hargrove Ct.
- Frecon Ltd. - To installation of services on Case St.
- Spade Construction Ltd. - To installation of storm sewers, watermain and valve chambers on various streets in East and West Nashwaaksis Areas.
- John Kilburn & Sons Ltd. - To installation of storm sewer services and valve chambers in Parkview Gardens and watermain connection from Royal Road to Willis St.
- Ascon Ltd. - To construction of concrete curb, gutter and sidewalk on various streets in East and West Nashwaaksis Areas.
- Ascon Ltd. - To construction of concrete curb, gutter and sidewalk on various streets in East Nashwaaksis Area.
- E. J. Ludford Construction Ltd. - To construction of Phyllis Creek Lift Station.

- Multi-Ventures Ltd. - To installation of guard rail on Canada St.
- Multi-Ventures Ltd. - To installation of services in Monteith Subdivision.
- Multi-Ventures Ltd. - To construction of Rosewood Booster Station.
- Multi-Ventures Ltd. - To installation of Sewage Pumping Stations #16 and #17 in Barkers Point.
- Frecon Ltd. - To construction of retaining wall at the Flemming Road Reservoir.
- Callaghan Contracting Ltd. - To installation of Sewage Pumping Station #15 on Riverside Dr.
- Forbes & Sloat Ltd. - To supply and delivery of crushed rock.
- Diamond Construction (1961) Ltd. - To supply and delivery of crushed rock.
- Dunham's Contracting Ltd. - To supply and delivery of crushed gravel.
- Gorman Construction Ltd. - To supply and delivery of crushed gravel.
- G.C. Turnbull & Sons Ltd. - To supply and delivery of pit run gravel.
- Elmtree Concrete Ltd. - To supply and delivery of ready-mix concrete.
- H. C. Smith & Sons Ltd. - To supply and delivery of topsoil.
- Wendall Thomas & Son Ltd. - To supply and delivery of pipe bedding sand.
- Gulf Oil (Canada) Ltd. - To supply and delivery of diesel fuel.
- Shell (Canada) Ltd. - To supply and delivery of gasoline.
- Sandi-Co Ltd. - To supply and delivery of winter sand.
- Canadian Salt Co. Ltd. - To supply and delivery of highway salt.
- Gorman Construction Ltd. - To supply and placement of asphalt.
- Forbes & Sloat Ltd. - To supply and placement of asphalt.
- Shell Canada Ltd. - To supply and delivery of furnace oil.

- Flintkote Company of Canada Ltd. - To supply and placement of chip seal, armour coat and slurry seal.
- P. D. Moore - To supply and delivery of cover material to Sanitary Landfill.
- Gerard Burns - Bulldozing Services - Sanitary Landfill.
- Co-Op Fuels Ltd. - To supply and delivery of furnace oil.

The current expenditures for the twelve-month period January 1, 1979 to December 31, 1979 appear as follows:

	Budget	Net Expenditure	Deficit	Surplus
Common Services	\$ 711 800	\$ 873 838.27	\$162 038.27	\$ 1 709.44
Road Transport (Adm)	13 100	11 390.56		
Roads & Streets	324 700	498 136.76	173 436.76	
Sidewalk Repairs	12 700	18 388.33	5 688.33	
Ditches & Culverts	21 500	48 050.76	26 550.76	
Storm Sewer	27 750	54 715.44	26 965.44	
Street Cleaning	231 050	301 872.25	70 822.25	
Snow & Ice Removal	603 400	474 300.24		129 099.76
Street Lighting	314 060	313 538.74		521.26
Traffic Services	150 600	162 620.88	12,020.88	
Off-Street Parking	820	110.88		709.12
Garbage Collection	274 200	274 025.00		175.00
Sanitary Landfill	231 450	179 541.20		51 908.80
Old Burial Ground	6 440	9 342.45	2 902.45	
Loyalist Burial Grd.	215	168.06		46.94
Wilmot Park	17 950	21 334.02	3 384.02	
Odell Park	24 247	23 565.05		681.95
Carleton Park	11 240	10 625.35		614.65
Development of Park Areas	4 050	3 238.11		811.89
Other Parks	2 650	1 253.15		1 396.85
Public Works	145 900	175 824.13	29 924.13	
<b>TOTALS</b>	<b>\$3 129 822</b>	<b>\$3 455 879.63</b>	<b>\$513 733.29</b>	<b>\$187 675.66</b>

Overall Deficit - \$326 057.63

Following is a table giving total kilometrage of municipal roads and streets, provincial routes, by-passes, and ramps divided with respect to types of surface on the various streets.

Location	Municipal Roads & Streets				Designated Routes			T.C.H., By-Passes & Ramps
	Asphalt	Gravel	Chip Seal	Total	Asphalt	Gravel	Total	
Fredericton South	87.447	9.202	2.340	98.989	20.498	2.583	23.081	18.913
Fredericton North	17.365	2.075	0.396	19.836	4.564	-	4.564	-
Nashwaaksis	25.171	1.747	16.433	43.351	8.171	-	8.171	-
Marysville	14.463	1.906	5.070	21.439	8.216	-	8.216	3.460
Barkers Point	2.105	0.394	4.302	6.801	4.427	-	4.427	1.491
Silverwood	3.473	0.579	0.460	4.512	-	-	-	2.757

Location	Municipal Roads & Streets				Designated Routes			T.C.H., By-Passe & Ramps
	Asphalt	Gravel	Chip Seal	Total	Asphalt	Gravel	Total	
Garden Creek	4.813	2.327	8.196	15.336	6.294	-	6.294	8.771
Douglas	-	0.933	3.910	4.843	2.554	-	2.554	-
Lincoln	2.435	2.359	2.911	7.705	1.332	-	1.332	-
Lower St. Marys	-	0.375	1.809	2.184	-	-	-	-
Killarney Rd.	0.332	-	-	0.332	4.230	-	4.230	-
TOTALS	157.604	21.897	45.827	225.328	60.286	2.583	62.869	33.602

TOTAL (MUNICIPAL AND DESIGNATED ROUTES) = 288.197 km

Following in the body of this report is a detailed statement of the work done, comparative expenditures and unit costs under the various departments. The detailed report of any particular department may be found by referring to the index.

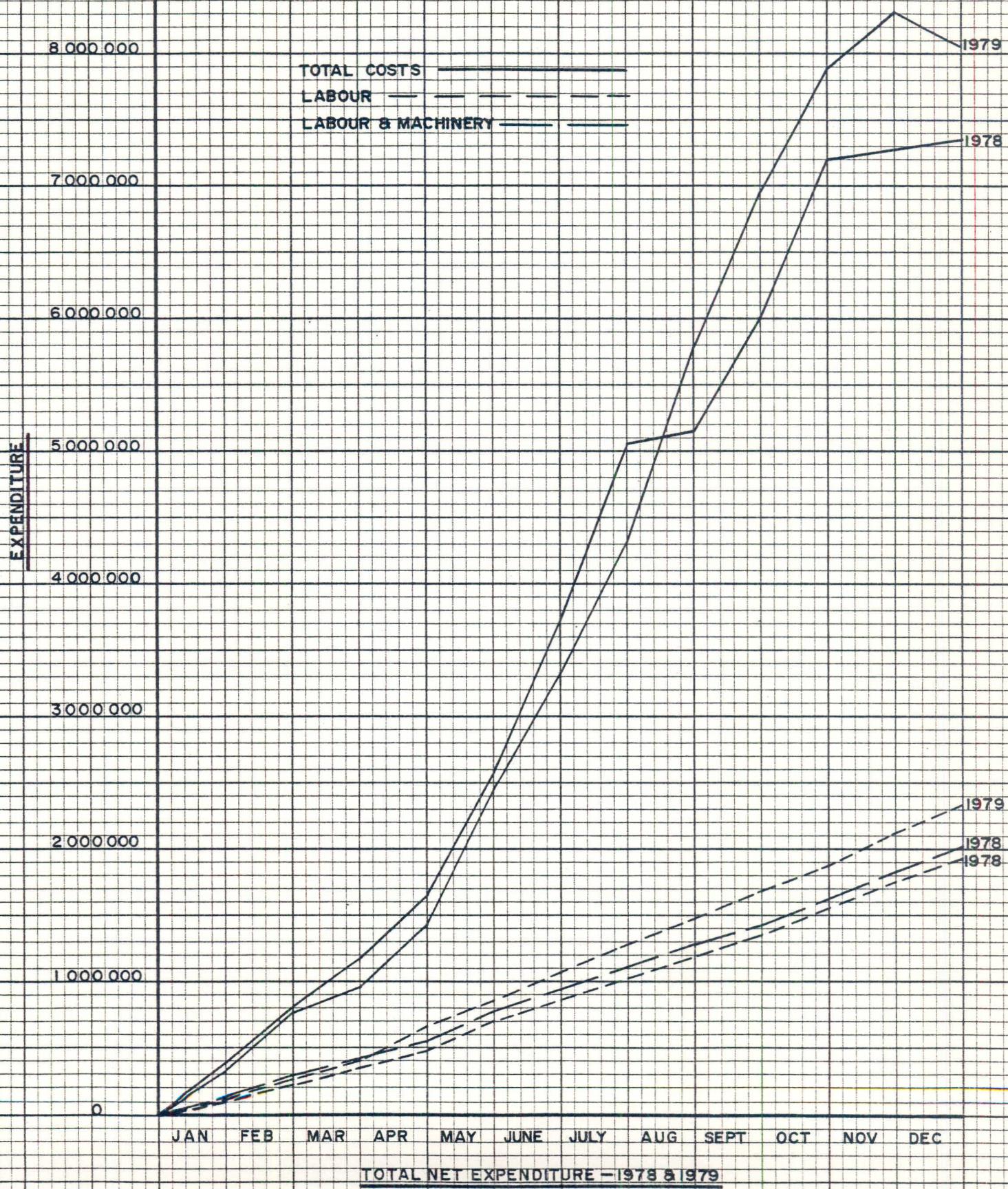
Respectfully submitted,

E. J. BLISS, P. ENG.  
CITY ENGINEER

TOTAL YEARLY NET EXPENDITURE

The total yearly net expenditure under the direct supervision of the City Engineer in 1979 amounted to \$8 059 824.01, made up as follows:

Common Services	\$ 873	838.27
Road Transport	1 883	124.84
Environmental Health Services (Garbage & Waste Collection & Disposal)	453	566.20
Public Health Services (Cemeteries)		9 510.51
Cultural Services (Parks, Trees, Etc.)	235	839.81
Water Department	961	108.51
Sanitary Sewer	819	419.11
 <u>Capital Accounts</u>		
(a) Sanitary Sewer	4	999.89 CR.
(b) Surface Sewer )	6	912.75 CR.
(c) Curb & Gutter ) Permanent	665	553.99
(d) Gravel Roads ) Streets	154	260.81
(e) Paving )	586	771.68
(f) Water	25	965.68
(g) Permanent Streets Reconstruction	73	610.97
(h) Industrial Park	32	054.07
(i) Traffic Lights		5 499.00
(j) Recreation		229.51
(k) Urban Transit Assistance Program	5	865.84
 <u>Service Development Projects</u>		
(a) Water	14	581.10
(b) Sanitary Sewer	150	908.97 CR.
(c) Storm Sewer	718	544.98
(d) Service Depot & Equipment	13	839.00
(e) New Equipment	26	946.18
(f) Solid Waste Disposal	30	204.87
 <u>Miscellaneous Accounts</u>		
(a) Concrete Walks	58	858.00
(b) Charges to Other Departments (Recreation, Fire, Police, Transit, Ambulance)	559	115.09
(c) Arenas (Beaverbrook, York, Coliseum, Nashwaaksis)		760.26
(d) City Hall		192.37
(e) Buildings & Maintenance		662.25
(f) Industrial Park	1	518.87
(g) Public Library		73.02
(h) Campbell Street Parking Lots	3	102.86
(i) Other Parking Lots (Queen St., King St., Regent St. Wharf)	2	039.61
(j) Contingency		23.77
(k) Parking Meters	1	248.93
(l) Flood Control	4	715.66
TOTAL .....	<u>\$ 8 059 824.01</u>	



DISTRIBUTION OF THE 1979 TAX DOLLAR FOR THE CITY

GENERAL GOVERNMENT SERVICES



PROTECTIVE SERVICES



TRANSPORTATION SERVICES



PUBLIC TRANSIT



ENVIRONMENTAL HEALTH SERVICES



ENVIRONMENTAL DEVELOPMENT SERVICES



RECREATION AND CULTURAL SERVICES



FISCAL SERVICES



0 10 20 30 40 50

PERCENTAGE

Graphic comparisons of expenditures for labour and total net expenditure (including labour) for the various departments are distributed throughout the report. A graph showing the distribution of the City of Fredericton Tax Dollar in 1979 is also included.

### TRANSPORTATION SERVICES

The expenditure under this heading is subdivided under two main headings:

- (1) Common Services
- (2) Road Transport

#### (1) COMMON SERVICES:

The total net expenditure under this heading was \$873 838.27 and is made up as follows:

##### GROSS EXPENDITURE:

Administration .....	\$ 32 755.41
Engineering Services .....	131 196.79
General Equipment .....	418 328.46
Workshops, Yards & Buildings .....	105 623.06
Research, Planning & Design .....	71.41
Other (Pensions, U.I.C., Workmen's Compensation, Etc.) .....	<u>411 620.87</u>

\$1 099 596.00

LESS CREDITS: ..... 225 757.73

NET EXPENDITURE ..... \$ 873 838.27

#### (2) ROAD TRANSPORT:

(1) Administration: The total net expenditure under this heading was \$11 390.56.

##### (2) Roads & Streets:

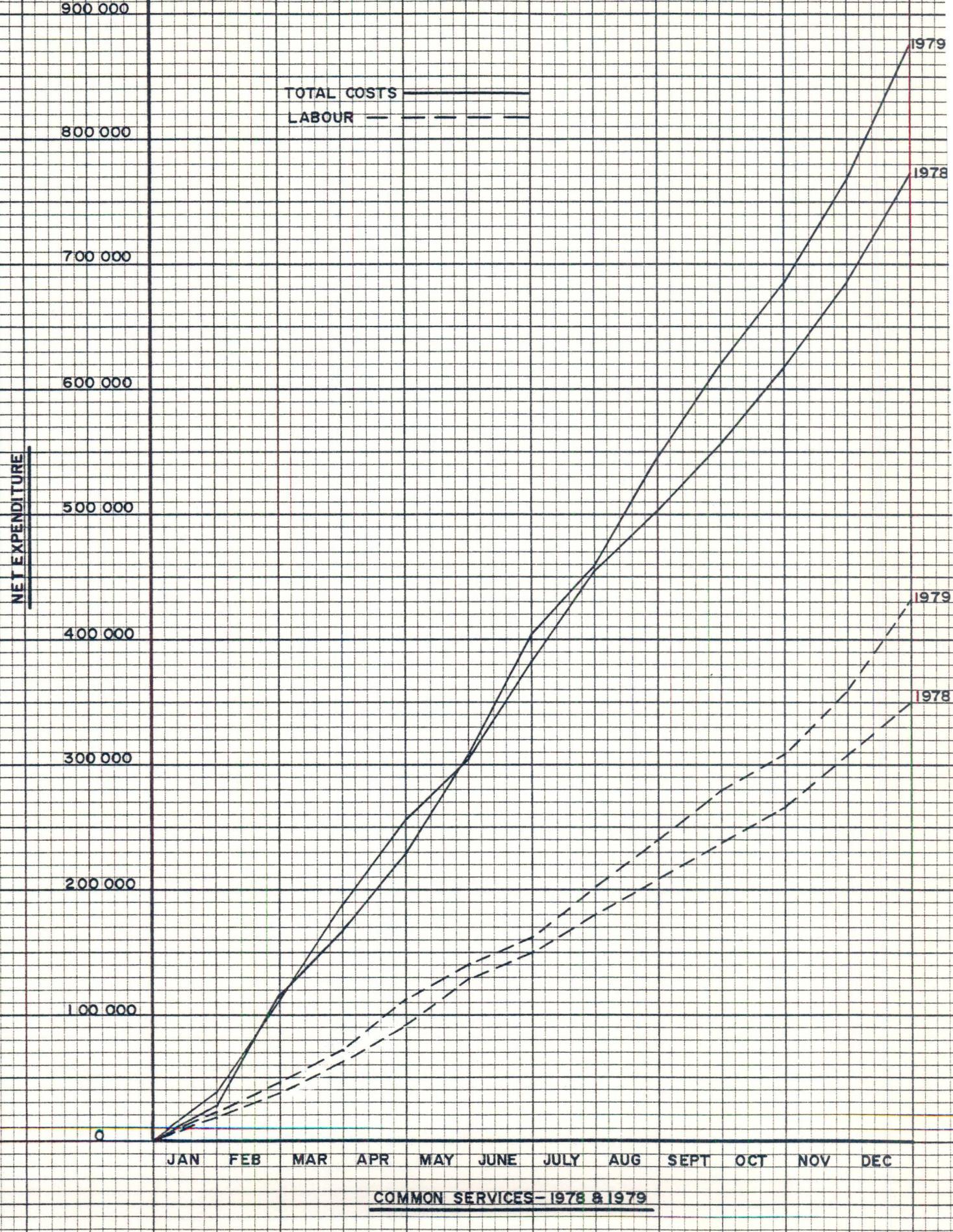
Gross Expenditure ..... \$1 464 932.02  
Less Credits ..... 69 468.25

NET EXPENDITURE ..... \$1 395 463.77

The Gross Expenditure is divided as follows:

(a) Roadway Surfaces (Maintenance) .....	\$ 521 161.70
(b) Sidewalk Repairs .....	20 625.33
(c) Culverts & Ditches .....	54 750.76
(d) Storm Sewer .....	55 985.34
(e) Street Cleaning & Flushing .....	303 724.95
(f) Snow & Ice Removal .....	325 089.60
(g) Sanding & Salting .....	<u>183 594.34</u>

TOTAL ..... \$1 464 932.02



**NET EXPENDITURE**

1 800 000

1 600 000

1 400 000

1 200 000

1 000 000

800 000

600 000

400 000

200 000

0

TOTAL COSTS  
— — — — —  
LABOUR — — — — —  
LABOUR & MACHINERY — — — — —

JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

ROAD TRANSPORT - 1978 & 1979

1979

1978

1979

1978

1978

The Net Expenditure of \$1 395 463.77 is divided into the following items. These items give an account of the amount and kind of work done by the Roads and Streets Department. (These expenditures will include any City Machinery charges not included in the above).

(a) ROADWAY SURFACES (MAINTENANCE)

(1) Gravel Roads and Chip Seal

City Motor Graders: - Road Patrol

Labour .....	\$ 9 408.04
City Machinery Charges .....	<u>14 308.00</u>
TOTAL ..	<u>\$ 23 716.04</u>

Grading and Gravelling: Grading and application of Gravel on City Roads and Streets

Labour .....	\$ 6 381.19
City Machinery Charges .....	13 286.00
Materials .....	<u>38 008.71</u>
TOTAL ..	<u>\$ 57 675.90</u>

11 539.25 Tons of Gravel and Crushed Rock was used in the maintenance and repairs to Gravel Roads and Roadway Surfaces. This was purchased from Forbes & Sloat Ltd., Dunham's Contracting Ltd., and Diamond Construction (1961) Ltd.

Chip Seal:

The expenditure incurred under this heading was for payment to Flintkote Company of Canada Ltd. for supply and placement of 3/8" Chips (10 mm) on various City Streets. The expenditure was made up as follows:

Flintkote Company of Canada Ltd. ....	\$ 10 004.83
TOTAL .....	<u>\$ 10 004.83</u>

The following Roads and Streets wer Chip Sealed in 1979:

<u>Location</u>	<u>Lineal Feet</u>
Mack Road	301
Colwell Drive	1 764
River St. - CNR Subway to Pines (Built Up Area)	<u>5 200</u>
TOTAL ..	<u>7 265</u>

7 265 Lineal Feet = 1.38 Miles (2.21 km)

Materials Used: 308.18 Tons of 3/8" (10 mm)

In Place	Chips @ \$13.25/Ton .....	\$ 4 083.39
	6 800 Gallons of RS-2K Asphalt	
	Emulsion @ \$0.82/Gallon .....	5 576.00
	S.S.&E. Tax on Emulsion only ....	<u>345.44</u>
	TOTAL .....	<u>\$ 10 004.83</u>

(2) Paved Streets

Patching and repairing pavement, applying seal coat, light tar or asphalt to pavement.

Labour .....	\$ 151 817.10
City Machinery .....	80 880.00
Materials .....	<u>158 187.86</u>
GROSS EXPENDITURE ...	<u>\$ 390 884.96</u>

Patching material, when available, was obtained from Gorman Construction Ltd., Flintkote Company of Canada Ltd., and Diamond Construction (1961) Ltd.

The total net expenditure for Pavement Repairs for 1979 amounted to \$369 833.22 and was computed as follows:

Cost of Hot Mix Asphalt .....	\$ 125 072.23
Liquid and Winter Coldmix Asphalt .....	25 320.93
Crushed Rock & Crusher Dust .....	3 312.02
City Labour (Payrolls) .....	151 817.10
City Machinery .....	80 880.00
Miscellaneous .....	<u>4 482.68</u>
GROSS EXPENDITURE ..	\$ 390 884.96
LESS CREDITS .....	<u>21 051.74</u>
NET EXPENDITURE ....	<u>\$ 369 833.22</u>

(3) Asphalt Sealing Program

Under this heading the following streets were Surface Sealed with 3/8" (10 mm) Minus Asphalt by Gorman Construction Ltd.

<u>Location</u>	<u>Lineal Feet</u>
Montgomery St. - Windsor St. to College Hill Rd.	950
Smythe St. - Queen St. to King St.	420
Smythe St. - Montgomery St. to Priestman St.	1 740
McKeen St. - Union St. to CPR Tracks	330
Jaffrey St. - Union St. to St. Marys St.	770
Murray Ave. - Canada St. to Grant St.	<u>1 700</u>
TOTAL .....	<u>5 910</u>

5 910 Lineal Feet = 1.12 Miles (1.80 km)

The following Roads and Streets were Slurry Sealed in 1979 under this program by Flintkote Company of Canada Ltd.

<u>Location</u>	<u>Lineal Feet</u>
Charlotte St. - Odell Ave. to University Ave.	5 935
Woodstock Rd. - Rookwood Ave. to Smythe St.	1 613
Northumberland St. - Brunswick St. to George St.	362

<u>Location</u>	<u>Lineal Feet</u>
Northumberland St. - Saunders St. to Aberdeen St.	373
Regent St. - Brunswick St. to CNR Tracks	1 955
TOTAL ....	10 238

10 238 Lineal Feet = 1.94 Miles (3.12 km) 29

Following is the expenditure for materials and labour for the surface sealing and slurry sealing of the above streets:

Labour .....	\$ 2 078.22
City Machinery .....	1 376.00
Flintkote Company of Canada Ltd. (Labour & Materials) .....	41 014.75
Gorman Construction Ltd. (Labour & Materials). .	10 712.34
Miscellaneous .....	1 227.25
NET EXPENDITURE ...	\$ 56 408.56

#### (4) Curb and Gutter Repair

The total net expenditure under this heading was \$10 350.90 made up as follows:

Labour .....	\$ 6 654.96
City Machinery Charges .....	1 660.00
Materials .....	3 554.94
GROSS EXPENDITURE ..	\$ 11 869.90
LESS CREDIT .....	1 519.00
NET EXPENDITURE ....	\$ 10 350.90

The above credits were for Journal Vouchers regarding curb repairs.

#### (5) Driveway Entrances (Maintenance)

The total net expenditure under this heading was \$42 357.40 made up as follows:

Labour .....	\$ 20 521.28
City Machinery Charges .....	9 660.00
Materials .....	12 176.12
NET EXPENDITURE .	\$ 42 357.40

(6) Rights-of-Way, Guard Posts, Etc.

Item	Labour				Totals
	Hired Trucks & Machinery	City Machinery Charges	Materials		
Sodding & Seeding	4 078.32	\$ 1 670.00	\$ 86.55	\$ 5 834.87	
Rip Rapping	8 596.51	2 616.00	466.13	11 678.64	
Cutting Grass	16 236.92	6 046.00	509.66	22 792.58	
Guard Rails	3 599.84	651.00	1 992.49	6 243.33	
Clearing Rt.-of-Ways	-	-	-	-	
City Pension	6 691.23	-	-	6 691.23	
Canada Pension	6 702.26	-	-	6 702.26	
TOTALS	\$45 905.08	\$10 983.00	\$3 054.83	\$59 942.91	

(b) SIDEWALKS (MAINTENANCE)

The net expenditure under this heading amounted to \$22 815.33 and was made up as follows:

Labour .....	\$ 13 404.85
Workmen's Compensation Board - 1979 Assessment .....	251.76
City Machinery Charges .....	4 427.00
Materials .....	6 435.53
Journal Vouchers (Pensions) .....	<u>533.19</u>
GROSS EXPENDITURE ..	\$ 25 052.33
LESS CREDITS .....	<u>2 237.00</u>
NET EXPENDITURE ..	<u>\$ 22 815.33</u>

(c) STREETS (GENERAL MAINTENANCE)

The net expenditure under this heading amounted to \$93 130.76 and was made up as follows:

Labour (Ditching) .....	\$ 20 232.57
Labour (Culverts) .....	18 353.50
City Machinery (Ditching) .....	25 670.00
City Machinery (Culverts) .....	19 410.00
Journal Vouchers (Pensions) .....	2 123.18
Workmen's Compensation Board Assessment .....	587.43
Materials .....	<u>13 454.08</u>
GROSS EXPENDITURE ..	\$ 99 830.76
LESS CREDITS .....	<u>6 700.00</u>
NET EXPENDITURE ..	<u>\$ 93 130.76</u>

(d) STORM SEWER

Storm sewers in the City were flushed where necessary and all catch basins were cleaned and repaired during the year and repairs were made to any breaks that occurred, amounting to \$75 028.94 made up as follows:

Labour .....	\$ 43	766.64
City Machinery .....	20	313.50
Workmen's Compensation Board - 1979 Assessment .....		503.51
Journal Vouchers (Pensions) .....	2	364.38
Lease Agreements (CN & CP) .....		165.00
Materials .....	9	185.81
		<u>GROSS EXPENDITURE .. \$ 76 298.84</u>
		<u>LESS CREDITS ..... 1 269.90</u>
		<u>NET EXPENDITURE .... \$ 75 028.94</u>

(e) STREET CLEANING AND FLUSHING

The net expenditure under this heading amounted to \$301 872.25 and was made up as follows:

Personnel - Labour, Pensions, Compensation .....	\$ 186	594.79
General Services - Trucking & Repairs .....	83	061.84
Gas, Oil, Grease .....		5 843.10
Brooms - Main & Gutter .....	9	877.68
Brooms - Hand .....	1	902.77
Anti-Litter Cans & Waste Collection .....	7	512.17
Dust Control .....	8	932.60
		<u>GROSS EXPENDITURE ... \$ 303 724.95</u>
		<u>LESS CREDITS ..... 1 852.70</u>
		<u>NET EXPENDITURE .... \$ 301 872.25</u>

Two Wayne Sweepers, #50 and #52, and a Vacuum-Sweep, #53, carried out the cleaning of City Streets. These machines worked a total of 2 970 hours from March 9, 1979 to December 7, 1979.

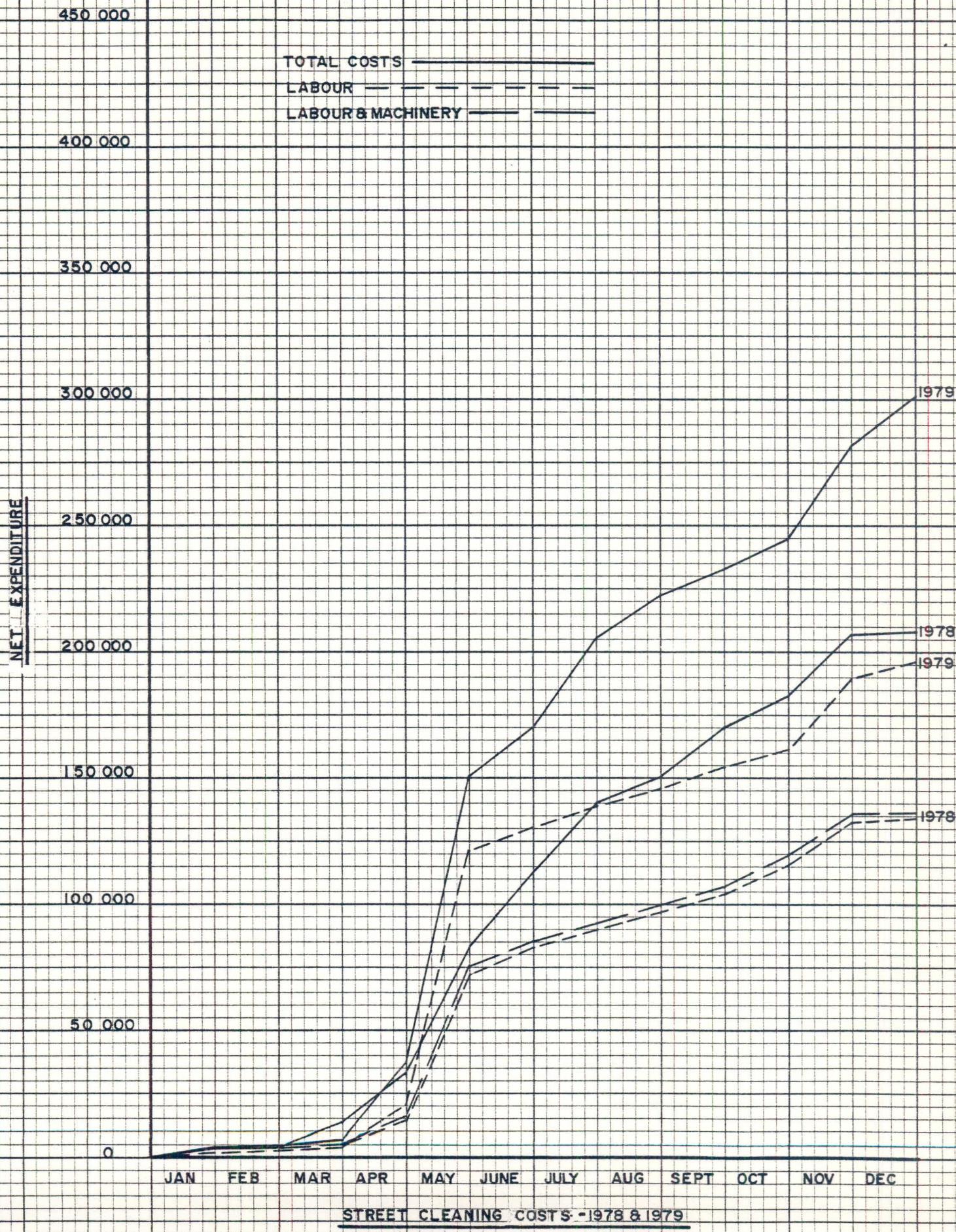
The following is a list of machinery used in street cleaning and dust control (gravelled roads) together with their repair costs for 1978 and 1979, including tires and tubes:

Name of Machine	Year Purchased	1978 Repairs	1979 Repairs
International 3 Ton #20	1968	\$ 1 017.18	\$ 438.68
Wayne Sweeper #50	1975	14 594.02	15 743.93
Sicard Flusher #51	1955	941.89	835.57
Wayne Sweeper #52	1968	5 724.11	10 195.73
Vacuum-Sweep #53	1975	6 870.26	13 370.13
Ford 1 Ton #204	1978	1 386.27	1 215.39
	TOTALS	\$30 533.73	\$41 799.43

(f) and (g) SNOW AND ICE REMOVAL (INCLUDES SANDING & SALTING)

(1) Salting and Sanding Streets and Sanding Sidewalks

Storing sand and salt in Winter Storage Piles and spreading same on slippery streets and sidewalks.



Streets:

Personnel (Labour, Pensions, Compensation) .....	\$ 35 294.09
General Services (Repairs & Maintenance) .....	23 500.06
Expendable Accessories .....	-
City Machinery .....	8 373.50
Materials .....	<u>113 966.48</u>
	GROSS EXPENDITURES ... \$ 181 134.13
	LESS CREDITS ..... 1 677.89
	NET EXPENDITURE ..... \$ 179 456.24

Sidewalks:

Personnel (Labour, Pensions, Compensation) .....	\$ 7 228.91
City Machinery .....	1 792.50
Materials .....	<u>3 604.80</u>
	GROSS EXPENDITURE ..... \$ 12 626.21
	LESS CREDITS ..... 343.66
	NET EXPENDITURE ..... \$ 12 282.55

7 909.89 cubic metres of sand was purchased during the Fall of 1979. This was supplied by Sandi-Co Ltd. at a price of \$2.68 per cubic metre, delivered to the City Stock Piles at Maintenance Depot, Regent St. and Services Depot, Killarney Road (St. Marys St.).

In 1979, 3 220.56 tonnes of salt was used for ice control. The cost and distribution charges are included under the above heading.

(2) Snow Control

Blowing, shovelling and hauling snow, plowing or scraping roads, cleaning gutters, thawing catch basins of ice and snow and any other means of snow control.

Streets: The total cost of snow control (streets) amounted to \$310 111.46 and was made up as follows:

Personnel (Labour, Pensions, Compensation) .....	\$ 124 851.58
General Services (Repairs & Maintenance, Hired Trucks & Machinery, Etc.) .....	117 349.78
City Machinery Charges .....	27 822.00
Expendable Materials .....	27 100.54
Miscellaneous Materials (Fuels & Lubricants) .....	<u>12 987.56</u>
	TOTAL ... \$ 310 111.46

The following table shows comparative labour (including hired trucks & machinery) costs of snow control for year 1977 to 1979 inclusive:

Item	1977	1978	1979
Snow Plowing Roads & Streets	\$129 684.40	\$ 98 904.16	\$ 64 878.83
Blowing, Hauling & Shovelling	82 476.60	91 318.74	18 392.62
Catch Basins	32 623.80	31 246.26	29 701.52
Carleton St. Bridge	-	41.95	369.31
Snow Fences	1 573.71	1 686.07	1 174.56
Plowing Parking Lots	327.71	224.75	24.96
Repairs (Labour - Equipment)	12 579.35	11 061.55	12 379.59
Repairs (Flood)	6 844.71	4 695.16	9 399.10
<b>TOTALS</b>	<b>\$266 110.28</b>	<b>\$239 178.64</b>	<b>\$136 320.49</b>

The City of Fredericton was responsible for plowing, sanding, and salting 179.08 miles (288.197 km) of Roads and Streets in 1979. 81.37 miles (130.948 km) on the North Side and 97.71 miles (157.249 km) on the South Side.

The overall cost for plowing, sanding and salting City Roads and Streets was \$491 245.59 made up as follows:

Personnel (Labour, Pensions, Compensation).....	\$ 160 145.67
General Services (Hired Trucks & Machinery, Repairs, Etc.) .....	140 849.84
City Machinery Costs .....	36 195.50
Materials (Sand & Salt, Fuels & Lubricants) ...	126 954.04
Expendable Materials .....	27 100.54
<b>TOTAL .....</b>	<b>\$ 491 245.59 (1)</b>

Therefore, the unit cost of plowing, sanding and salting one mile of road (street) was \$2 743 (or \$1 704 for one kilometre)

#### Sidewalks:

83.76 Miles (134.80 km) of Sidewalk were plowed during the winter months of 1979, 26.28 miles (42.29 km) on the North Side and 57.48 miles (92.51 km) on the South Side.

The total expenditure for plowing amounted to \$43 596.15 and was made up as follows:

Personnel (Labour, Pensions, Compensation).....	\$ 25 720.12
General Services (Repairs & Maintenance) .....	8 869.22
City Machinery .....	796.00
Expendable Materials .....	5 550.71
Miscellaneous Materials (Fuels & Lubricants) ..	2 660.10
<b>TOTAL .....</b>	<b>\$ 43 596.15</b>

The overall cost for plowing and sanding sidewalks was \$56 222.36 made up as follows:

Personnel (Labour, Pensions, Compensation) .....	\$ 32 949.03
General Services (Repairs & Maintenance) .....	8 869.22

City Machinery .....	\$ 2	588.50
Expendable Materials .....	5	550.71
Materials (Sand, Fuel, Etc.) .....	6	264.90
<b>TOTAL .....</b>	<b>\$ 56</b>	<b>222.36 (2)</b>

Therefore, the unit cost of plowing and sanding one mile of sidewalk was \$671 or (\$417 per kilometre).

GROSS COST OF SNOW CONTROL - Add (1) and (2)...	\$ 547	467.95
LESS CREDITS .....	34	383.71
<b>NET COST (including City Machinery) .....</b>	<b>\$ 513</b>	<b>084.24</b>

NET COST OF SNOW CONTROL (Less City Machinery Charges \$38 784.00) ..	\$ 474	300.24
--	--------	--------

Snowfall in Fredericton for the last five years was as follows:

1975 .....	128.4	inches	(326.14 cm)
1976 Agriculture Canada .....	107.1	inches	(271.90 cm)
Airport Weather Office .....	142.2	inches	(361.19 cm)
1977 Agriculture Canada .....	101.1	inches	(256.79 cm)
Airport Weather Office .....	129.44	inches	(328.78 cm)
1978 Agriculture Canada .....	89.29	inches	(226.80 cm)
Airport Weather Office .....	121.34	inches	(308.20 cm)
1979 Agriculture Canada .....	60.98	inches	(154.90 cm)
Airport Weather Office .....	74.02	inches	(188.0 cm)

The following equipment is used on Snow Control and Ice Removal and the repair and maintenance cost for this equipment is shown as follows:

Name of Vehicle	Year Purchased	1978 Repairs	1979 Repairs
Dodge 3 Ton #22	1976	\$ 935.76	\$ 360.18
G.M.C. 3 Ton #24	1975	1 380.64	2 269.68
G.M.C. 3 Ton #25	1975	593.06	2 023.79
Ford 3 Ton #26	1975	512.99	1 048.40
Dodge 3 Ton #27	1976	383.68	1 093.45
Dodge 3 Ton #28	1976	524.65	704.42
Chevrolet 3 Ton #31	1977	281.21	400.31
International Loadstar #32	1978	119.12	539.21
Galion 118 Grader #36	1966	-	1 586.43
Austin Western Grader #37	1962	-	558.44
Galion T-400 Grader #38	1972	-	425.72
Caterpillar 120 Grader #39	1974	-	11 302.13
Caterpillar 120 Grader #40	1974	-	2 251.94
Caterpillar 120 Grader #41	1974	-	1 761.82
Caterpillar 120 Grader #42	1974	-	5 660.35
Galion Grader #43	1976	-	3 926.17
Galion Grader #44	1976	-	1 663.38
Galion Grader #45	1976	-	2 474.54
Galion Grader #46	1977	-	743.41
Galion Grader #47	1977	-	1 261.11

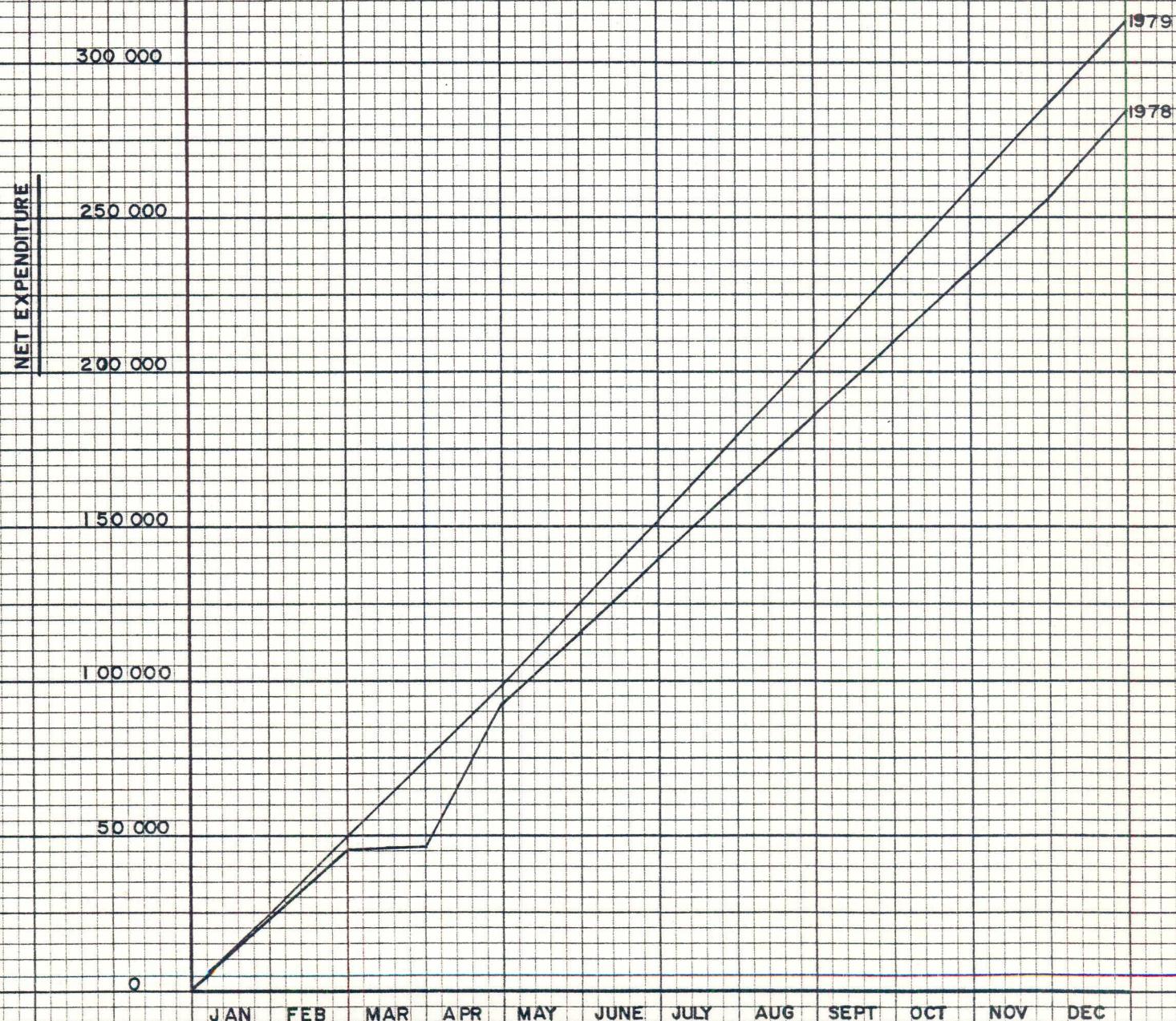
Name of Vehicle	Year Purchased	1978 Repairs	1979 Repairs
Chevrolet 3 Ton #63	1971	\$ 414.73	\$ 411.52
Chevrolet 3 Ton #64	1974	1 103.61	1 092.02
Sicard Snow Blower #86	1949	1 285.70	549.23
Sicard Snow Blower #87	1961	1 147.88	173.79
Sicard Snow Blower #88	1963	552.72	350.11
S.M.I. Snow Blower #89	1974	12 624.34	7 214.54
Chevrolet 5 Ton #101	1975	349.25	536.42
Ford 5 Ton #102	1975	250.76	1 526.12
G.M.C. 5 Ton #103	1975	1 616.96	3 387.20
G.M.C. 5 Ton #104	1975	984.14	807.22
G.M.C. 5 Ton #105	1975	807.17	1 791.44
Ford 3/4 Ton #120	1975	311.37	4.73
Bombardier #123	1979	-	-
Bombardier #124	1977	110.11	313.54
Bombardier #125	1976	730.30	1 095.52
Bombardier #128	1978	-	339.14
Bombardier #132	1974	1 612.00	1 041.68
Bombardier #133	1974	478.88	2 312.34
Bombardier #134	1968	375.15	666.10
Michigan Loader #135	1974	-	2 885.11
Michigan Loader #136	1974	-	7 542.54
Michigan Loader #137	1974	-	2 686.24
Michigan Loader #138	1974	-	3 213.72
Hough Loader #139	1978	-	1 583.87
John Deere Loader #141	1975	-	2 168.45
Ford Loader #142	1977	-	553.78
Case W-18 Loader #143	1974	-	3 560.51
Caterpillar D-5 Dozer #146	1969	-	1 467.70
Ford 5 Ton #203	1975	29.52	368.39
Case Backhoe #207	1972	-	10.00
Trailor 15 H.P. Boiler #256	-	20.20	480.83
	TOTALS	\$ 29 535.99	\$ 92 188.68

(3) STREET LIGHTING:

The Multiple Lighting System for the City of Fredericton as of December 31, 1979 consisted of:

354 - 175 Watt Ref. M.V.	@ \$ 74.40 per light per year
35 - 400 Watt H.P. Sodium	@ \$188.55 per light per year
10 - 125 Watt M.V. Wood	@ \$ 78.60 per light per year
2 - 175 Watt M.V. Conc.	@ \$113.40 per light per year
199 - 175 Watt M.V. Wood	@ \$ 95.40 per light per year
14 - 250 Watt M.V. Conc.	@ \$145.10 per light per year
9 - 250 Watt M.V. Wood	@ \$127.10 per light per year
1 702 - 250 Watt Ref. M.V.	@ \$106.10 per light per year
572 - 400 Watt Ref. M.V.	@ \$145.80 per light per year
1 - 500 Watt Ref. M.V.	@ \$125.45 per light per year
2 - 400 Watt Flood Lights	@ \$ 0.47 per watt per light per year

The total street lighting costs for 1979 were as follows:



STREET LIGHT COSTS - 1978 & 1979

Multiple Lighting System Contract .....	\$ 312 384.30
New Installations .....	1 073.57
New Bulbs .....	<u>80.87</u>
TOTAL .....	<u>\$ 313 538.74</u>

(4) TRAFFIC SERVICES:

The expenditure under this heading is made up as follows:

- (a) Street Signs
- (b) Railway Crossings
- (c) Traffic Signals
- (d) Paint Department
- (e) Off-Street Parking

(a) Street Signs

Purchasing, repairing and installing Street Signs on City Streets.

The net expenditure under this heading amounted to \$17 082.55 made up as follows:

Personnel (Labour, Pensions, Compensation) .....	\$ 3 616.41
General Services (Repairs & Maintenance) .....	206.00
Goods (Materials and Street Sign Purchases) .....	13 260.14
GROSS EXPENDITURE ..	\$ 17 082.55
LESS CREDITS .....	-
NET EXPENDITURE ....	<u>\$ 17 082.55</u>

(b) Railway Crossings

The net expenditure under this heading was \$19 437.32 for maintenance.

(c) Traffic Signals

The net expenditure under this heading was \$68 877.39 made up as follows:

Journal Vouchers (Pensions) .....	\$ 660.26
General Services (Maintenance of Signals) .....	37 673.88
Government Services (Electric Power) .....	<u>35 984.60</u>
GROSS EXPENDITURE .....	\$ 74 318.74
LESS CREDITS .....	<u>5 441.35</u>
NET EXPENDITURE .....	<u>\$ 68 877.39</u>

(d) Paint Department

The net expenditure under this heading was \$57 223.62 made up as follows:

Personnel (Labour, Pensions, Compensation) .....	\$ 25 368.40
General Services (Equipment Repairs, Vehicle Maintenance, Rent, Etc.) .....	7 727.15
Goods (Paint, Gas & Oil, Supplies, Signs) .....	<u>44 923.95</u>
GROSS EXPENDITURE ..	\$ 78 019.50
LESS CREDITS .....	20 795.88
NET EXPENDITURE ....	\$ 57 223.62

(3) Off-street Parking

The net expenditure under this heading amounted to \$110.88 made up as follows:

Personnel (Labour, Pensions, Compensation) .....	\$ 110.88
General Services (Repairs & Maintenance) .....	<u>-</u>
NET EXPENDITURE .....	<u>\$ 110.88</u>

The following is a list of vehicles and machinery used in COMMON SERVICES, together with repair costs for 1978 and 1979, including tires and tubes:

Name of Vehicle	Year Purchased	1978 Repairs	1979 Repairs
Chevrolet #1	1976	\$ 556.71	\$ 814.60
Dodge 1/2 Ton #3	1975	576.97	777.40
Chevrolet 1/2 Ton #4	1974	984.60	2 333.41
Chevrolet 1/2 Ton #6	1976	397.67	417.58
Chevrolet 1/2 Ton #8	1972	1 649.85	483.55
Ford 3/4 Ton #10-73	1973	507.37	1 865.41
Chevrolet 1/2 Ton #14	1979	-	-
Dodge 1/2 Ton #15	1975	678.07	796.71
G.M.C. 3 Ton #16	1973	1 177.80	1 123.89
Dodge 3 Ton #17 (Scrapped)	1969	147.66	44.56
G.M.C. 3 Ton #17	1979	-	623.00
Chevrolet 3 Ton #18	1971	1 328.32	731.51
Ford 3 Ton #19 (Scrapped)	1970	741.88	533.60
G.M.C. 3 Ton #19	1979	-	450.10
Ford 3 Ton #21	1972	2 183.18	1 125.12
Dodge 3 Ton #22	1976	99.13	563.24
Dodge 3 Ton #23	1974	775.21	686.44
G.M.C. 3 Ton #24	1975	1 064.01	590.05
G.M.C. 3 Ton #25	1975	1 008.38	689.48
Ford 3 Ton #26	1975	439.07	279.85
Dodge 3 Ton #27	1976	441.45	85.27
Dodge 3 Ton #28	1976	103.53	18.87
Chevrolet 3 Ton #29	1977	171.15	411.06
Chevrolet 3 Ton #30	1977	2 075.05	405.60
Chevrolet 3 Ton #31	1977	351.20	463.57
International Loadstar #32	1978	97.85	108.79
International Loadstar #33	1978	82.51	329.08
International Loadstar #34	1978	50.29	202.04
Galion 118 Grader #36	1966	1 891.54	708.73
Austin Western Grader #37	1962	4 528.94	3 525.40

Name of Vehicle	Year Purchased	1978 Repairs	1979 Repairs
Galion T-400 Grader #38	1972	\$ 2 586.40	\$ -
Caterpillar 120 Grader #39	1974	1 781.94	334.22
Caterpillar 120 Grader #40	1974	13 076.02	5 437.74
Caterpillar 120 Grader #41	1974	3 268.83	3 447.35
Caterpillar 120 Grader #42	1974	2 937.02	5 603.76
Galion T-500A Grader #43	1976	1 371.71	604.74
Galion T-500A Grader #44	1976	249.40	2 438.18
Galion T-600A Grader #45	1976	5 410.75	13 737.76
Galion T-500A Grader #46	1977	144.67	-
Galion T-500A Grader #47	1977	593.40	257.63
Dodge Vacall #54	1971	6 457.47	876.20
Hy-Hoe Backhoe #55	1964	8 537.73	4 865.43
Unit Trench Hoe #56	1957	527.57	-
Hopto Backhoe #57	1973	50.60	-
Ingersol Rand Compressor #58	1969	188.26	123.24
Hy-Hoe Backhoe #59	1974	6 379.09	9 165.08
Miller Welder #65	1959	34.35	-
Ingersol Rand Compressor #67	1957	3 038.66	546.11
Atlas Copco Compressor #68	1964	24.00	589.36
Atlas Copco Compressor #70	1974	144.48	451.21
Essick Roller #72	1970	977.50	474.60
Essick Roller #73	1971	642.59	259.59
Mikasa Roller #74-76	1976	172.49	306.01
Essick Roller #75	1974	1 057.40	2 272.24
Ford Tractor #82	1974	412.37	1 191.33
Essick Roller #84	1976	27.83	144.29
Chevrolet 5 Ton #101	1975	70.20	56.69
Ford 5 Ton #102	1975	639.23	47.11
G.M.C. 5 Ton #103	1975	3 319.80	708.05
G.M.C. 5 Ton #104	1975	1 626.07	1 478.47
G.M.C. 5 Ton #105	1975	1 441.22	319.23
Ford 1/2 Ton #111	1974	3 005.48	1 366.96
Ford 1/2 Ton #112	1974	1 502.71	1 083.21
Ford 3/4 Ton #120	1974	1 103.44	776.64
International Scout II #121	1975	1 007.63	200.30
International Scout II #122	1075	649.02	353.76
International Scout #129	1972	503.53	275.67
International Scout #130	1973	281.51	385.97
International Scout #131	1974	534.38	1 731.53
Michigan Loader #135	1974	6 039.39	3 663.70
Michigan Loader #136	1974	6 032.22	1 906.90
Michigan Loader #137	1974	6 189.68	690.19
Michigan Loader #138	1974	5 376.89	280.51
Hough Loader #139	1978	167.81	334.95
John Deere Loader #141	1975	2 941.86	188.41
Ford Loader #142	1977	830.49	763.39
Case W-18 Loader #143	1974	3 964.73	1 101.16
Caterpillar Dozer #146	1969	12 497.12	8 468.51
International Dozer #147	1971	2 372.35	742.33
Case 850 Dozer #148	1968	176.07	1 124.23
Case 750 Dozer #149	1965	1 159.31	85.07
Dodge 1/2 Ton #201	1973	734.25	54.74
Chevrolet 3/4 Ton #201	1979	-	-
Chevrolet 3 Ton #202	1974	2 208.23	898.57
Ford 5 Ton #203	1975	981.90	1 669.36

Name of Vehicle	Year Purchased	1978 Repairs	1979 Repairs
Dodge 1/2 Ton #205	1973	\$ 734.25	\$ 731.79
Dodge 3 Ton #205 (Scrapped)	1972	11.32	-
Case Backhoe #207	1972	1 171.74	5 774.82
Case 310 Dozer #208	1968	54.35	-
Essick Roller #214	1974	137.05	-
Ford 1/2 Ton #251 (Scrapped)	1974	425.42	17.60
Chevrolet 1/2 Ton #251	1979	-	-
Case Backhoe #253	1976	5 677.06	9 528.41
Case 450 Dozer #254	1973	1 074.01	10 570.58
Gardner Denver Compressor #255	1968	2 362.56	723.53
Chevrolet 1/2 Ton #404	1979	-	19.32
	TOTALS	\$163 206.20	\$132 435.64

The following items of machinery were purchased in 1979 and charged to TRANSPORTATION SERVICES:

2 - G.M.C. 3 TON TRUCKS - ASSET NO.'s 17-79 & 19-79

Cost .....	\$ 23 142.86
Plus 8% S.S&E. Tax .....	1 851.46
License & Registrations .....	<u>12.00</u>
TOTAL COST ...	<u>\$ 25 006.32</u>

1 - BOMBARDIER SIDEWALK PLOW - ASSET NO. 123-79

Cost .....	\$ 17 111.00
Less Accrued Rental .....	<u>3 500.00</u>
	13 611.00
Plus 8% S.S.&E. Tax .....	1 088.88
BALANCE COST .	<u>\$ 14 699.88</u>

1 - CHEVROLET 3/4 TON - ASSET NO. 201

Cost .....	\$ 9 504.93
Plus 8% S.S.&E. Tax .....	760.39
License & Registration .....	<u>6.00</u>
TOTAL COST ...	<u>\$ 10 271.32</u>

1 - CHEVROLET 1/2 TON - ASSET NO. 251

Cost .....	\$ 5 885.03
Plus 8% S.S.&E. Tax .....	470.80
License & Registration .....	<u>6.00</u>
TOTAL COST ....	<u>\$ 6 361.83</u>

1 - 14' TRUCK BODY FOR ASSET #19-79

Cost .....	<u>\$ 750.00</u>
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CAPITAL ACCOUNT CURB & GUTTER

The net expenditure under this heading amounted to \$665 553.99.

For the above expenditure, concrete curb and gutter was constructed at the following locations.

Location	Lineal Feet
* Edgewood Dr. - Kingsley Ct. to Hawkins St. - Both Sides	1 855
Dykeman St. - Both Sides	2 228
* Ebony Dr. - Hawkins St. to New Services Section - Both Sides	1 770
Wilcox St. - Both Sides	2 314
* Hawkins St. - Ebony Dr. to Brookside Dr. - Both Sides	1 050
Bates St. - Both Sides	2 084
* Cherry Ave. - MacFarlane St. to New Section - Both Sides	4 760
* MacFarlane St. - Killarney Brook Bridge to Fulton Ave. - Both Sides	2 739
* Gorham Dr. - Both Sides	2 230
* Hickory Lane - Both Sides	560
* Fraser Ave. - Both Sides	2 523
* Cedar Ave - Maple St. to Pugh St. - Both Sides	1 640
* Pugh St. - Fulton Ave. to Wallace Ave. - Both Sides	3 690
* Moss Avenue - Both Sides	1 410
* Willow Ave. - Maple St. to Pugh St. - Both Sides	1 640
* Oak Ave. - Both Sides	2 295
* Fir Court - Both Sides	815
* Bloor St. - Both Sides	1 155
* Capital Manor - Both Sides	1 270
* Preston Dr. - Both Sides	3 620
* Legion Dr. - Both Sides	1 105
Hachey Ave. - Both Sides	2 088
Birch Crescent - Both Sides	3 128
Tapley Ct. - Both Sides	753
Elliot St. - Both Sides	1 050
Bunker St. - Perry Ct. to Elliot St. - Both Sides	774
Page St. - Both Sides	882
Emmerson St. from Blair St. and Emmerson Ct. - Both Sides	1 675
Blair St. - Both Sides	1 282
Hatheway St. - Flemming Rd. to Blair St. - Both Sides	722
Boyne Ct. - Existing to End of Court - Both Sides	633
Kimble Rd. - Forest Hill Rd. to End of Built-up Area - Both Sides	1 260
* Floral Ave. - Both Sides	3 480
Prospect St. - Greenfields Dr. to End of Racquet Club Property - North Side	235
	<u>TOTAL .... 60 715</u>

60 715 Lineal Feet = 11.50 Miles (18.51 km)

\* Constructed by Ascon Limited.

All the above Curb and Gutter was constructed by City Forces except those denoted by Asterisks.

All concrete poured by City Forces was purchased ready-mix from Elmtree Concrete Ltd. at a price of \$57.50 per cubic metre. Ascon Limited were responsible for obtaining their own concrete.

The unit cost of one lineal foot of curb and gutter placed by City Forces, found by dividing the total length laid, which equalled 21 108 lineal feet into the total cost of \$199 947.40 was \$9.47.

The unit cost of one lineal foot of curb and gutter placed by Ascon Ltd., found by dividing the total length laid, which equalled 39 607 lineal feet into the total cost of \$456 525.13 was \$11.53.

The topsoiling of boulevards is included in the above costs as well as design and supervision costs.

#### Topsoiling Costs:

Ascon Ltd. were responsible for topsoiling all boulevards on streets which they constructed curb and gutter. All other boulevards were topsoiled by City Forces.

#### Ascon Ltd.:

Costs not determined. Substantial amount to be completed in 1980.

#### City Forces:

Labour .....	\$ 24 046.28
City Machinery .....	8 601.00
Materials .....	<u>21 132.50</u>
	TOTAL .....
	\$ 53 779.78
Total Cost of Curbing, including	
Topsoiling .....	\$ 199 947.40
LESS: Cost of Topsoiling .....	<u>53 779.78</u>
	TOTAL COST OF CURBING ..
	<u>\$ 146 167.62</u>

Therefore, cost per lineal foot of curbing = \$ 6.93  
and cost per lineal foot of topsoiling = \$ 2.54

CAPITAL ACCOUNT PAVING

In 1979, Gorman Construction Ltd. was awarded a contract to supply and place asphalt on a number of City Streets. A portion of this contract was later subcontracted to Forbes & Sloat Ltd. Flintkote Company of Canada Limited also armour coated a number of City Streets under the Capital Paving Program.

The material cost amounted to \$496 664.45 made up as follows:

Gorman Construction Limited

3/8" (10 mm) Asphalt .....	\$ 71	842.78
1/2" (13 mm) Asphalt .....	19	791.27
3/4" (20 mm) Asphalt .....	251	077.31
Sand Seal .....	1	134.81
N.B. Primer and Tack Coat .....	11	322.52

Forbes and Sloat Ltd.

0 - 1" (25 mm) Crushed Rock .....	594.50
3/4" (20 mm) Asphalt .....	48 775.30
1/2" (13 mm) Asphalt .....	46 750.39

Flintkote Company of Canada Ltd.

3/4" (20 mm) Chips .....	5 517.44
1/2" (13 mm) Chips .....	3 129.92
3/8" (10 mm) Chips .....	2 407.80
Asphalt Emulsion .....	12 626.60

A.D.I. Limited - Asphalt Testing ..... 14 597.08

Miscellaneous (Journal Vouchers, Equipment Rental, Etc.) ..... 7 096.73

TOTAL ..... \$ 496 664.45

The street preparatory work, other than the laying in place of the pre-mixed material, was done by regular City Forces.

The total net expenditure under this heading amounted to \$586 771.68 made up as follows:

City Payrolls .....	\$ 52	543.05
City Machinery & Rentals .....	35	554.00
Journal Vouchers (Pensions) .....	2	365.01
Gorman Construction Ltd. .....	355	168.69
Forbes & Sloat Ltd. .....	96	120.19
Flintkote Company of Canada Ltd. .....	23	681.76
A.D.I. Limited .....	14	597.08
Bond Discount .....	2	655.00
Miscellaneous .....	7	096.73

GROSS EXPENDITURE .. \$ 586 781.51

LESS CREDITS ..... 3 009.83

NET EXPENDITURE .... \$ 586 771.68

The above credit was from the Province of New Brunswick for paving a stretch of Campbell St. between Carleton St. and York St. and for a Journal Voucher correction.

The paving program required the supply and placement of the following grades of materials:

- (1) New Pavement - 3/4" (20 mm) Dense Mix Asphalt
- (2) Recap - 1/2" (13 mm) Minus Asphalt
- (3) Surface Seal - 3/8" (10 mm) Minus Asphalt
- (4) Armour Coat - 3/4" (20 mm) - 1/2" (13 mm) - 3/8" (10 mm) Chips

(1) New Pavement

The following streets were paved with 3/4" (20 mm) Dense Mix Asphalt in 1979.

Location	Lineal Feet
Edgewood Dr. - Kingsley Ct. to Hawkins St.	966
Dykeman St.	1 172
Ebony Dr. - Hawkins St. to New Section	871
Wilcox St.	1 162
Hawkins St. - Ebony Dr. to Brookside Dr.	565
Bates St.	1 014
Cherry Ave. - MacFarlane St. to New Section	3 142
MacFarlane St.	1 858
Gorham Dr.	1 135
Hickory Lane	275
Fraser Ave.	1 394
Cedar Ave. - Maple St. to Pugh St.	882
Pugh St. - Fulton Ave. to Wallace Ave.	1 848
Moss Ave.	702
Willow Ave. - Maple St. to Pugh St.	866
Oak Ave.	1 151
Fir Court	338
Bloor St.	575
Capital Manor	628
Preston Dr.	2 001
Legion Dr.	517
Hachey Ave.	1 051
Birch Crescent	1 573
Tapley Ct.	264
Elliot St.	882
Bunker St. - Perry Ct. to Elliot St.	338
Page St.	517
Emmerson St. - Blair St. to Emmerson Ct.	560
Emmerson Ct.	290
Blair St.	612
Hatheway St. - Flemming Rd. to Blair St.	290
Boyne Ct. - Existing to End of Court	222
Kimble Rd. - Forest Hill Rd. to End of Built-up Area	602
Floral Ave.	1 742
TOTAL .....	<u>32 005</u>

32 005 Lineal Feet = 6.06 Miles (9.76 km)

(2) Recap - 1/2" (13 mm) Minus

The following streets were recapped with 1/2" (13 mm) Minus Asphalt in 1979.

Location	Lineal Feet
Whiting Road	2 218
Hilton Road	1 822
MacKenzie Road	681
Hubbard Road	1 067
TOTAL .....	<u>5 788</u>

5 788 Lineal Feet = 1.10 Miles (1.76 km)

(3) Surface Seal - 3/8" (10 mm) Minus

The following streets were surface sealed in 1979 under "Capital Account" with 3/8" (10 mm) Minus Asphalt:

Location	Lineal Feet
Beaconsfield St.	1 748
Priestman St. - Hospital Entrance to College Hill Rd.	2 000
Parkside Dr. - Meadow Green Ct. to Greenfields Dr.	900
Greenfields Dr. & Ct.	900
Clayton St.	797
Manzer St.	898
Daulphin St.	597
Hollybrook St.	700
Tower Rd.	300
Cowperthwaite St.	300
Lapointe St.	612
Miller St.	200
Grant St.	396
Leslie St.	301
MacPherson St.	200
Perley Ave.	725
Fulton Ave. - Maple St. to New Section	1 700
Flemming Rd. - Tilley Dr. to Hubbard Rd.	1 580
* Queen St. - St. John St. to Carleton St.	1 290
* King St. - St. John St. to Regent St.	650
* St. John St. - King St. to Brunswick St.	470
* Carleton St. - Queen St. to Campbell St.	420
** Campbell St.	339
TOTAL .....	<u>18 023</u>

18 023 Lineal Feet = 3.41 Miles (5.49 km)

\* Expenditures included under Capital Permanent Streets Reconstruction

\*\* Paid for by the Province of New Brunswick

(4) Armour Coat - 3/4" (20 mm) - 1/2" (13 mm) - 3/8"  
(10 mm) Chips

The following Roads and Streets were Armour Coated in 1979:

<u>Location</u>	<u>Lineal Feet</u>
Timber Lane	360
Alderwood Drive	1 632
Hazelwood Drive	348
<u>Nethervue Street</u>	<u>628</u>
Young St. (Gravel Portion)	301
Goodine Street	720
Adams Street	850
TOTAL .....	4 839

4 839 Lineal Feet - 0.92 Miles (1.47 km)

#### CAPITAL ACCOUNT SANITARY SEWER

GROSS EXPENDITURE .....	\$ 219 052.06
LESS CREDITS .....	<u>224 051.95</u>
NET CREDIT .....	<u>\$ 4 999.89</u>

The above credit was made up as follows:

Journal Vouchers (Materials paid for by Capital Account Sanitary Sewer & charged to other City Depts.) ....	\$ 32 722.62
Work done and materials sold to Private Parties .....	3 226.61
Multi-Investments Ltd. - Angel ).....	
View Court ).....	14 919.49
N.B. Housing Corp. - Southwood Park ).....	6 800.00
Nashwaaksis Realty Ltd. - Sabine ).....	
Heights Subdivision ).....	15 700.00
Chippin's Ltd. - Longwood Drive Area ) LOCAL.....	30 380.17
Van Wart Realty Ltd. - Mitchell St. ) IMPROVEMENT.....	18 026.62
Country Roads Realty - Bliss Carman ) CHARGES.....	
Subdivision ) .....	31 396.15
N.B. Housing Corp. - Forest Hill ) .....	
Subdivision ) .....	37 654.99
Talmadge Dow - Dow Subdivision ) .....	4 912.63
Hill Brothers Realty - Fundy ) .....	
Heights Subdivision ) .....	25 812.67
Allison Whitehead - Lot 10 A ) .....	
MacFarlane St. ) .....	2 500.00
TOTAL .....	<u>\$ 224 051.95</u>

Sanitary Sewer Mains were constructed at the following locations  
in 1979:

<u>Location</u>	<u>Lineal Feet</u>
	<u>8" A.C. (200 mm)</u>
Sabine Heights Subdivision	1 280
Longwood Drive Area	1 670
Angel View Court	764
Mitchell Street	1 053
Bliss Carman Subdivision	1 940
Forest Hill Subdivision	2 333
Dow Subdivision	230
MacFarlane Street	126
* Hanwell Road	2 866
Fundy Heights Subdivision	2 155
* Monteith Subdivision	1 756
TOTAL .....	<u>16 173</u>

\* See Capital Service Development Projects for Costs.

Total Length of Main Installed in 1979 = 3.06 Miles (4.93 km)

The following shows the actual cost of installing the above listed Sanitary Sewer Mains (excluding projects inspected by Consultants on the City's behalf).

Location	Payment to Contractors Including Reserve for Holdback			Total
		City Labour & Machinery	Materials	
Sabine Heights Subdivision (1979)	\$ 12 951.52	\$ 822.40	\$ 6 143.13	\$ 19 917.05
Longwood Drive Area (1979)	27 459.25	1 659.30	9 427.62	38 546.17
Angel View Court (1979)	9 369.00	1 068.95	4 251.48	14 689.43
Mitchell Street	10 925.00	853.17	6 248.45	18 026.62
Bliss Carman Subdivision (1979)	17 373.60	2 668.05	11 312.75	31 354.40
Forest Hill Sub- division (1979)	24 239.79	1 257.42	11 953.52	37 450.73
Dow Subdivision	2 497.50	602.17	1 812.96	4 912.63
MacFarlane Street	1 496.59	229.79	773.62	2 500.00
Fundy Heights Subdivision	14 485.00	1 171.71	10 155.96	25 812.67
TOTALS	\$120 797.25	\$ 10 332.96	\$62 079.49	\$193 209.70

#### CAPITAL ACCOUNT SURFACE SEWER

GROSS EXPENDITURE .....	\$ 361 270.75
LESS CREDITS .....	<u>368 183.50</u>
NET CREDIT .....	<u>\$ 6 912.75</u>

The above total credit was made up as follows:

Journal Vouchers (Materials paid for by Capital Account Surface Sewer & Charged to other City Depts.) .....	\$ 95 473.15
Work Done & Materials sold to Private Parties .....	2 872.41
Government of Canada - Rebate on Excise Tax on Backing Brick .....	206.80
Multi-Investments Ltd. - )	
Angel View Court )	22 159.28
Nashwaaksis Realty Ltd. - )	
Sabine Heights Subd.)	20 466.50
Chippin's Ltd. - Longwood) LOCAL	
Drive Area ) IMPROVEMENT	36 362.45
Van Wart Realty Ltd. - ) CHARGES	
Mitchell Street )	26 657.72
Country Roads Realty - )	
Bliss Carman Subd.)	49 940.49
N.B. Housing Corp. - )	
Forest Hill Subd.)	61 220.80
Talmadge Dow - Dow )	
Subdivision )	9 462.72
Hill Brothers Realty - )	
Fundy Heights Subd.)	43 361.18
TOTAL .....	\$ 368 183.50

Under this heading Surface Sewer Mains and Laterals were constructed at the following locations:

Location	LINEAL FEET - CONCRETE PIPE						
	10" (250 mm)	12" (300 mm)	15" (375 mm)	18" (450 mm)	24" (600 mm)	30" (750 mm)	36" (900 mm)
Sabine Heights Subd.	28	686	308	230	-	-	-
Longwood Drive Area	108	975	686	-	-	-	-
Angel View Court	84	364	325	104	-	-	-
Mitchell Street	147	677	382	-	-	-	-
Bliss Carman Subd.	166	450	-	607	806	-	-
Forest Hill Subd.	196	1 272	737	140	-	-	-
Dow Subdivision	47	93	173	45	-	-	-
*Ross Terrace	206	1 678	547	-	-	-	-
**Greenwood Dr.	220	-	249	938	567	-	-
** Hanwell Road	240	615	1 490	234	-	-	-
*Hargrove Court	151	689	453	151	-	-	-
Fundy Heights Subd.	198	1 584	464	-	-	-	-
*East & West							
Nashwaaksis 128-31	1 085	3 351	-	866	307	340	559
*Parkview Gardens							
128-35	552	2 667	257	165	179	-	-
*Monteith Subd.	146	1 125	30	-	302	-	-
Back Drain Diversion	-	-	-	-	-	40	-
*Woodstock Rd. - Wallace Equipment	-	-	-	-	316	8	-
TOTALS	3 574	16 226	6 101	3 480	2 477	388	559

- \* Expenditures included under Capital Service Development Projects
  - \*\* Expenditures included under Capital Service Development Projects - Designated Routes

Total Length of Main Installed in 1979 = 6.21 Miles (10.00 km)

The following shows the actual cost of installing the above listed Surface Sewer Mains (excluding projects inspected by Consultants on the City's behalf.)

		Payments to Contractors Including			
Location	Reserve for Holdback	City Labour & Machinery		Materials	Total
Sabine Heights Subd.	\$ 12 476.41	\$ 908.20		\$ 10 919.22	\$ 24 303.83
Longwood Drive Area	28 583.45	1 568.27		15 604.73	45 756.45
Angel View Court	15 662.25	930.43		7 211.32	23 804.00
Mitchell Street	16 854.00	836.18		8 967.54	26 657.72
Bliss Carman Subd.	28 378.38	1 243.05		20 277.31	49 898.74
Forest Hill Subd.	38 825.07	2 044.44		20 163.11	61 032.62
Dow Subdivision	5 300.00	296.23		3 866.49	9 462.72
Ross Terrace	35 895.33	7 616.68		25 929.76	69 441.77
Greenwood Drive	38 014.35	8 850.44		22 371.49	69 236.28
Hanwell Road	50 990.00	7 025.28		26 030.14	84 045.42
Hargrove Court	23 215.44	7 317.50		15 147.47	45 680.41
Fundy Heights Subd.	24 035.60	1 644.20		17 681.38	43 361.18
TOTALS	\$318 230.28	\$ 40 280.90		\$194 169.96	\$552 681.14

## CAPITAL ACCOUNT WATER

GROSS EXPENDITURE .....	\$ 378 379.49
LESS CREDITS .....	<u>352 412.81</u>
NET EXPENDITURE .....	\$ 25 965.68

The above credit was made up as follows:

Journal Vouchers (Materials Paid for by Capital Account	
Water & Charged to other City Departments).....	\$ 94 077.36
Work Done and Materials sold to Private Parties .....	6 463.47
Multi-Investments Ltd. - Angel ).....	
View Court                         ) LOCAL.....	22 065.02
Nashwaaksis Realty Ltd. -         ) IMPROVEMENT.....	
Sabine Heights Subdivision) CHARGES.....	19 166.97
Chippin's Ltd. - Longwood Drive) .....	
Area                                 ) .....	29 083.79
Van Wart Realty Ltd. - Mitchell) .....	
Street                                 ) .....	30 320.09

Country Roads Realty - Bliss	) .....	\$	
Carman Subdivision	) .....		39 034.98
N.B. Housing Corp. - Forest	) LOCAL.....		
Hill Subdivision	) IMPROVEMENT.....		57 771.58
Talmadge Dow - Dow Subdivision	) CHARGES.....		8 952.17
Hill Brothers Realty - Fundy	) .....		
Heights Subdivision	) .....		45 477.38
		TOTAL .....	\$ 352 412.81

Watermain Installations were made at the following locations in 1979:

Location	LINEAL FEET - DUCTILE IRON			
	6" (150 mm)	8" (200 mm)	10" (250 mm)	12" (300 mm)
Sabine Heights Subdivision	36	1 039	-	189
Longwood Drive Area ✓	790	681	-	-
Angel View Court ✓	36	719	-	-
Mitchell Street ✓	18	1 258	-	-
Bliss Carman Subdivision ✓	512	1 204	-	-
Forest Hill Subdivision ✓	1 159	1 227	-	-
Dow Subdivision ✓	330	-	-	-
*Hanwell Road - Prospect St.✓	170	2 866	2 918	-
Fundy Heights Subdivision	90	2 158	-	-
*East & West Nashwaaksis 128-31 ✓	-	464	-	-
*Connection - Royal Rd. to Willis Street	-	-	368	-
*Monteith Subdivision	56	672	680	-
*Rosewood Booster Stn. - Extend Piping	-	85	131	-
TOTALS	3 197	12 373	4 097	189

\* Expenditures included under Capital Service Development Projects

Total Length of Main Installed in 1979 = 3.76 Miles (6.05 km)

The following shows the actual cost of installing the above listed watermains (excluding projects inspected by Consultants on the City's behalf).

Location	Payment to Contractors Including Reserve for Holdbacks				Total
	City Labour & Machinery	Materials			
Sabine Heights Subd.	\$ 11 866.40	\$ Cr. 44.35	\$ 17 731.36	\$ 29 553.41	
Longwood Drive Area	21 278.90	1 290.46	19 554.43	42 123.79	
Angel View Court	8 880.75	1 700.77	11 265.62	21 847.14	
Mitchell Street	11 984.00	1 605.55	16 730.54	30 320.09	
Bliss Carman Subd.	15 676.76	1 255.83	22 052.29	38 984.88	
Forest Hill Subd.	26 915.18	1 138.55	29 467.44	57 521.17	

Location	Payment to Contractors Including Reserve for Holdbacks	City Labour & Machinery	Materials	Total
Dow Subdivision	\$ 4 211.75	\$ 494.45	\$ 4 245.97	\$ 8 952.1
Fundy Heights Subd.	13 118.20	1 264.91	31 094.27	45 477.3
TOTALS	<b>\$113 931.94</b>	<b>\$ 8 706.17</b>	<b>\$152 141.92</b>	<b>\$274 780.0</b>

Cost of Well Water Supply To Date (South Side)

Total Cost to December 31, 1978 .....	\$ 1 261 121.70
<u>Plus:</u> Expenditures for 1979 .....	-
TOTAL COST TO DECEMBER 31, 1979 .....	<u>\$ 1 261 121.70</u>

Cost of Well Water Supply To Date (North Side)

Total Cost to December 31, 1978 .....	\$ 1 063 083.63
<u>Plus:</u> Expenditures for 1979 .....	30 319.38
TOTAL COST TO DECEMBER 31, 1979 .....	<u>\$ 1 093 403.01</u>

The above expenditure was for a Water Exploration Program and pumping equipment for Maple Street Well.

Cost of Developing Water Supply for Silverwood To Date

Total Cost to December 31, 1978 .....	\$ 188 626.12
<u>Plus:</u> Expenditures for 1979 .....	-
TOTAL COST TO DECEMBER 31, 1979 .....	<u>\$ 188 626.12</u>

CAPITAL SERVICE DEVELOPMENT PROJECTS

In 1974, projects were begun to upgrade and extend services in the amalgamated areas. These projects are known as Capital Service Development Projects - C.S.D.P. In 1979 the Provincial Government allotted the City of Fredericton a stimulation grant of \$600 000. to be applied to water and sanitary sewer services. Stimulation grants for 1974, 1975, 1976, 1977 and 1978 were \$1 500 000., \$1 250 000., \$1 000 000., \$1 000 000., and \$1 000 000. respectively.

Following is a summary of C.S.D.P. costs from 1974 to 1979 for the various services:

GROSS EXPENDITURES

Year	Water	Sanitary Sewer	Storm Sewer	Totals
1974	\$ 563 987.05	\$ 169 761.70	\$ 494 027.15	\$ 1 227 775.90
1975	1 570 278.37	1 051 072.99	792 489.97	3 413 841.33
1976	827 814.68	468 296.19	588 338.30	1 884 449.17
1977	786 027.11	1 165 312.06	903 921.97	2 855 261.14
1978	300 561.65	362 441.90	1 214 097.67	1 877 101.22
1979	477 024.22	207 501.83	875 206.28	1 559 732.33
TOTALS	\$4 525 693.08	\$3 424 386.67	\$4 868 081.34	\$12 818 161.09

Year	Service Depot & Equipment	Equipment Acquisition	Solid Waste Disposal	Totals
1974	\$ 13 873.23	\$ 479 053.44	\$ 3 153.34	\$ 496 080.91
1975	366 636.81	165 149.47	8 725.42	540 511.70
1976	556 806.34	189 961.50	15 121.10	761 888.94
1977	19 458.69	146 862.61	17 605.61	183 926.91
1978	61 042.81	56 368.95	30 220.05	147 631.81
1979	13 839.00	26 946.18	30 631.67	71 416.85
TOTALS	\$1 031 656.88	\$1 064 342.15	\$105 457.19	\$2 201 456.22

Overall Gross Expenditure of C.S.D.P. Projects

To Date .....\$15 019 617.31

Projects whether commenced or completed in 1979, will be dealt with individually below.

NOTE: Expenditures will be dealt with only. For any project which involved pipelaying, the length and size of pipe laid will be found in tables either under "Capital Water", "Capital Sanitary Sewer", or "Capital Surface Sewer".

(1) C.S.D.P. - Water - Marysville

This project involved the upgrading of the water system in the Morrison St., Allen St., Bridge St., and Downing St. Area of Marysville. Work involved the addition of gate valves and hydrants to system and the relaying of individual house services. Some preliminary work for this project was done in 1978.

1978 Expenditure.....	\$ 338.45
1979 Expenditure .....	93 516.27
Less Credits: Gov't. Stimulation Grants	\$ 93 854.72
NET COST TO CITY TO DATE .....	\$ 89 555.17
	\$ 4 299.55

(2) C.S.D.P. - Water - Maple Street Well

This project involved the installation of new pumping equipment in the Maple St. Well. Expenditures incurred were for the equipment, cartage and payrolls.

1979 Expenditure .....	\$ 6 035.60
Less Credits: Gov't Stimulation Grant	<u>6 035.60</u>
NET COST TO CITY TO DATE ... \$	<u>- 0 -</u>

(3) C.S.D.P. - Water - Nashwaaksis Exploration

In 1978, MacLaren Atlantic Ltd. set up a water exploration program for the West Nashwaaksis area. This program was continued in 1979.

1978 Expenditure .....	\$ 24 145.05
1979 Expenditure .....	<u>24 283.78</u>
Less Credits: Gov't Stimulation Grants.....	<u>46 513.86</u>
NET COST TO CITY TO DATE .....	\$ 1 914.97

(4) C.S.D.P. - Water - Woodstock Rd. - Garden Creek Area - 75613, 75614, 75615

In 1977 work was begun to install watermains and services on a section of Golf Club Rd., Riverside Ct., Woodstock Rd., and a section along the T.C.H. to Monteith Dr. This work was finalized in 1978. The expenditures in 1979 were for holdback payments on the individual contracts.

Previous Gross Expenditures .....	\$ 714 620.03
1979 Gross Expenditure .....	<u>6 102.26</u>
Less Credits: Previous Gov't	
Stimulation Grants	698 998.62
1979 Gov't Stimulation	
Grants .....	7 248.26
Can. Brit. Ltd. -	
Overpayment .....	<u>127.96</u>
NET COST TO CITY TO DATE .....	\$ 14 347.45

(5) C.S.D.P. - Sanitary Sewer - Woodstock Rd. - Garden Creek Area - 75613, 75614, 75615

In 1977 work was begun to install sanitary sewer mains and services on a section of Golf Club Rd., Riverside Ct., Woodstock Rd., and a section along the T.C.H. to Monteith Dr. This work was finalized in 1978. The expenditures in 1979 were for holdback payments on the individual contracts, for professional services and for minor electrical changes in a portion of contract number 75614.

Previous Gross Expenditures .....	\$ 1 338 216.25
1979 Gross Expenditure .....	<u>12 240.44</u>
Less Credits: Previous Gov't.	
Stimulation Grants	821 901.95
1979 Gov't. Stimulation	
Grants .....	11 675.08

Can. Brit. Ltd. -	\$	
Overpayment .....		179.75
E.J. Ludford Ltd. -		
Overpayment .....	<u>92.01</u>	\$ 833 848.79
* NET COST TO CITY TO DATE .....		<u>516 607.90</u>

\* This Net Balance will be paid for by C.M.H.C. Forgiveness of Loan and by Annual Interest Payments by the Province of New Brunswick.

(6) C.S.D.P. - Sanitary Sewer - Woodstock Rd. - Talmadge Ct. Area

The expenditure for this project was for work done on Woodstock Rd. to facilitate the servicing of houses in the Talmadge Ct. Area.

1979 Expenditure .....	\$ 4 389.56
Less Credits: Gov't. Stimulation Grant	<u>4 389.56</u>
NET COST TO CITY .....	\$ - 0 -

(7) C.S.D.P. - Water - Woodstock Rd. - Talmadge Ct. Area

The expenditure for this project was for work done on Woodstock Rd. to facilitate the servicing of houses in the Talmadge Ct. Area.

1979 Expenditure .....	\$ 4 000.16
Less Credits: Gov't. Stimulation Grant	<u>4 000.16</u>
NET COST TO CITY .....	\$ - 0 -

(8) C.S.D.P. - Sanitary Sewer - Phyllis Creek Pumping Station - 77854

The expenditure for this account in 1979 was for professional services.

Previous Gross Expenditures .....	\$ 5 566.00	
1979 Gross Expenditure .....	<u>2 349.49</u>	\$ 7 915.49
Less Credits: Previous Gov't Stimulation Grants ..	4 414.18	
1979 Gov't. Stimulation Grant .....	<u>1 906.97</u>	<u>6 321.15</u>
NET COST TO CITY TO DATE .....	\$ 1 594.34	

(9) C.S.D.P. - Storm Sewer - Woodstock Rd. - Wallace Equipment Area

The expenditure for this project was for the replacement of an old wooden storm sewer outfall with concrete pipe to maintain proper drainage of the area near Wallace Equipment.

1979 Net Expenditure .....	<u>\$ 10 151.78</u>
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(10) C.S.D.P. - Sanitary Sewer - Woodstock Rd. Treatment Plant

The expenditure incurred for this project was for professional services with respect to design of the treatment facility.

1979 Expenditure .....	\$ 22 198.28
Less Credits: Gov't. Stimulation Grant	<u>13 131.94</u>
NET COST TO CITY TO DATE ..	\$ <u>9 066.34</u>

(11) C.S.D.P. - Water - East Nashwaaksis Area - 128-24

This project involved the construction of manholes around gate valves, formerly protected by standpipe, on various streets in the East Nashwaaksis Area. The expenditure in 1979 was for payment of holdback.

Previous Expenditures .....	\$ 7 951.18
1979 Expenditure .....	<u>65.80</u>
Less Credits: Previous Gov't.	
Stimulation Grants....	7 951.18
1979 Gov't. Stimulation	
Grant .....	<u>65.80</u>
NET COST TO CITY .....	\$ <u>- 0 -</u>

(12) C.S.D.P. - Storm Sewer - East Nashwaaksis Area - 128-24

This project involved the installation of storm sewer mains and connection of storm sewer house laterals on Cedar Ave., Willow Ave., Pugh St., Oak Ave., Fir Ct., Moss Ave., Capital Manor, Bloor St., and Preston Dr. The expenditure in 1979 was for payment of professional service fees, progress payments, and holdback payments.

Previous Expenditures.....	\$ 460 601.04
1979 Expenditure .....	<u>9 546.96</u>
Less Credits: Previous Gov't.	
Stimulation Grant .....	<u>113 475.48</u>
NET COST TO CITY .....	\$ <u>356 672.52</u>

(13) C.S.D.P. - Water - Nashwaaksis - 128-25

This project involved the installation of watermain, hydrant installation, and valve chamber construction on MacFarlane St., Cherry Ave., Gorham Dr., and Fraser Ave. The expenditure in 1979 was for payment of holdback.

Previous Expenditures .....	\$ 70 753.68
1979 Expenditure .....	<u>677.54</u>
Less Credits: Previous Gov't.	
Stimulation Grant ...	69 808.83

1979 Gov't. Stimulation			
Grant .....	\$ 677.54		
Returned Materials ....	<u>267.31</u>	\$ 70	753.68
NET COST TO CITY .....	\$ <u>677.54</u>		

(14) C.S.D.P. - Storm Sewer - Nashwaaksis - 128-25

This project involved the installation of storm sewer mains and connection of storm sewer house laterals on MacFarlane St., Cherry Ave., Gorham Dr., and Fraser Ave. The expenditure in 1979 was for professional services and payment of holdback.

Previous Expenditures .....	\$ 405 823.38		
1979 Expenditures .....	<u>4 306.25</u>		
NET COST TO CITY .....	\$ <u>410 129.63</u>		

(15) C.S.D.P. - Water - Nashwaaksis - 128-26

This project involved the construction of manholes around gate valves, formerly protected by standpipe, on Floral Ave., Edgewood Dr., and Ebony Dr. The expenditure in 1979 was for payment of holdback.

Previous Expenditures .....	\$ 5 234.65		
1979 Expenditures .....	<u>52.88</u>	\$ 5	287.53
Less Credits: Previous Gov't.			
Stimulation Grants ....	5 234.65		
1979 Gov't. Stimulation			
Grant .....	<u>52.88</u>	5	287.53
NET COST TO CITY .....	\$ <u>- 0 -</u>		

(16) C.S.D.P. - Storm Sewer - Nashwaaksis - 128-26

This project involved the installation of storm sewer mains and connection of storm sewer house laterals on Floral Ave., Edgewood., and Ebony Dr. The expenditure in 1979 was for professional services and payment of holdback.

Previous Expenditures .....	\$ 172 104.79		
1979 Expenditures .....	<u>2 470.84</u>		
NET COST TO CITY .....	\$ <u>174 575.63</u>		

(17) C.S.D.P. - Storm Sewer - Nashwaaksis - 128-29

The expenditure for this project was for professional services regarding preliminary survey work for 1979 construction.

Previous Expenditure .....	\$ 3 653.43
1979 Expenditures .....	<u>15 798.81</u>
NET COST TO CITY .....	\$ 19 452.24

(18) C.S.D.P. - Water - East and West Nashwaaksis - 128-31

This project involved the installation of watermain on MacFarlane St. and the construction of manholes around gate valves formerly protected by standpipe on MacFarlane St., Clarence Ave., Burpee St., Carol Ave., and Broadview Ave. The expenditure in 1979 was for material costs and progress payments.

1979 Gross Expenditure .....	\$ 26 388.96
Less Credits: Materials Returned.....	\$ 692.04
Gov't Stimulation Grant	<u>22 206.60</u>
NET COST TO CITY .....	\$ 3 490.32

(19) C.S.D.P. - Storm Sewer - East and West Nashwaaksis - 128-31

This project involved the installation of storm sewer mains and connection of storm sewer house laterals on MacFarlane St., Clarence Ave., Burpee St., Carol Ave., Adney St., Brawn Ct., Broadview Ave., and Everett Ct. The expenditure in 1979 was for progress payments and professional services.

1979 Net Expenditure .....	\$ 269 454.43
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(20) C.S.D.P. - Storm Sewer - Nashwaaksis - 128-32

The expenditure in 1979 for this project was for payrolls and design fees.

* 1979 Net Expenditure .....	\$ 14 881.62
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\* Project not undertaken - Credit later received in 1980 for \$13 500.

(21) C.S.D.P. - Water - Nashwaaksis - 128-35

This project involved the connection of watermains between Royal Road and Willis St. and the construction of manholes around gate valves formerly protected by standpipe on William St., Dahlia Dr., and Primrose Ave. The expenditure in 1979 was for progress payments, easement costs and costs for materials.

1979 Gross Expenditure .....	\$ 34 305.38
Less Credits: Gov't Stimulation Grant	<u>28 555.33</u>
NET COST TO CITY .....	\$ 5 750.05

(22) C.S.D.P. - Storm Sewer - Nashwaaksis - 128-35

This project involved the installation of storm sewer mains and connection of storm sewer house laterals on William St., Lombardi Lane, Dahlia Dr., and Primrose Ave. The expenditure in 1979 was for professional services and progress payments.

1979 Net Expenditure ..... \$ 177 255.18

(23) C.S.D.P. - Storm Sewer - Nashwaaksis - 128-36

The expenditure for this project was for preliminary survey regarding 1980 construction.

1979 Net Expenditure ..... \$ 8 997.72

(24) C.S.D.P. - Sanitary Sewer - MacFarlane St.

The expenditure for this project was for the relay of services before MacFarlane St. was curbed and paved.

1979 Net Expenditure ..... \$ 3 695.02

(25) C.S.D.P. - Storm Sewer - Wallace Ave.

The expenditure for this project was for work on the storm sewer system at the tracks on Wallace Ave.

1979 Net Expenditure ..... \$ 510.55

(26) C.S.D.P. - Water - Hanwell Road

This project involved the extension of watermains from the former City line to the Prospect St. Intersection with the source of supply carried from the existing dead end main on Prospect St. People in this area were having problems with their well supply. The expenditure in 1979 was for material costs, labour costs, machinery costs, and progress payments to contractors.

1979 Gross Expenditure.....	\$ 201 660.74
Less Credits: Gov't Stimulation Grant	\$ 177 176.34
Materials Returned ....	<u>1 057.71</u>
	178 234.05

NET COST TO CITY TO DATE ..... \$ 23 426.69

(27) C.S.D.P. - Sanitary Sewer - Hanwell Road

This project involved the extension of gravity sanitary sewer mains from the existing at the former City Line to the Hanwell Road by-pass. The expenditure in 1979 was for material costs, labour costs, machinery costs, and progress payments to contractors.

1979 Gross Expenditure .....	\$ 66	397.26
Less Credits: Gov't. Stimulation Grant \$ 54 602.67		
Materials Returned ..... 463.34		<u>55 066.01</u>
NET COST TO CITY TO DATE .....	\$ 11	<u>331.25</u>

(28) C.S.D.P. - Storm Sewer - Hanwell Road

This project involved the installation of storm sewer mains from the existing at the former City Line to the Prospect St. Intersection. The expenditure in 1979 was for material costs, labour costs, machinery costs, and progress payments to contractors.

1979 Gross Expenditure .....	\$ 84	802.79
Less Credits: Province of N.B. -		
Upgrading Designated		
Highways ..... \$ 83 935.42		
Materials Returned ..... 757.37		<u>84 692.79</u>
NET COST TO CITY TO DATE .....	\$	<u>110.00</u>

(29) C.S.D.P. - Water - Monteith Subdivision

In 1979 construction commenced on upgrading the watermains of the Monteith Subdivision to City of Fredericton standards. The design and preliminary surveys for this project were begun in 1978. In 1979 the expenditures were for payrolls, professional services, and progress payments.

Previous Expenditure .....	\$ 4	109.11	
1979 Expenditures .....	<u>59</u>	<u>771.12</u>	\$ 63 880.23
Less Credits: Previous Gov't.			
Stimulation Grant .... 4 109.11			
1979 Gov't. Stimulation			
Grant ..... 47 120.43			<u>51 229.54</u>
NET COST TO CITY TO DATE .....	\$	<u>12 650.69</u>	

(30) C.S.D.P. - Sanitary Sewer - Monteith Subdivision

In 1979 construction commenced on upgrading the sanitary sewer mains of the Monteith Subdivision to City of Fredericton standards. The design and preliminary surveys for this project were begun in 1978. In 1979 the expenditures were for payrolls, professional services, and progress payments.

Previous Expenditures .....	\$ 3	484.41	
1979 Expenditures .....	<u>47</u>	<u>588.05</u>	\$ 51 072.46
Less Credits: 1979 Gov't. Stimulation			
Grant - (Includes 1978 Balance) ..... 37 566.69			
NET COST TO CITY TO DATE .....	\$	<u>13 505.77</u>	

(31) C.S.D.P. - Storm Sewer - Monteith Subdivision

In 1979, construction commenced on the installation of storm sewers in the Monteith Subdivision. The design and preliminary surveys for this project were begun in 1978. The expenditures in 1979 were for payrolls, professional services, materials, and progress payments.

Previous Expenditures .....	\$ 838.45
1979 Expenditures .....	<u>60 920.13</u>
NET COST TO CITY TO DATE ..	<u>\$ 61 758.58</u>

(32) C.S.D.P. - Sanitary Sewer - Brunswick Street

The expenditure under this account was for professional services regarding a flow measurement study.

1979 Net Expenditure .....	<u>\$ 2 761.07</u>
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(33) C.S.D.P. - Water - Rosewood Booster Station

Before the second phase of Monteith Subdivision could be upgraded for water service and before any undeveloped land in Rosewood Estates Subdivision could be serviced with water, a booster pumping station was required. Construction on this station was begun in 1979. Expenditures in 1979 were for payrolls, professional services and progress payments.

1979 Gross Expenditure .....	\$ 79 059.78
Less Credits: Gov't. Stimulation Grant	<u>34 696.39</u>
NET COST TO CITY TO DATE...	<u>\$ 44 363.39</u>

(34) C.S.D.P. - Sanitary Sewer - Barker's Point - Riverside Dr. - 74603

This project involved the rebuilding of lift station #15 on Riverside Dr. together with supplying and installing any pipe required. The expenditure in 1979 was for professional services and payment of holdback.

Previous Expenditures .....	\$ 104 107.97
1979 Expenditure .....	<u>3 837.53</u>
Less Credits: Previous Gov't.	
Stimulation Grant .	104 107.97
1979 Gov't. Stimulation	
Grant .....	<u>3 664.37</u>
NET COST TO CITY .....	<u>\$ 173.16</u>

(35) C.S.D.P. - Sanitary Sewer - Barker's Point -  
Riverside Dr. - 78850

This project involved the rebuilding and relocation of lift stations #16 and #17 on Riverside Dr. together with supplying and installing any piping required. The expenditure in 1979 was for professional services, progress payments and material costs.

Previous Expenditures .....	\$ 72 159.45	
1979 Expenditure .....	<u>37 896.66</u>	\$ 110 056.11
Less Credits: Previous Gov't.		
Stimulation Grant ..	72 159.45	
1979 Gov't. Stimulation Grant .....	<u>11 461.07</u>	83 620.52
NET COST TO CITY TO DATE .....	\$ <u>26 435.59</u>	

(36) C.S.D.P. - Storm Sewer - Nashwaaksis - 128-38

1979 Net Expenditure .....

\$ 1 655.15

The above expenditure was for professional services regarding 1980 design.

(37) C.S.D.P. - Storm Sewer - Barker's Point - Hachey Ave.

This project involved the installation of storm sewer mains on Hachey Ave. including the connection of any existing storm sewer house drains. The expenditure in 1979 was for payment of holdback.

Previous Expenditures .....	\$ 14 135.47	
1979 Expenditure .....	<u>916.80</u>	\$ 15 052.27
Less Credits: Materials Returned .....		<u>294.64</u>
NET COST TO CITY .....	\$ <u>14 757.63</u>	

(38) C.S.D.P. - Storm Sewer - Barker's Point - Birch Crescent

This project involved the installation of storm sewer mains on Birch Crescent including the connection of any existing storm sewer house drains. The expenditure in 1979 was for payment of holdback.

Previous Expenditures .....	\$ 45 898.71	
1979 Expenditure .....	<u>2 990.48</u>	\$ 48 889.19
Less Credits: Materials Returned .....		<u>108.03</u>
NET COST TO CITY .....	\$ <u>48 781.16</u>	

(39) C.S.D.P. - Storm Sewer - Barker's Point - Greenwood Dr.

This project involved the installation of storm sewer mains on Greenwood Dr. from the CPR Tracks to the Marysville By-Pass Road.

1979 Expenditure .....	\$ 69 506.50
Less Credits: Province of New Brunswick (Upgrading Designated Routes) ....	\$ 67 336.28
Materials Returned ....	<u>270.22</u>
	67 606.50
NET COST TO CITY .....	\$ 1 900.00

(40) C.S.D.P. - Storm Sewer - Barker's Point - Hargrove Ct.

This project involved the installation of storm sewer mains on Hargrove Ct.

1979 Expenditure .....	\$ 46 494.33
Less Credits: Materials Returned ....	<u>813.92</u>
NET COST TO CITY .....	\$ 45 680.41

(41) C.S.D.P. - Storm Sewer - Ross Terrace

This project involved the installation of storm sewer mains on Ross Terrace in Lower St. Marys Area.

1979 Expenditure .....	\$ 69 857.70
Less Credits: Materials Returned ....	<u>415.93</u>
NET COST TO CITY .....	\$ 69 441.77

(42) C.S.D.P. - Buildings - Maintenance Depot - Regent St.

The expenditure under this account was for progress payments for construction of a 5-Bay Dry Storage Building at the Maintenance Depot on Regent St., and for professional services.

Previous Expenditures .....	\$ 61 042.81
1979 Expenditures .....	<u>13 839.00</u>
NET COST TO CITY TO DATE ..	\$ 74 881.81

(43) C.S.D.P. - Equipment Acquisition

In 1979, the City purchased such equipment as welders, material spreaders and half ton trucks under Service Development. (See List of Machinery purchased and charged to Capital Service Development Equipment).

Previous Expenditures .....	\$ 1 037 395.97
1979 Expenditure .....	<u>26 946.18</u>
Less Credits: Previous Gov't. Stimulation Grants .	<u>479 053.44</u>
NET COST TO CITY TO DATE .....	\$ 585 288.71

(44) C.S.D.P. - Solid Waste Disposal

Expenditures incurred for this project in 1979 were for professional services by MacLaren Atlantic Ltd. and for conference fees.

Previous Expenditures .....	\$ 74 825.52
1979 Expenditure .....	<u>30 631.67</u>
NET COST TO CITY TO DATE .	<u>\$ 105 457.19</u>

The following items of machinery were purchased in 1979 and charged to CAPITAL SERVICE DEVELOPMENT (EQUIPMENT):

2 - Chevrolet 1/2 Ton Trucks - Asset No's 14 and 404

Cost .....	\$ 11 770.06
Plus 8% S.S.&E. Tax .....	941.60
License & Registration .....	<u>12.00</u>
TOTAL COST ....	<u>\$ 12 723.66</u>

1 - Welder by Rental Purchase

Cost .....	<u>\$ 783.00</u>
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2 - Bomag Drum Rollers

Cost .....	<u>\$ 10 616.40</u>
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1 - Model HLG-JR Material Spreader

Cost .....	<u>\$ 2 823.12</u>
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DESIGNATED ROUTES

The City of Fredericton has a total of 62.869 km (39.065 miles) of provincial designated highways within its boundaries. In 1979, the Provincial Government paid \$1 668. and \$438. per lane mile (\$1 036. and \$272. per lane kilometre) towards winter and summer maintenance of the routes respectively. If any improvements such as curb and gutter, paving or storm sewer installations are done to these routes, they have to be authorized by the Department of Transportation. If so authorized, then the Provincial Government assists the City in paying for the construction.

The following authorized projects were undertaken in 1979:

- 1) Installation of Storm Sewers - Route 10 - Greenwood Drive (CPR Tracks to Marysville By-Pass Road) ..... \$ 67 336.28

2) Installation of Storm Sewers - Route 640 - Hanwell Road (Former City Line to Prospect Street) .....	\$ 83 935.42
TOTAL .....	<u>\$ 151 271.70</u>

CAPITAL ACCOUNT GRAVEL ROADS

GROSS EXPENDITURE .....	\$ 431 300.17
LESS CREDITS .....	<u>277 039.36</u>
NET EXPENDITURE .....	<u>\$ 154 260.81</u>

The above credits were made up as follows:

Materials used on Water & Sewer Installations .....	\$ 4 924.83
Journal Vouchers (Crushed Rock, Grade Stakes, Journal Adjustments, Etc.) .....	19 443.09
Nashwaaksis Realty Ltd. - Sabine Heights )..... Subdivision ).....	14 153.64
Chippin's Ltd. - Longwood Drive Area ).....	33 671.46
Multi-Investments Ltd. - Angel View Ct. )LOCAL.....	19 450.00
Country Roads Realty - Bliss Carman Subd.)IMPROVEMENT...	62 762.49
N.B. Housing Corp. - Forest Hill Subd. )CHARGES.....	58 987.17
Talmadge Dow - Dow Subdivision ).....	20 465.70
N.B. Housing Corp. - Southwood Park Subd.).....	28 000.00
Van Wart Realty Ltd. - Mitchell St. Ext. ).....	15 180.98
TOTAL .....	<u>\$ 277 039.36</u>

Included in the above expenditures are:

- (1) Grading and Gravelling Curbed Streets
- (2) Gravel Road Construction

(1) Grading and Gravelling Curbed Streets

The list of streets under this heading will be found under "Capital Curb and Gutter" which is found in the body of this report on page 21. The expenditure for gravelling curbed streets amounted to \$147 609.36.

(2) Gravel Road Construction

The cost of constructing and gravelling the following streets under this heading are found below:

Location	Lineal Feet	Expenditure
Sabine Heights Subdivision (Fulton Ave., Cherry Ave., Sierra Dr.)	1 262	\$ 15 279.07
Longwood Dr. Area (Juniper Ct., Mulberry Ct., Broad St.)	1 441	33 671.46
Angel View Court	734	19 450.00
Van Wart Subdivision - Mitchell Street	803	15 180.98

Location	Lineal Feet	Expenditure
Bliss Carman Subdivision - Ascot Ct. & Ascot Dr. (Incomplete)	1 732	\$ 62 762.49
Forest Hill Subdivision (Essex St., Gloucester Cres., Stradford St.)	2 434	58 987.17
Dow Subdivision - Talmadge Ct.	338	20 465.70
TOTALS	8 744	\$ 225 796.87

8 744 Lineal Feet = 1.66 miles (2.67 km)

#### CAPITAL ACCOUNT TRAFFIC LIGHTS

NET EXPENDITURE ..... \$ 5 499.00

In 1978, Traffic Lights were installed and activated at Regent St. - Regent Mall Entrance and Prospect St. - Fredericton Mall Entrance by Stan Cassidy Ltd. The above net expenditure was made up of holdback payments for the above installations, a bond discount of \$300, and for controller and accessories for the Prospect Street and Regent Street Intersection.

#### CAPITAL ACCOUNT INDUSTRIAL PARK - STORM SEWER

In 1977, construction began on servicing a new industrial park off the Vanier Highway. This project was undertaken jointly by the City of Fredericton, the Department of Commerce and Development and the Capital Region Development Commission Inc. By agreement, the Province bears the cost of sanitary sewer services, water services, service roads up to bottom of pavement grading for rail services, paving on service roads, initial rail trackage to Park, and associated engineering fees. The Municipality must bear the cost of storm sewer services, curb and gutter and lighting and associated engineering fees. The estimated total cost to the Municipality is \$600 000.

The net cost for 1979 of \$32 054.07 was for the City of Fredericton's portion regarding storm sewer construction and is made up as follows:

Multi-Ventures Ltd. (Holdback Payment).....	\$ 18 883.46
Neill & Gunter Ltd. (Engineering Services).....	68.72
Journal Vouchers (Payroll & Pensions) .....	40.37
Province of New Brunswick - Taxes on Property .....	1 350.52
Interest on Demand Notes .....	11 711.00
<b>TOTAL .....</b>	<b>\$ 32 054.07</b>

#### Total Cost to Municipality To Date:

1977 Net Expenditure ..... \$ 265 380.24

1978 Net Expenditure .....	\$ 133 318.15
1979 Net Expenditure .....	<u>32 054.07</u>
TOTAL ....	<u>\$ 430 752.46</u>

#### CAPITAL PERMANENT STREETS - RECONSTRUCTION

In 1979, the City of Fredericton undertook the upgrading of a number of streets in the downtown urban core of the City. This upgrading took the form of curb and gutter reconstruction, sidewalk reconstruction, service relays and repaving. Areas upgraded were Carleton St. - Campbell St. to Queen St.; Queen St. - St. John St. to Carleton St.; King St. - St. John St. to Regent St.; and St. John St. - King St. to Brunswick St.

Also included under this account was the upgrading of guard rails in various locations along Canada Street.

The net expenditure under this heading in 1979 was \$73 610.97 made up as follows:

Journal Vouchers (Payrolls, Pensions, Machinery, Etc.)....	\$ 60 599.20
Diamond Construction (1961) Ltd. - Crushed Rock &	
Crusher Dust .....	8 031.53
Elmtree Concrete Ltd. - Ready-Mix Concrete .....	7 647.42
Gorman Construction Ltd. - Asphalt .....	29 170.62
A.D.I. Ltd. - Professional Services - Canada St. Job ....	8 109.04
Multi-Ventures Ltd. - Progress Payments - Canada St. ....	91 678.20
L. & A. Machine Works - Meter Posts & Sleeves .....	1 440.89
J.J. MacKay Canada Ltd. - Yokes for Meters .....	1 188.45
Miscellaneous .....	130.41
Bond Discount .....	1 566.00
 Gross Expenditure .....	\$ 209 561.76
Less Credit: Community Services Contribution Program ....	<u>135 950.79</u>
 Net Expenditure .....	<u>\$ 73 610.97</u>

#### CAPITAL ACCOUNT RECREATION

NET EXPENDITURE .....

\$ 229.51

The expenditure for this account was for Journal Vouchers regarding payrolls, pensions, and materials.

#### CAPITAL URBAN TRANSIT ASSISTANCE PROGRAM

NET EXPENDITURE .....

\$ 5 865.84

The expenditure for this account was for Journal Vouchers regarding payrolls, pensions, and machinery.

LOCAL IMPROVEMENT - 1979

The following summary of Local Improvement Projects undertaken in 1979 or continued from 1978, shows the actual cost of construction charged to the Subdivider, including holdback payments.

Location	Service	Cost	No. of Lots
Multi-Investments Ltd. Angel View Heights Subd. Angel View Court Contract #13-78	Water Sanitary Sewer Storm Sewer Gravel Road  TOTAL	\$ 22 065.02 14 919.49 22 159.28 19 450.00  \$ 78 593.79	2 Multiple 11 Single
Nashwaaksis Realty (1966) Ltd. Sabine Heights Subd. Cherry Ave., Fulton Ave., Sierra Dr. Contract #15-78	Water Sanitary Sewer Storm Sewer Gravel Road Sidewalk  TOTAL	\$ 19 166.97 14 379.46 20 466.50 15 474.18  \$ 70 417.11	18 Single
Chippin's Limited Longwood Drive Area Mulberry Ct., Juniper Ct., Broad St. Contract #16-78	Water Sanitary Sewer Storm Sewer Gravel Road Sidewalk  TOTAL	\$ 29 083.79 30 380.17 36 362.45 33 671.46 3 900.00  \$133 397.87	33 Single
Van Wart Realty Ltd. Van Wart Subdivision Mitchell Street Contract #1-79	Water Sanitary Sewer Storm Sewer Gravel Road Sidewalk  TOTAL	\$ 30 320.09 18 026.62 26 657.72 15 180.98 6 342.00  \$ 96 527.41	11 Single
Country Roads Realty Bliss Carman Subdivision Ascot Ct. and Ascot Dr. Contract #2-79 (Incomplete)	Water Sanitary Sewer Storm Sewer Gravel Road Sidewalk Signal Flasher  TOTAL	\$ 39 034.98 31 396.15 49 940.44 62 762.49 18 495.00 1 000.00  \$202 629.99	41 Single
N.B. Housing Corp. Forest Hill Subd. Essex St., Stradford St., Gloucester Cres. Contract #3-79	Water Sanitary Sewer Storm Sewer Gravel Road Sidewalk Signal Flasher  TOTAL	\$ 57 771.58 37 654.99 61 220.80 58 987.17 23 832.00 1 000.00  \$240 466.54	42 Single

Location	Service	Cost	No. of Lots
Ora and Talmadge Dow Dow Subdivision Talmadge Court Contract #4-79	Water Sanitary Sewer Storm Sewer Gravel Road	\$ 8 952.17 4 912.63 9 462.72 <u>20 465.70</u>	
	TOTAL	\$ 43 793.22	
Hill Brothers Realty Ltd. Fundy Heights Subd. Case Street Contract #10-79 (Incomplete)	Water Sanitary Sewer Storm Sewer Gravel Road	\$ 45 477.38 25 812.67 43 361.18 -	
	TOTAL	\$114 651.23	49 Single
Allison Whitehead Subd. Lot 10 A MacFarlane St.	Sanitary Sewer	\$ 2 500.00	1 Single
	TOTAL	\$ 2 500.00	
N.B.H.C. - Southwood Park Wetmore Rd.; Pugsley St.; Tweedie Ct. Contract #8-78 (Incomplete)	Sanitary Sewer Gravel Road	\$ 6 800.00 28 000.00	
	TOTAL	\$ 34 800.00	51 Single

SUMMARY OF COSTS TO SUBDIVIDERS FOR SERVICES - 1979

Water .....	\$ 251 871.98
Sanitary Sewer .....	186 782.18
Storm Sewer .....	269 631.14
Gravel Road .....	253 991.98
Sidewalk .....	53 499.00
Signal Flasher .....	<u>2 000.00</u>
TOTAL .....	\$ 1 017 776.28

Number of Lots Developed .....	Single - 264
	Multiple - 2

ENVIRONMENTAL HEALTH SERVICES

Gross Expenditure .....	\$ 454 255.42
Less Credits .....	<u>689.22</u>
NET EXPENDITURE .....	\$ 453 566.20

Under the above heading, the following items are included:

- (1) Garbage and Waste Collection
- (2) Sanitary Landfill - Disposal

(1) Garbage and Waste Collection

In 1979, the amount paid for the garbage and waste collection operation was \$274 025.00 made up as follows:

Maritime S.&S. Ltd. - Collection Contract .....	\$ 260 575.56
City of Fredericton - Re Performance Bonds .....	6 000.00
Receiver General of Canada - Income Tax Arrears .....	7 424.51
Daily Gleaner - Collection Ad .....	<u>24.93</u>
TOTAL .....	\$ 274 025.00

(2) Sanitary Landfill - Disposal

The expenditure under this section was for the following:

Gerard Burns - Bulldozing Services Contract	\$ 72 000.00
Gravel and Cover Material .....	105 802.18
Journal Vouchers (Payroll, Pensions, Machinery) .....	1 952.18
Province of New Brunswick - 1979 Taxes Re Landfill Sites .....	291.00
Workmen's Compensation Board - 1979 Assessment .....	125.88
Miscellaneous .....	<u>59.18</u>
Less Credits: Cash Receipts - York Recycle .....	<u>689.22</u>
TOTAL NET EXPENDITURE .....	\$ 179 541.20

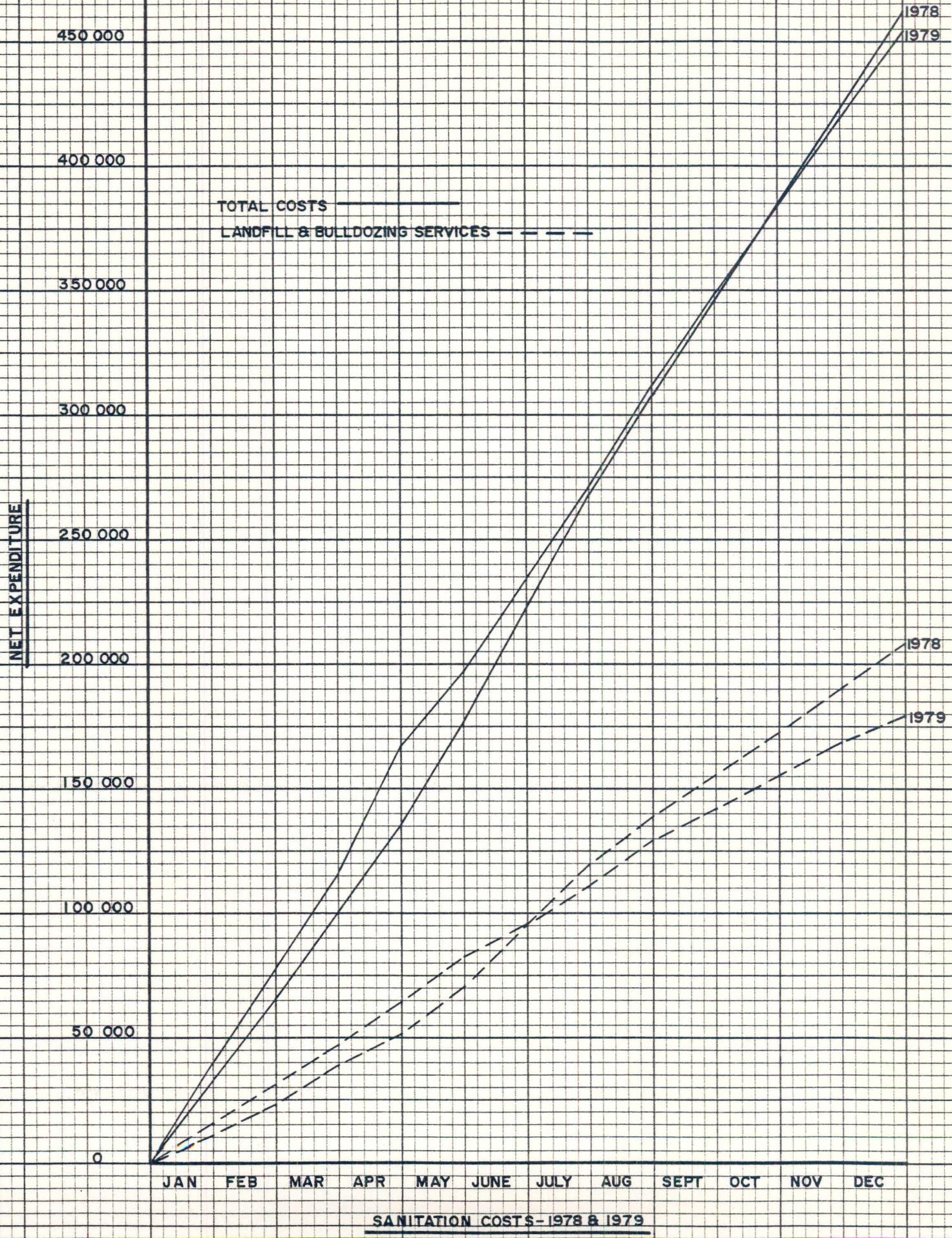
PUBLIC HEALTH SERVICES - CEMETERIES

Under this heading are included:

- (1) The Old Burial Ground
- (2) The Loyalist Burial Ground

(1) The Old Burial Ground

Gross Expenditure .....	\$ 9 558.70
Less Credits .....	<u>216.25</u>
NET EXPENDITURE .....	\$ 9 342.45



The above expenditure was made up as follows:

Personnel (Labour, Pensions, Compensation)...	\$ 7 994.92
General Services (Machinery, Lighting, Etc.)	861.54
Goods (Materials, Tools, Etc.) .....	<u>702.24</u>
	\$ 9 558.70
Less Credits: Cash Receipts - Trust Funds .....	<u>216.25</u>
NET EXPENDITURE .....	\$ 9 342.45

(2) The Loyalist Burial Ground

Gross Expenditure .....	\$ 168.06
Less Credits .....	-
NET EXPENDITURE .....	<u>\$ 168.06</u>

The above expenditure was made up as follows:

Personnel (Labour, Pensions, Compensation) .....	<u>\$ 168.06</u>
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CULTURAL SERVICES

Included under this heading are:

- (1) Wilmot Park
- (2) Odell Park
- (3) Carleton Park
- (4) Development of Park Areas
- (5) Other Parks
- (6) Public Works

(1) Wilmot Park

Gross Expenditure .....	\$ 21 334.02
Less Credits .....	-
NET EXPENDITURE .....	<u>\$ 21 334.02</u>

The above expenditure was made up as follows:

Personnel (Labour, Pensions, Compensation).....	\$ 16 018.06
General Services (Repairs & Maintenance, Machinery, Lighting, Etc.) .....	3 982.87
Gov't. Services (Water and Sewer Rates) .....	105.44
Goods (Materials, Gas & Oil) .....	<u>1 227.65</u>
TOTAL .....	<u>\$ 21 334.02</u>

(2) Odell Park

Gross Expenditure .....	\$ 24 138.18
Less Credits .....	<u>573.13</u>
NET EXPENDITURE .....	<u>\$ 23 565.05</u>

The above expenditure was made up as follows:

Personnel (Labour, Pensions, Compensation) ..	\$ 19 204.35
General Services (Telephone, Insurance, Repairs & Maintenance, Machinery) .....	2 217.73
Gov't. Services (Water & Sewer Rates, Power for Duck Refuge Heaters) .....	292.70
Goods (Materials, Feed, Fuels & Lubricants). .	<u>2 423.40</u>
Less Credits .....	<u>573.13</u>
NET EXPENDITURE .....	<u>\$ 23 565.05</u>

(3) Carleton Park

Gross Expenditure .....	\$ 10 945.75
Less Credits .....	<u>320.40</u>
NET EXPENDITURE .....	<u>\$ 10 625.35</u>

The above expenditure was made up as follows:

Personnel (Labour, Pensions, Compensation) ..	\$ 7 482.44
General Services (Machinery & Land Rental) ..	2 712.00
Goods (Materials) .....	<u>751.31</u>
Less Credits.....	<u>320.40</u>
NET EXPENDITURE .....	<u>\$ 10 625.35</u>

(4) Development of Park Areas

Gross Expenditure .....	\$ 3 631.86
Less Credits .....	<u>393.75</u>
NET EXPENDITURE .....	<u>\$ 3 238.11</u>

The above expenditure was made up as follows:

Personnel (Labour, Pensions, Compensation) ..	\$ 2 653.45
General Services (Machinery) .....	479.00
Goods (Materials) .....	<u>499.41</u>
Less Credits: Journal Vouchers - Cedar Posts .....	<u>393.75</u>
NET EXPENDITURE .....	<u>\$ 3 238.11</u>

(5) Other Parks

Gross Expenditure .....	\$ 1 253.15
Less Credits .....	-
NET EXPENDITURE .....	<u>\$ 1 253.15</u>

The above expenditure was made up as follows:

Personnel (Labour, Pensions, Compensation) .....	\$ 734.09
General Services (Machinery) .....	97.78
Goods (Materials) .....	<u>421.28</u>
NET EXPENDITURE ....	\$ 1 253.15

(6) Public Works

Gross Expenditure .....	\$ 286 051.55
Less Credits .....	<u>110 227.42</u>
NET EXPENDITURE .....	\$ 175 824.13

The above expenditure was made up as follows:

Personnel (Labour, Pensions, U.I.C., Compensation, Honorarium, Etc.) .....	\$ 174 504.12
General Services (Equipment Maintenance, Small Tools & Equipment, Machinery & Trucking, Building Rental, Etc.) .....	93 105.17
Goods (Materials, Gas & Oil, New Trees, Etc.) .....	<u>18 442.26</u>

Gross Expenditure .... \$ 286 051.55

Less Credits:

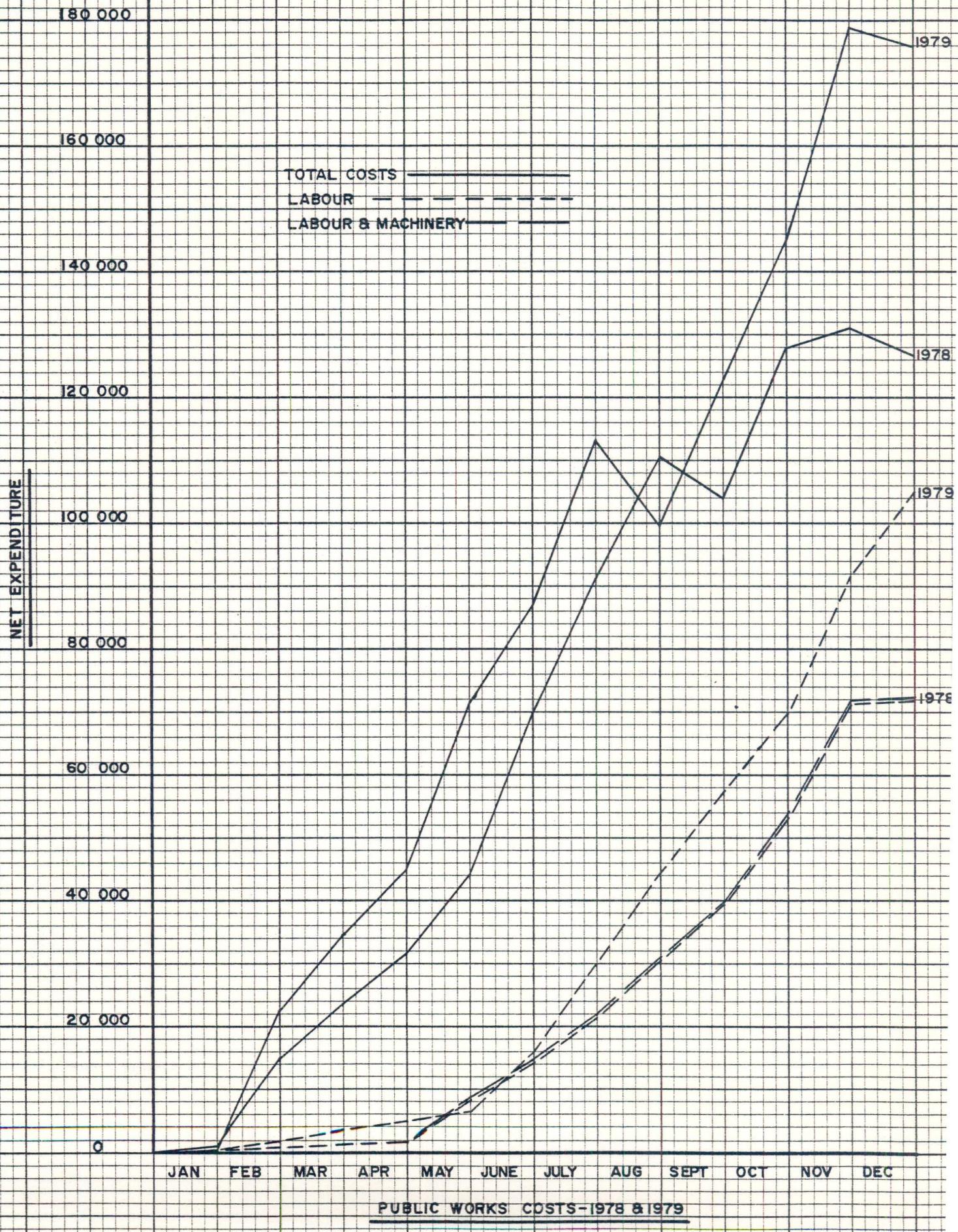
Province of New Brunswick - 1978 Balance -	
Tree Removal Grant .....	\$ 3 815.22
Province of New Brunswick - 1979 Tree	
Removal Costs (Share) .....	65 000.00
Valley Forest Products - Purchase of Dead Elms	22 320.49
Journal Vouchers (Inter Dep't. Use of Machinery, Mobile Radio, Gasoline, Fertilizer, Topsoil, Etc.) .....	18 415.65
Miscellaneous (Jury Duty, Invoice Correction, Tree Replacement, Etc.) .....	<u>676.06</u>

NET EXPENDITURE .... \$ 175 824.13

In 1979, 2 583 trees were removed upon the recommendation of the Fredericton Tree Commission. The condemned trees were either in a decadent condition, a manace to public safety or possible breeding places for the Elm Bark Beetle.

Following is a list of trees removed in 1979:

<u>Species</u>	<u>Number Removed</u>
Elm	2 576
Ash	1
Willow	1
Maple	2
Oak	3
TOTAL .....	<u>2 583</u>



In 1979, 1 021 trees were removed with Dutch Elm Disease in the Pre-Amalgamation Area of Fredericton.

Following is a list of trees (Elm) removed from 1964 to 1979 with Dutch Elm Disease in the Pre-Amalgamation Area of Fredericton.

Year	No. Lost to Dutch Elm Disease	% Lost to Dutch Elm Disease	Other Causes	Total
1964	14	29	34	48
1965	8	24	25	33
1966	12	21	44	56
1967	18	20	73	91
1968	33	16	174	207
1969	30	21	108	138
1970	49	39	78	127
1971	57	42	77	134
1972	61	42	84	145
1973	92	46	108	200
1974	132	33	266	398
1975	75	19.6	307	382
1976	118	28.2	300	418
1977	681	91.6	62	743
1978	680	92	56	736
1979	937	91.8	84	1 021
TOTALS	2 997	61.5	1 880	4 877

Permission for the removal of trees on private property, as well as a statement to the effect that no claim for damages will be filed by the property owners, are obtained before proceeding with this work.

Trees were planted at the following locations in 1979:

<u>Location</u>	<u>Number of Trees</u>
Broad Street	34
Woodmount Drive	30
Epworth Circle	32
Melvin Street	35
Maddison Avenue	35
Gourley Court	4
Longwood Drive	24
Linden Crescent	38
Burpee Street	86
Robinson Drive	36
Hildebrand Crescent	54
Jewett Street	13
Kent Street	14
Barton Crescent	63
Shibu Court	3
Greenfields Drive	21
Gulliver Drive	21
Abbott Court	13
Hollybrook Street	8

<u>Location</u>	<u>Number of Trees</u>
Hallett Street	8
Walker Street	1
Priestman Street	5
Wilmot Park	15
Brunswick St. - Cathedral	3
Church St. - Cathedral	2
King St. - Cathedral	1
St. John Street	6
King St. - Centennial Bldg.	3
Brunswick St. - Centennial Bldg.	3
Queen St. - Legislature Bldg.	2
St. John St. - Legislature Bldg.	3
Queen St. - Playhouse	3
Queen St. - Art Gallery	3
Shore Street	6
574 Forest Hill Road	1
590 Forest Hill Road	2
328 Woodstock Road	2
768 Byng Street	1
195 Colonial Heights	1
81 Woodbridge St.	1
168 Stanley Street	1
178 Stanley Street	1
King Street	6
TOTAL .....	<u>644</u>

58 trees were planted at various locations to replace losses due to dry weather and vandalism.

Trees purchased in 1979 were obtained from Connon Nurseries, Lansdowne Nurseries, and private individuals.

Total Trees Purchased & Donated -	702
Less 1979 Stock	-
Total Trees Planted	<u>702</u>

A number of trees were also trimmed in 1979. The number and class of trees are as follows:

- (a) Large Trees (45' and over) - Approximately 200 mixed species
- (b) Medium Trees (20'-45') - Approximately 150 mixed species
- (c) Small Trees (6'-20') - Approximately 200 mixed species

A number of stumps were also removed along City Streets.

Stumps Removed and Topsoiled ..... 340

CONCRETE SIDEWALK CONSTRUCTION

Gross Expenditure .....	\$ 112 357.00
Less Credits .....	<u>53 499.00</u>
NET EXPENDITURE .....	<u>\$ 58 858.00</u>

The above expenditure was made up as follows:

Ascon Ltd. (Nashwaaksis Sidewalks) .....	\$ 69 980.20
Journal Vouchers (Payroll, Pensions, Machinery, Materials)	20 688.12
Elmtree Concrete Ltd. - Ready-Mix Concrete .....	17 738.70
Materials (Polyethelene, Bedding Sand, Insulboard, Etc.) .	1 840.22
Car Allowances (Timekeepers) .....	162.74
Frizzell Brothers Construction (Holdbacks 1978 Nashwaaksis Sidewalks) .....	447.02
Bond Discount .....	<u>1 500.00</u>

GROSS EXPENDITURE ... \$ 112 357.00

**LESS CREDITS:**

Chippin's Ltd. - Longwood Drive Area ) .....	3 900.00
Nashwaaksis Realty Ltd. - Sabine Heights ) LOCAL.....	
	Subdivision ) IMPROVEMENT.....
	930.00
Van Wart Realty Ltd. - Mitchell St. Ext. ) CHARGES.....	6 342.00
Country Roads Realty Ltd. - Bliss Carman Subd) .....	18 495.00
N.B. Housing Corp. - Forest Hill Subdivision ) .....	23 832.00

NET EXPENDITURE .... \$ 58 858.00

For the above expenditure, Concrete Sidewalks were constructed at the following locations:

<u>Location</u>	<u>Lineal Feet</u>
Dykeman Street	1 035
Bates Street	1 088
Wilcox Street	1 145
Hawkins Street	499
Bunker Street	352
Elliot Street	495
Page Street	446
Crocket Street	101
Carman Avenue	218
Boyne Court	69
Prospect Street	220
Floral Avenue	1 738
MacFarlane Street	1 325
Cherry Avenue	2 283
Fraser Avenue	446
Hickory Lane	280
TOTAL .....	<u>11 740</u>

11 740 Lineal Feet = 2.22 Miles (3.58 km)

The City of Fredericton bears the entire cost of sidewalk installation, except where Local Improvement Agreements are in effect with a Developer on new streets.

The cost for laying one lineal foot of sidewalk by City Forces was \$9.57 which includes compensation, pensions, and holiday funds.

#### TOURIST AND INDUSTRY

NET EXPENDITURE ..... \$ 771.05

The above expenditure was made up as follows:

Journal Vouchers (Payroll) .....	\$ 674.50
Journal Vouchers (Pensions) .....	33.36
Journal Vouchers (City Machinery) .....	57.00
Journal Vouchers (Materials) .....	<u>6.19</u>
TOTAL .....	\$ <u>771.05</u>

#### CITY HALL

NET EXPENDITURE ..... \$ 192.37

The above expenditure is only the expenditure for the City Hall made through the Office of the City Engineer and is not the total expenditure on City Hall.

The above expenditure was made up as follows:

Journal Vouchers (Payroll) .....	\$ 134.56
Journal Vouchers (Pensions) .....	4.81
Journal Vouchers (City Machinery) .....	<u>53.00</u>
TOTAL .....	\$ <u>192.37</u>

#### RECREATION

NET EXPENDITURE ..... \$ 9 805.00

The above expenditures are only those which appear on departmental payrolls or costs of materials ordered through the Office of the City Engineer.

The above expenditure was made up as follows:

Journal Vouchers (Payroll) .....	\$ 981.56
Journal Vouchers (Pensions) .....	55.80
Journal Vouchers (City Machinery) .....	474.50
Journal Vouchers (Gasoline, Diesel Fuel, Pipe, Decals, Etc.)	<u>8 293.14</u>
TOTAL .....	\$ <u>9 805.00</u>

BEAVERBROOK RINK

NET EXPENDITURE ..... \$ 345.30

The above expenditure was for Journal Vouchers regarding regular gasoline.

COLISEUM

NET EXPENDITURE ..... \$ 157.90

The above expenditure was for Journal Vouchers regarding regular gasoline.

YORK ARENA

NET EXPENDITURE ..... \$ 179.80

The above expenditure was for Journal Vouchers regarding regular gasoline.

NASHWAAKSIS ARENA

NET EXPENDITURE ..... \$ 77.26

The above expenditure was for Journal Vouchers regarding regular gasoline.

FIRE DEPARTMENT

NET EXPENDITURE ..... \$ 546 961.17

The above expenditure was made up as follows:

Journal Vouchers (Hydrants & Sprinklers).....	\$ 538 500.00
Journal Vouchers (Payroll, Pensions, Machinery) .....	147.09
Journal Vouchers (Gasoline & Diesel Fuel) .....	8 307.58
Journal Vouchers (Peat Moss) .....	6.50
TOTAL .....	\$ <u>546 961.17</u>

POLICE DEPARTMENT

NET EXPENDITURE ..... \$ 1 268.02

The above expenditure was made up as follows:

Journal Vouchers (Payroll & Machinery) .....	\$ 8.02
Journal Vouchers (Rental of Storage Space) .....	<u>1 260.00</u>
TOTAL .....	\$ <u>1 268.02</u>

FIRE & POLICE STATION

NET EXPENDITURE ..... \$ 35.40

The above expenditure was made up of Journal Vouchers regarding payrolls.

BUILDINGS & MAINTENANCE

NET EXPENDITURE ..... \$ 662.25

The above expenditure was made up of Journal Vouchers regarding gasoline.

PUBLIC TRANSIT

NET EXPENDITURE ..... \$ 274.45

The above expenditure was made up as follows:

Journal Vouchers (Payrolls, Pensions, Machinery) .....	\$ 143.25
Journal Vouchers (Sand and Crushed Rock) .....	58.74
Journal Vouchers (Gasoline) .....	72.46
TOTAL .....	\$ <u>274.45</u>

INDUSTRIAL PARK - LAND ACCOUNT

NET EXPENDITURE ..... \$ 1 518.87

The above expenditure was made up as follows:

Province of New Brunswick - Re 1979 Taxes on Industrial Park Property .....	\$ 531.07
Journal Vouchers (Payrolls, Pensions, Machinery) .....	517.73
Journal Vouchers (Pipe, Crushed Rock, Rock Dust, Etc.) ....	470.07
TOTAL ....	\$ <u>1 518.87</u>

PUBLIC LIBRARY

NET EXPENDITURE ..... \$ 73.02

The above expenditure was for Journal Vouchers regarding payrolls, machinery and peat moss.

MUNICIPAL PARKING LOTS - CAMPBELL ST.

The City of Fredericton maintains six parking lots in the downtown area. Three of these are established on Campbell Street. Two of the lots are metered and one has attendant-type control. The attendant-type control parking lot (Campbell St. #1) was first established in 1966 with gate-type control but was changed in 1973. In 1977, this lot had to be relocated due to dredging operations for the new bridge and had to be relocated again in 1979 so that steel operations for the new bridge could begin. One metered lot (Campbell St. #2) was established in 1970 and is located in the area across from Simpson Sears and Levines Ltd. The other metered lot (Campbell St. #3) was established in 1977 in the area across from the N.B. Liquor Commission Building.

The expenditures in 1979 for these parking lots were as follows:

Campbell St. #1

Journal Vouchers (Payrolls) .....	\$ 353.32
Journal Vouchers (Pensions) .....	18.79
Journal Vouchers (Machinery) .....	600.00
Journal Vouchers (Crushed Rock) .....	<u>62.82</u>
TOTAL .....	<u>\$ 1 034.93</u>

Campbell St. #2

Journal Vouchers (Payrolls) .....	\$ 312.55
Journal Vouchers (Pensions) .....	14.52
Journal Vouchers (Machinery) .....	494.00
Journal Vouchers (Cedar Posts, Paint, Etc.) .....	<u>124.66</u>
TOTAL .....	<u>\$ 945.73</u>

Campbell St. #3

Journal Vouchers (Payrolls) .....	\$ 339.66
Journal Vouchers (Pensions) .....	20.24
Journal Vouchers (Machinery) .....	580.00
Journal Vouchers (Cedar Posts, Rock Dust) .....	<u>182.30</u>
TOTAL .....	<u>\$ 1 122.20</u>

PARKING LOTS - 1977

In 1977, due to dredging operations for the new bridge, new parking lots had to be established to help make up for loss of parking spaces. These included one metered lot (Queen Street above Levines Ltd.), one with monthly rates (King Street) and one with attendant-type control (Regent Street Wharf).

The expenditures in 1979 for these parking lots were as follows:

Queen St.

Journal Vouchers (Payrolls) .....	\$ 260.86
Journal Vouchers (Pensions) .....	17.63
Journal Vouchers (Machinery) .....	518.00
Journal Vouchers (Cedar Posts & Rock Dust) ..	<u>77.90</u>
TOTAL ....	<u>\$ 874.39</u>

King St.

Journal Vouchers (Payrolls) .....	\$ 150.21
Journal Vouchers (Pensions) .....	6.79
Journal Vouchers (Machinery) .....	373.00
Journal Vouchers (Cedar Posts, Rock Dust) ..	<u>49.20</u>
TOTAL ....	<u>\$ 579.20</u>

Regent St. Wharf

Journal Vouchers (Payrolls) .....	\$ 167.54
Journal Vouchers (Pensions) .....	8.48
Journal Vouchers (Machinery) .....	<u>410.00</u>
TOTAL ....	<u>\$ 586.02</u>

PARKING METERS

NET EXPENDITURE ..... \$ 1 248.93

The above expenditure was made up as follows:

Journal Vouchers (Payrolls) .....	\$ 888.78
Journal Vouchers (Pensions) .....	54.1
Journal Vouchers (Machinery) .....	<u>306.0</u>
TOTAL ....	<u>\$ 1 248.9</u>

FLOOD CONTROL

NET EXPENDITURE ..... \$ 4 715.66

The above expenditure was made up as follows:

Journal Vouchers (Payroll) .....	\$ 3 286.53
Journal Vouchers (Pensions) .....	196.02
Journal Vouchers (Machinery) .....	628.00
Journal Vouchers (Sand, Crushed Rock, Etc.) .....	<u>605.11</u>
TOTAL ....	<u>\$ 4 715.66</u>

## CANADA WORKS TREE PROGRAM

In 1979, the City of Fredericton made application for a Canada Works Program to be applied to its tree removal program. 776 Elm trees were removed under this program from December 4-31, 1978. This program continued into 1979 with 1 982 Elm trees removed from January 1 to May 31, 1979.

The expenditures in 1979 were as follows:

Journal Vouchers (Payroll) .....	\$ 69 505.63
Journal Vouchers (Machinery) .....	18 514.00
Unemployment Insurance Commission .....	1 261.67
Receiver General of Canada - Canada Pension	1 133.86
Mutual Insurance - Group Insurance .....	<u>38.40</u>
	\$ 90 453.56

### Less Credits:

Government of Canada - Balance of 1978	
Advance .....	\$ 12 201.20
Journal Vouchers Re Overexpenditures ....	46 100.36
Government of Canada - 1979 Payments ....	<u>32 152.00</u>
	90 453.56
NET COST OF PROGRAM TO CITY .. \$	<u>- 0 -</u>

## CONTINGENCY

NET EXPENDITURE ..... \$ 23.77

The above expenditure was for Journal Vouchers regarding payrolls, pensions and machinery.

## SANITARY SEWER

Gross Expenditure .....	\$ 1 042 068.90
Less Credits: .....	<u>57 761.52</u>
NET EXPENDITURE .....	\$ <u>984 307.38</u>

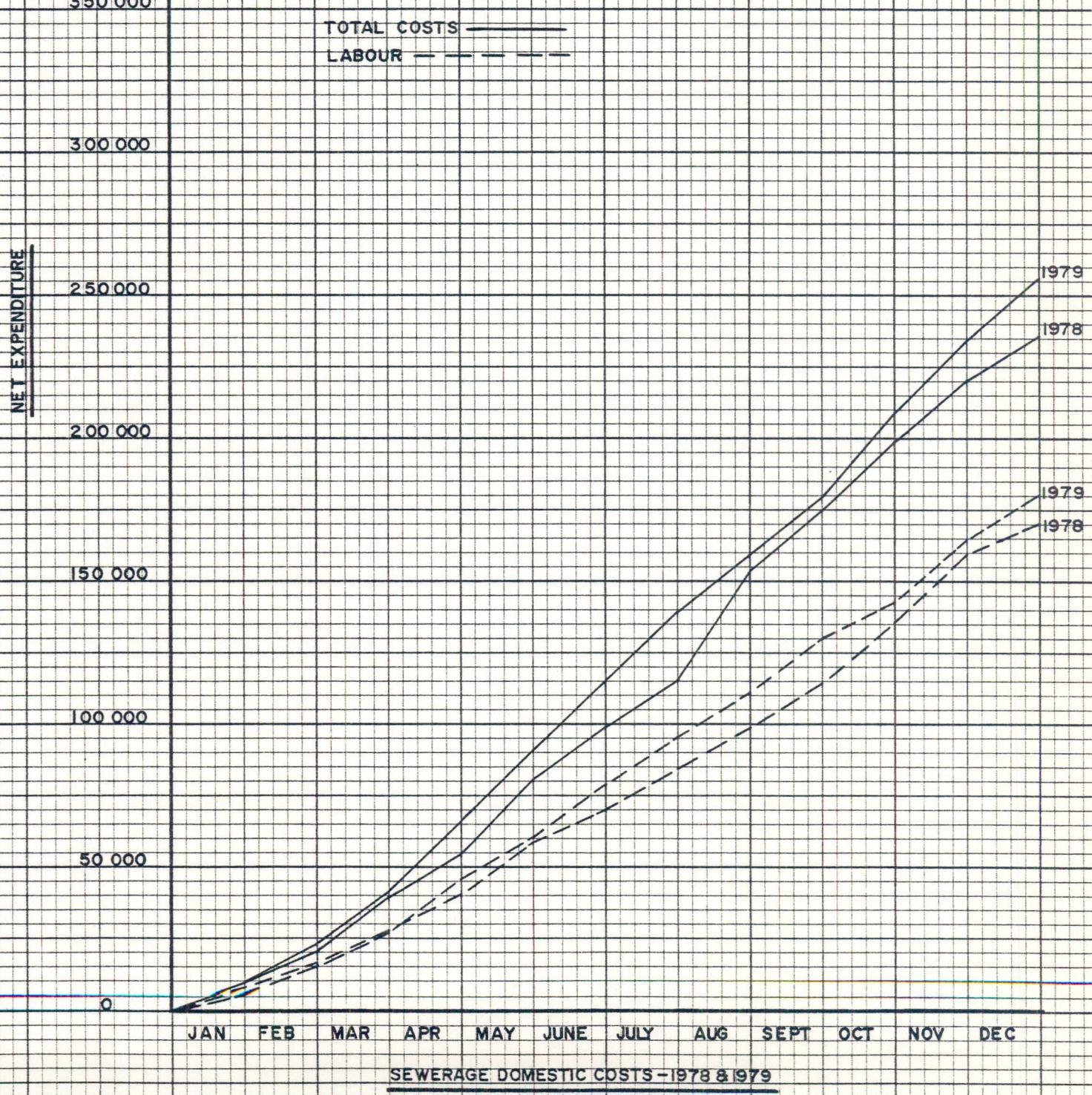
The above expenditure was made up as follows:

### Operating:

Labour - Lift Stations .....	\$ 13 362.28
Power - Lift Stations .....	6 979.86
Maintenance - Lift Stations .....	666.87
Materials - Lift Stations .....	302.30

### Maintenance:

Compensation .....	4 195.95
Labour Costs .....	201 602.60
Materials .....	17 530.66
Trucking Costs .....	26 439.70
Machinery Costs .....	42 654.71



Treatment:

F.A.P.C.C. Sewage Treatment .....	\$ 551 520.03
Pollution Control - Lincoln Rd. ....	6 005.74
Pollution Control - Woodstock Rd. ....	5 819.93

Debt Charges:

Principal and Interest .....	164 888.27
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Other:

Insurance Liability .....	<u>100.00</u>	\$ 1 042 068.90
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Less Credits:

Labour, Materials & Machinery for Service	
Installations & Repairs .....	\$ 50 322.28
Journal Vouchers (Inter Dep't. Use of	
Machinery) .....	5 951.50
Journal Vouchers (Materials) .....	553.84
Canadian Industries Ltd. (Returned	
Cylinders) .....	375.00
Miscellaneous .....	<u>558.90</u>
	<u>57 761.52</u>
NET EXPENDITURE .....	\$ <u>984 307.38</u>

New Customers connected to the City Sewer System in 1979 = 122

The Fredericton Sanitary Sewer System consists of 142.703 miles (229.658 km) of Sewer Mains and is made up as follows:

Size	Silverwood Garden Creek	Nashwaaksis	Marysville	Barker's Point	Fredericton	Totals
4"	-	0.158	-	-	-	0.09
(100 mm)		0.098				
4" F.M.	0.013	-	-	-	0.824	0.512
(100 mm)	0.008					0.52
6"	-	1.407	0.314	-	0.108	0.067
(150 mm)		0.874	0.195			
6" F.M.	0.031	-	0.539	0.068	3.008	1.13
(150 mm)	0.019		0.335	0.042		
8"	8.719	29.670	16.825	7.559	105.364	65.472
(200 mm)	5.418	18.455	10.455	4.697		104.49
8" F.M.	0.254	-	0.314	-	0.064	0.040
(200 mm)	0.158		0.195			
10"	0.867	2.892	0.607	0.298	8.325	5.173
(250 mm)	0.539	1.791	0.377	0.185		8.06
10" F.M.	1.178	-	-	-	-	0.73
(250 mm)	0.732					
12"	0.443	3.064	1.006	1.868	12.760	7.929
(300 mm)	0.275	1.904	0.625	1.161		11.89
12" F.M.	-	-	-	-	0.739	0.459
(300 mm)						
14"	0.159	0.686	-	-	0.713	0.443
(350 mm)	0.099	0.426	-	-		0.96
14" F.M.	-	-	0.528	-	0.254	0.158
(350 mm)			0.328			0.48
15"	-	1.344	0.311	0.108	1.630	3.39
(375 mm)		2.163	0.500	0.174	2.623	

Size	Silverwood Garden Creek	Nashwaaksis	Marysville	Barker's Point	Fredericton	Totals
16"	-	0.076	-	-	0.103	
(400 mm)		0.047			0.120	0.167
18"	0.798	0.031	1.350	-	3.502	
(450 mm)	0.496	0.019	0.839	-	2.176	3.530
20"	2.979	-	-	-	-	1.851
(500 mm)	1.851	-	-	-	-	
24"	0.156	-	-	-	1.709	
(600 mm)	0.097	-	-	-	1.062	1.159
30"	-	-	-	-	0.322	
(750 mm)	-	-	-	-	0.200	0.200
36"	-	-	-	-	1.432	
(900 mm)	-	-	-	-	0.890	0.890
<b>TOTALS</b>	<b>9.692</b>	<b>24.958</b>	<b>13.660</b>	<b>6.193</b>	<b>88.200</b>	<b>142.703</b>

- NOTE: (1) Mileages for Silverwood, Nashwaaksis, Barker's Point and Marysville are approximate only, due to measurement from plans.
- (2) Fredericton includes the Lincoln Area.

The above mileages do not include mains at the Exhibition Grounds, U.N.B., and St. Anne's Point on the Woodstock Rd. or the Fredericton Area Pollution Control Commission Collector Sewer System which has approximately 7.1 miles of main.

Following is a list of vehicles used and charged to "Sanitary Sewer" showing a comparison of repair charges for 1978 and 1979, including tires and tubes:

Name of Vehicle	Year Purchased	1978 Repairs	1979 Repairs
Ford 1/2 Ton Crew Cab #5	1974	\$ 2 122.96	\$ 401.32
John Bean Sewer Cleaner #83	1975	832.06	2 776.03
John Bean Sewer Cleaner #85	1977	28.51	2 267.68
Ford Crew Cab #114	1978	425.57	1 396.30
Chevrolet 3/4 Ton #115	1975	877.31	696.36
Chevrolet 1/2 Ton #116	1977	594.17	1 470.03
Dodge 3/4 Ton #252	1976	499.84	1 036.79
<b>TOTALS</b>		<b>\$ 5 380.42</b>	<b>\$ 10 044.51</b>

### WATER

There are at present 25 wells in the City of Fredericton Water System (23 active wells and 2 test wells) and 17 Reservoirs.

### ACTIVE WELLS

#### North Side

Maple Street  
Cliffe Street  
Carleton Well 1963  
Killarney Well

#### South Side

Fredericton #1  
Fredericton #3  
Fredericton #4  
Fredericton #5

North Side

Nashwaaksis #1  
 Nashwaaksis #2  
 Nashwaaksis #3  
 Sunset Drive  
 Marysville #1  
 Marysville #2  
 Marysville #3  
 Barker's Point #1  
 Barker's Point #2  
 Killarney Rd. #1  
 Killarney Rd. #2

South Side

Hanwell Rd.  
 Silverwood #2  
 Silverwood #3  
 Duval

TEST WELLS ONLY: Nashwaaksis #4 and Silverwood #4

Following is a list of Reservoirs and their capacities which provide water storage for the City of Fredericton Waterworks System:

FREDERICTON SOUTH:

Location	Number of Reservoirs	Total Capacity (I.G.)
Silverwood	1	50 000
Regent Street	1	250 000
Montgomery Street	2	2 000 000
Smythe Street	2	4 000 000
U.N.B.	1	100 000
Forest Hill (Canterbury Drive)	2	243 000
Flemming Road	1	825 000
Hanwell Road	1	100 000
Sub-Total .....	11	7 568 000

FREDERICTON NORTH:

Nashwaaksis	2	630 000
Barker's Point	1	250 000
Marysville	1	625 000
Carleton Ward	1	1 000 000
Killarney Road	1	820 000
Sub-Total .....	6	3 325 000
OVERALL TOTALS .....	<u>17</u>	<u>10 893 000</u>

The Water Account includes all expenditures other than Capital Expenditure for Water.

Water Costs for the City of Fredericton are divided as follows:

- (1) Water Administration (Salaries of Office Staff, Office Equipment, Billing & Collecting) \$ 158 728.80

(2)	Water Ordinary .....	\$ 571 477.50
(3)	Water Pumping Station & Well Production Costs .....	306 989.45
(4)	Amortization Costs (Principal) .....	370 933.04
(5)	Interest Charges .....	<u>416 713.11</u>
	* Less Credits .....	<u>76 087.24</u>
	NET EXPENDITURE .....	<u>\$ 1 748 754.66</u>

\* Credits will be found under individual headings.

(1) WATER ADMINISTRATION

GROSS EXPENDITURE .....	\$ 158 728.80
Less Credits .....	<u>898.20</u>
NET EXPENDITURE .....	<u>\$ 157 830.60</u>

The above credit was made up as follows:

Adjustment Re L.P. MacNeill Salary .....	\$ 888.20
Confirmation of Water Account .....	<u>10.00</u>
	\$ <u>898.20</u>

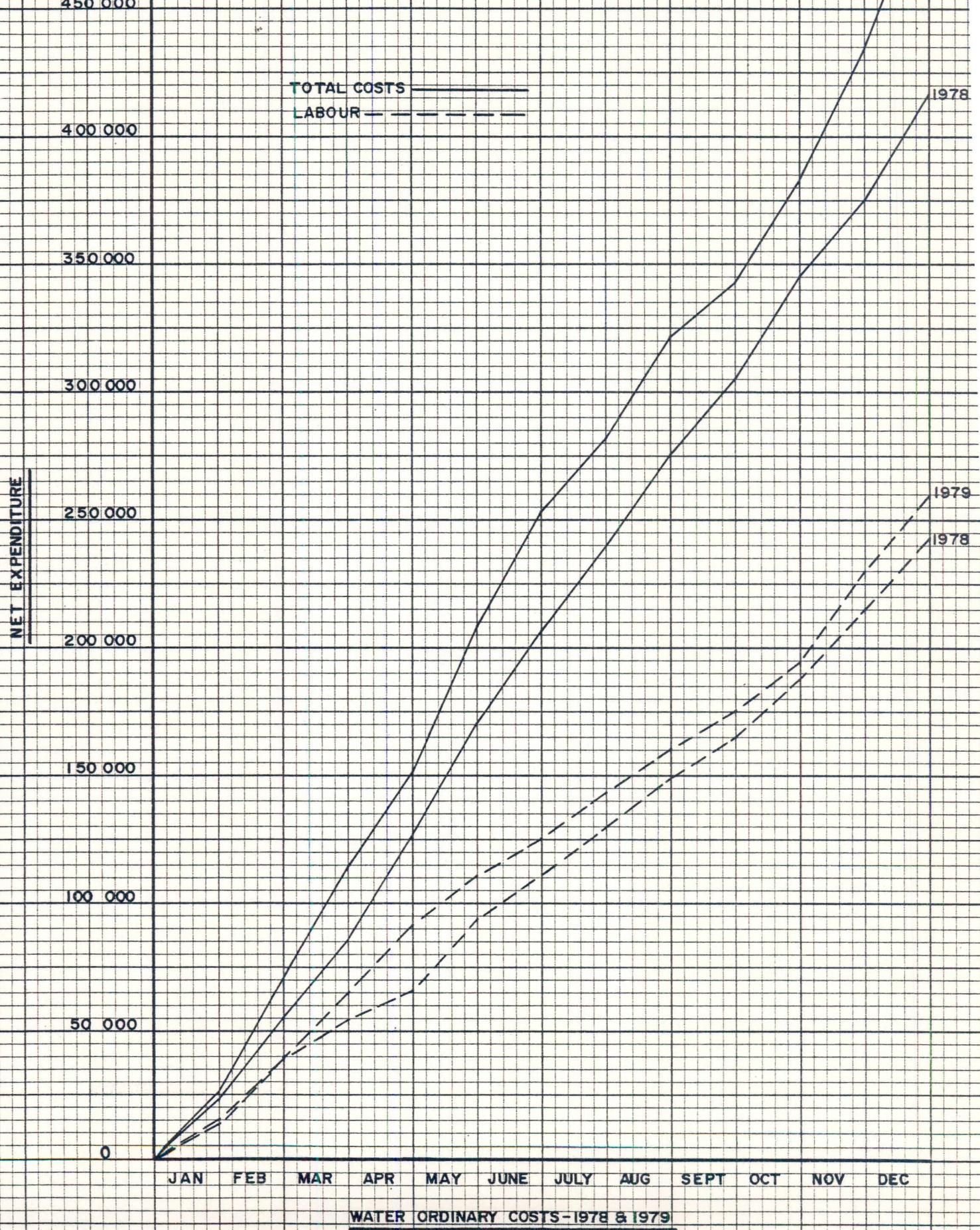
The expenditure for Billing and Collecting was \$107 422.92 made up as follows:

Salaries - Office .....	\$ 63 921.96
Rental of Office Space .....	3 828.00
Equipment & Supplies .....	26 368.85
Telephones .....	1 284.00
Postage .....	<u>12 020.11</u>
TOTAL .....	<u>\$ 107 422.92</u>

(2) \*WATER ORDINARY

The expenditure under this heading was made up as follows:

City Payrolls for Hydrants (Labour).....	\$ 47 082.01
City Payrolls for Hydrants (Maintenance) .	18 878.22
City Payrolls for Meters (Repairs).....	6 622.24
City Payrolls for Meters (Reading).....	16 618.21
City Payrolls for Meters (Installations) .	23 791.93
City Payrolls for Water (Maintenance)....	100 189.42
City Payrolls for Water (Installation)...	28 606.53
City Payrolls for Boosters (Labour - Outside Operators).....	17 179.56
City Payrolls for Boosters (Maintenance) .	6.24
Hired Machinery Charges.....	22 645.05
Vehicle Repair (Excluding Shop Labour)...	2 604.63
City Machinery Charges .....	69 669.50



Materials.....	\$ 110 303.14
Hydrants (Maintenance & Installation Materials).....	32 693.48
Meters (Maintenance & Installation Materials).....	<u>74 587.34</u>
	\$ 571 477.50
Less Credits .....	<u>71 564.04</u>
NET EXPENDITURE .....	\$ 499 913.46

\* Includes Meters

Meters:

On December 31, 1979 there were 9 723 water services on meter and 980 on Flat Rate, making a total of 10 703.

480 meters were installed in 1979, 221 regular meters changed to TRT, and 35 ARB meters changed to TRT.

In 1979, 9 discontinued services were excavated and shut off at the main, 114 stopped meters replaced and 54 frozen meters replaced.

The following sprinklers were installed in 1979:

- 1.) York County Properties (York Manor - Dixon Lodge)
- 2.) Fredericton Mall Extension
- 3.) Tractors & Equipment Ltd.

There are in the City as of December 31, 1979, 1 321 Hydrants, broken down in the following areas:

Fredericton South .....	633
Fredericton North .....	134
Nashwaaksis .....	229
Marysville .....	126
Barker's Point .....	63
Silverwood .....	<u>27</u>
Sub-Total ..	1 212
Located on Private Property .....	<u>109</u>
TOTAL .....	<u>1 321</u>

Hydrants were installed at the following locations in 1979:

Location	Number
Angel View Court	2
Mitchell Street	1
Talmadge Court	1
Ascot Court	1
Ascot Drive	3
Stradford Street	3

<u>Location</u>	<u>Number</u>
Gloucester Crescent	2
Hanwell Road	6
Prospect Street	5
Case Street	5
Monteith Drive	2
Mayflower Street	1
Broad Street	2
Juniper Court	2
Mulberry Court	1
Cherry Avenue	1
Sierra Drive	1
Hermitage Park Development (Private)	7
Rocca Commercial Development -	
Lincoln Rd. (Private)	2
Daily Gleaner Building - Prospect	
St. (Private)	1
Five Estates - Angel View Court	
(Private)	1
York County Properties (York	
Manor - Dixon Lodge)	
(Private)	1
TOTAL .....	<u>51</u>

Distribution System:

New Services Installed in 1979 .....	128
Old Services Relayed in 1979 .....	13
Frozen Services that had to be thawed	80

The Fredericton Distribution System consists of 151.325 miles (243.534 km) of watermain, made up as follows:

Size	LENGTH OF MAINS - MILES					Total
	Marysville	Nashwaaksis	Barker's Point	Silverwood Garden Creek	Fredericton	
1 $\frac{1}{4}$ " (31.25 mm)	-	0.153	-	-	-	0.095
1 $\frac{1}{2}$ " (37.5 mm)	-	0.072	-	-	-	0.045
2" (50 mm)	-	-	-	0.154	-	0.096
3" (75 mm)	-	-	-	-	0.435	0.270
4" (100 mm)	0.753	2.232	-	2.094	10.380	9.612
6" (150 mm)	11.696	20.615	3.915	3.473	56.314	59.662
8" (200 mm)	7.268	12.810	2.433	2.158	34.993	38.705
10" (250 mm)	5.361	10.643	0.954	2.580	36.750	22.836
	3.331	10.342	0.593	1.603	18.953	11.777
	2.465	5.002	5.163	0.262	19.788	
	1.532	3.108	3.208	0.163		

Size	Marysville	Nashwaaksis	Barker's Point	Silverwood Garden Creek	Fredericton	Total
12" (300 mm)	0.614 0.383	1.727 1.073	0.031 0.019	4.558 2.832	22.720 14.118	18.421
14" (350 mm)	-	-	-	-	3.064 1.904	1.904
16" (400 mm)	-	-	-	-	2.556 1.588	1.588
18" (450 mm)	0.249 0.155	-	-	-	1.577 0.980	0.980
Unknown					-	0.151
TOTAL	13.137	28.860	6.253	8.153	94.922	151.321

Mileages for Marysville, Nashwaaksis, Barker's Point, and Silverwood are approximate only, due to measurement from maps in some instances.

This does not include the watermains installed by the National Defence at the Exhibition Grounds; the University of New Brunswick; St. Anne's Point Barracks on the Woodstock Rd. and the low rental housing development in Fredericton North.

The supply system consists of 0.36 miles of 14" Cast Iron Pipe, extending from the well site at Wilmot Park to the Pumping Station; 0.16 miles of 12" cast iron pipe extending from well on the south bank of the St. John River on Woodstock Rd. to the well site of #1 Well at Wilmot Park; and 0.10 miles of 15" Steel Pipe extending from the In-Take Pier in the St. John River to the Pumping Station.

Following is a list of vehicles used and charged to "Water Ordinary" showing a comparison of repair charges for 1978 and 1979, including tires and tubes:

Name of Vehicle	Year Purchased	1978 Repairs	1979 Repairs
G.M.C. 1/2 Ton #2	1975	\$ 1 268.67	\$ 3 167.14
G.M.C. 1/2 Ton #7	1972	1 023.96	635.49
Ford 1/2 Ton Van #9	1978	156.95	248.01
G.M.C. 1/2 Ton Van #11	1971	186.97	271.99
Chevrolet 1/2 Ton #12	1979	-	312.61
Miller Welder #91	1971	-	13.88
Chevrolet 1/2 Ton #117	1979	-	445.37
Dodge 1/2 Ton #118	1974	1 276.91	512.77
Dodge 1/2 Ton #301	1974	491.76	1 010.22
TOTALS		\$ 4 405.22	\$ 6 617.48

The following machinery was purchased in 1979 and charged to "Water Ordinary".

1 - Chevrolet 1/2 Ton - Asset No. 12

Price .....	\$ 5 508.63
Plus 8% S.S.&E. Tax .....	440.69
License & Registration .....	6.00
<b>TOTAL COST ...</b>	<b>\$ 5 955.32</b>

1 - Chevrolet 1/2 Ton - Asset No. 117

Price .....	\$ 5 885.03
Plus 8% S.S.&E. Tax .....	470.80
License & Registration .....	<u>6.00</u>
TOTAL COST .	<u>\$ 6 361.83</u>

(3) WATER PUMPING STATION

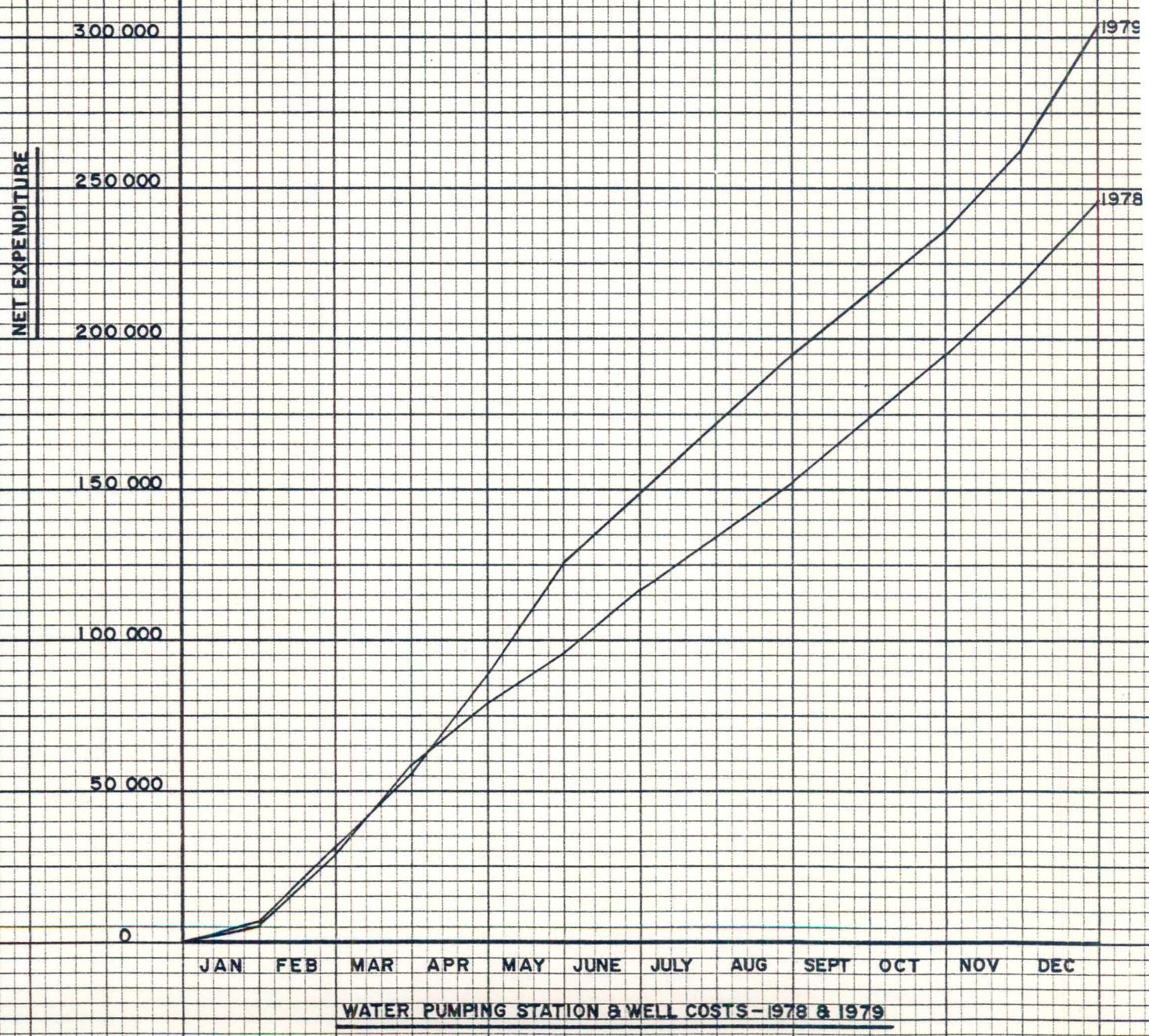
GROSS EXPENDITURE .....	\$ 306 989.45
Less Credits .....	<u>3 625.00</u>
NET EXPENDITURE .....	<u>\$ 303 364.45</u>

The above expenditure was made up as follows:

City Payrolls for Employees at Fredericton Pumping Station (Including Carleton Pumps) .....	\$ 92 672.86
Labour charged to City Wells .....	30 055.72
Labour for Well Repairs - Source (Outside Operation) .....	19 209.89
City Labour for Plant Maintenance .....	257.78
Maintenance of Plant Equipment (By Others)	1 062.50
Material Charges .....	151 712.96
City Analyst .....	3 926.44
Taxes & Insurance .....	<u>8 091.30</u>
Less Credits .....	<u>3 625.00</u>
NET EXPENDITURE .....	<u>\$ 303 364.45</u>

The material cost of \$151 712.96 was made up as follows:

N.B.E.P.C. (Power at Wells) .....	\$ 91 325.92
N.B.E.P.C. (Power at Plant) .....	32 067.85
Materials (Wells) .....	7 740.67
Heating (Plant) .....	3 141.97
Supplies (Plant) .....	978.49
Diesel & Lubricants (Plant) .....	859.62
Miscellaneous (Plant) .....	2 054.91
Materials used in Maintenance of Equipment (Plant) .....	2 757.81
Chlorine for Purification & Treatment ....	5 458.06
Chlorinator Parts .....	295.95
H.T.H. Crystals & Tablets .....	1 118.88
Other Chemicals for Purification & Treatment .....	<u>3 912.83</u>
Less Credits: Return of Cylinders .....	<u>3 625.00</u>
NET EXPENDITURE .....	<u>\$ 148 087.96</u>



Heating:

Following is the yearly consumption and costs of heating the Fredericton Pumping Station Plant for the last ten years:

Year	Gallons of Furnace Oil	Cost
1970	5 829.6	\$ 840.79
1971	5 125.0	810.45
1972	5 547.0	913.02
1973	4 895.0	961.12
1974	5 774.0	1 836.79
1975	6 076.4	2 132.89
1976	5 737.6	2 156.01
1977	4 991.7	2 176.81
1978	5 069.0	2 459.14
1979	5 563.5	3 141.97

COMPARISON OF WATER PUMPED AND COSTS FOR  
FREDERICTON SOUTH (FORMER BOUNDARY) FOR THE LAST TEN YEARS

Year	Imperial Gallons Produced	Production Expenditure	Production Cost Per 1 000 Gallo
1970	796 421 300	\$ 72 282.38	9.1 cents
1971	841 712 300	76 827.46	9.1 cents
1972	921 309 300	81 585.18	8.9 cents
1973	941 502 100	81 478.87	8.66 cent
1974	962 420 800	105 320.82	10.94 cent
*1975	1 406 595 940	165 319.34	11.75 cent
*1976	1 420 884 270	207 272.52	15.00 cent
*1977	1 421 803 820	215 683.16	15.17 cent
*1978	1 387 438 500	246 509.77	17.77 cent
*1979	1 458 038 070	303 364.45	20.81 cent

\* Production Costs for the entire Amalgamated Area

The columns in the preceding comparison, showing Imperial Gallons produced, does not include water used from wells in the other sections of the City prior to 1975.

The total amount of water pumped from January 1, 1979 to December 31, 1979 for the entire City was 1 458 038 070 Imperial Gallons divided as follows:

Fredericton South .....	844 414 100
Fredericton North .....	140 085 470
Nashwaaksis .....	176 567 500
Marysville .....	105 120 000
Barker's Point .....	48 800 600
Silverwood & Duval .....	100 923 300
Killarney .....	42 127 100
TOTAL ...	<u>1 458 038 070</u>

The total net water expenditure (operating) for the City from January 1, 1979 to December 31, 1979 was determined from the following:

Source of Supply .....	\$ 148 332.20
Power & Pumping .....	131 775.70
Maintenance of Equipment .....	4 078.09
Purification & Treatment .....	11 087.16
Transmission & Distribution (Operation) .....	52 152.49
Transmission & Distribution (Maintenance) .....	322 473.01
Other (Taxes & Insurance) .....	<u>11 400.22</u>
TOTAL .....	<u>\$ 681 298.87</u>

Therefore, the net operating cost to pump and deliver to the customer 1 000 Imperial Gallons of Water from January 1, 1979 to December 31, 1979 was:

$$\frac{\$ 681 298.87}{1 458 038.070} = \$0.47$$

All the preceding costs shown under "Water Pumping Station" and "Water Ordinary" do not include bond payments or sinking fund charges.

The cost of 1 000 gallons of water delivered including principal and interest is as follows:

Total Net Administration & Operating Costs .	\$ 961 108.51
Principal and Interest .....	<u>787 646.15</u>
TOTAL COSTS ....	<u>\$ 1 748 754.66</u>

Total Cost of Water per Thousand Gallons:

$$\frac{\$ 1 748 754.66}{1 458 038.070} = \$1.20$$

Principal and Interest Costs:

$$\frac{\$ 787 646.15}{1 458 038.070} = \$0.54$$

Administration and Operating Costs:

$$\frac{\$ 961 108.51}{1 458 038.070} = \$0.66$$

Following is a table showing a comparison of net operating costs, administration and operating costs, principal and interest costs, and total costs per 1 000 Gallons from 1968 to 1979:

COSTS PER 1 000 GALLONS IN CENTS

Year	Net Operating	Administration & Operating	Principal & Interest	*Total Cost
1968	18.9	24.1	24.8	48.9
1969	29.3	36.4	17.7	54.1
1970	19.6	26.2	19.1	45.3
1971	21.2	27.8	22.3	50.1
1972	24.0	30.6	18.3	48.9
1973	18.8	29.3	18.2	47.5
**1974	29.0	42.0	23.0	65.0
**1975	33.0	48.0	27.0	75.0
**1976	34.0	52.0	49.0	\$ 1.01
**1977	37.0	54.0	60.0	\$ 1.14
**1978	40.0	57.0	57.0	\$ 1.14
**1979	47.0	66.0	54.0	\$ 1.20

\* Total Cost = Administration & Operating + Principal & Interest

\*\* Values from 1968 to 1973 are for pre-amalgamated City only while values from 1974 to 1979 are for the amalgamated City.

The Water Pumping Station is under the supervision of Plant Supervisor, Mr. George Parker.

(4) HYDRANT REVENUE

Hydrant Rental for Fire Protection amounted to \$538 500. in 1979.

WATER AND SEWER REVENUE - 1979

WATER:

Item	Net Expenditure	Revenue
<u>Water Office Administration</u>		
(a) Administrative (Eng. Dep't. Staff)	\$ 50 407.68	\$
(b) Billing & Collecting (Office)	107 422.92	
<u>Water Ordinary</u>		
(a) General - Operating & Maintenance	280 520.28	1 162 706.2
(b) Meters	121 979.04	46 279.3
(c) Hydrants	97 414.14	538 500.0
<u>Water Pumping Station</u>		
(a) General Costs - Wells, Plant, Purification & Treatment, Etc.	291 346.71	
(b) City Analyst	3 926.44	
(c) Taxes & Insurance	8 091.30	
<u>Principal &amp; Interest</u>	787 646.15	
<b>TOTALS</b>	<b>\$ 1 748 754.66</b>	<b>\$ 1 747 485.55</b>

Deficit: \$ 1 269.11

SANITARY SEWER:

Item	Net Expenditure	Revenue
Sewerage Domestic - Maintenance & Installation	\$ 256 448.41	\$ 1 016 947.
Pollution Control - Lincoln	6 005.74	-
Pollution Control - Woodstock Rd.	5 444.93	-
F.A.P.C.C. Sewage Treatment	551 520.03	-
Principal & Interest	164 888.27	-
TOTALS	\$ 984 307.38	\$ 1 016 947.

Surplus: \$ 32 640.07

Accompanying this Report is the Report of Judy Mercer, City Analyst, on the Fredericton Water Supply from January 1, 1979 to December 31, 1979.

In May of 1979 the City Lab, located at the Queen Street Pumping Station, was renovated. Along with the renovations a new method for testing for total coliforms was adopted. The most probable number method was replaced with the membrane filter technique.

The major advantage of this new method is that results are obtained in approximately 24 hours as compared with 48 - 96 hours for the standard fermentation tube method. Also larger, more representative samples of water can be used and numerical results from membrane filters have much greater precision than the fermentation tube method.

Coliforms themselves are relatively harmless but they are almost always present in water that contains enteric pathogens. Coliforms are used as an indicator because they are easy to isolate and they survive longer than disease producing organisms. Thus, water that is free of total coliform is considered free of disease producing bacteria.

Four or more coliform organisms in 100 ml samples established by membrane filter tests indicates the need for immediate remedial action and additional examinations.

The only real problem concerning the presence of total coliforms was Nashwaaksis Well #2. Several consecutive samples in July disclosed the presence of coliforms. Chlorination of the well water was begun. The problem with the raw water was cleared up quickly but the chlorination was continued for safety purposes.

Another problem at Union Street concerned the high levels of iron and manganese in the water. This was due to a build up at the end of a line. Flushing the line didn't alleviate the problem. These levels of iron and manganese are not a health hazard but they do cause considerable staining in the home.

Following is a list of the results of bacteriological tests on water samples for the presence of the coliform group for the year 1979.

These samples include monthly samples from the Fredericton wells, spot-checking throughout the system, special problems and complaints, and samples from new lines before they are added to the system.

NOTE: All of the well samples (unless otherwise stated) are taken before chlorination.

Judy Mercer,  
City Analyst

Date	Sample Location	Total Coliform
May 9	595 Maple Street (residue after boiling)	Nil
May 10	Nashwaaksis Well #2	Nil
May 10	Nashwaaksis Well #3	Nil
May 15	340 Inglewood Drive	Nil
May 23	Silverwood Reservoir	Nil
May 23	Silverwood Well #2	Nil
May 23	Silverwood Well #3	Nil
May 23	Hanwell Well	Nil
May 23	Duval Well	Nil
May 23	Wilmot Park Well #3	Nil
May 23	Wilmot Park Well #4	Nil
May 23	Wilmot Park Well #1	Nil
May 23	Wilmot Park Well #5	Nil
May 24	Barker's Point Well #1	Nil
May 24	Barker's Point Well #2	Nil
May 24	Marysville Well #1	Nil
May 24	Marysville Well #2	Nil
May 24	Cliffe Street Well	Nil
May 24	Carleton Well	Nil
May 24	St. Marys Street Well	Nil
May 24	Killarney K-10 Well	Nil
May 24	Killarney K-1 Well	Nil
May 24	Nashwaaksis Well #1	Nil
May 24	Nashwaaksis Well #2	Nil
May 24	Nashwaaksis Well #3	Nil
May 29	3/4" B.O. Angel View Court	Nil

Date	Sample Location	Total Coliform
May 29	Maple - McKeen Well	Nil
May 29	65 Ashfield Street (residue after boiling)	Nil
May 30	37 Westview Dr.	Nil
June 1	315 Carleton Street Extension	Nil
June 21	Angel View Apartments (Watermain)	Nil
June 28	Hanwell Well	Nil
June 28	Silverwood Reservoir	Nil
June 28	Silverwood Well #2	Nil
June 28	Silverwood Well #3	Nil
June 28	Silverwood Lagoon Effluent	(BOD <sub>5</sub> = <10 mg/l) (SS = <10 mg/l)
June 28	Duval Well	---
June 28	Wilmot Park Well #3	Nil
June 28	Wilmot Park Well #4	Nil
June 28	Wilmot Park Well #1	Nil
June 28	Wilmot Park Well #5	Nil
June 29	Barker's Point Well #1	Nil
June 29	Barker's Point Well #2	Nil
June 29	Cliffe Street Well	Nil
June 29	Carleton Well	Nil
June 29	Killarney K-1 Well	Nil
June 29	Killarney K-10 Well	Nil
June 29	St. Marys Street Well	1 coliform/100 ml sample
June 29	Marysville Well #1	Nil
June 29	Marysville Well #2	Nil
June 29	Maple - McKeen Well	Nil

Date	Sample Location	Total Coliform
June 29	Nashwaaksis Well #2	Nil
June 29	Nashwaaksis Well #3	Nil
July 4	End of Juniper Court	Nil
July 4	End of Mulberry Court	Nil
July 4	3/4" B.O. in WGMH at Clarence & MacFarlane	50 coliform/100 ml sample
July 4	Barker's Point Wading Pool (Scum on surface)	Nil
July 9	Talmadge Court	Nil
July 10	3/4" B.O. in WGMH at Clarence & MacFarlane	27 coliform/100 ml sample
July 10	226 A MacFarlane St. (Outside Tap)	4 coliform/100 ml sample
July 12	226A MacFarlane St. (Kitchen Tap)	8 coliform/100 ml sample
July 12	3/4" B.O. in WGMH, Sabine Heights End of Fulton Ave.	Nil
July 12	3/4" B.O. in WGMH, Sabine Heights End of Cherry Ave.	Nil
July 13	Nashwaaksis Well #1	Nil
July 13	Nashwaaksis Well #2	27 coliform/100 ml sample
July 13	Nashwaaksis Well #3	Nil
July 13	226 MacFarlane St.	Nil
July 13	220 MacFarlane St.	2 coliform/100 ml sample
July 13	104 Clarence Avenue	Nil
July 16	Nashwaaksis Well #2 (right tap) (left tap)	TNTC (Too Numerous to count) TNTC
July 21	Nashwaaksis Well #2 Before Chlorination After Chlorination	Nil Nil
July 24	Chippin Subdivision #16-78	6 coliform/100 ml sample

Date	Sample Location	Total Coliform
Aug. 1	Chippin Subdivision #16-78	8 coliform/100 ml sample
Aug. 1	574 Broad Street (Tap)	1 coliform/100 ml sample
Aug. 2	Mitchell Street #1-79	Nil
Aug. 10	200 Inglewood Drive (Bad Taste)	Nil
Aug. 13	Chippin Subdivision #16-78 (Reflushed with Chlorine)	Nil
Aug. 13	Angel View Apt.	Nil
Aug. 14	MacFarlane St.	Nil
Aug. 16	348 MacPherson St.	Nil
Aug. 23	Silverwood Reservoir	Nil
Aug. 24	Silverwood Reservoir	Nil
Aug. 24	Silverwood Well #3	2 coliform/100 ml sample
Aug. 24	Silverwood Well #2	Nil
Aug. 24	Duval Well	Nil
Aug. 24	Wilmot Park Well #3	Nil
Aug. 24	Wilmot Park Well #4	Nil
Aug. 24	Wilmot Park Well #1	Nil
Aug. 24	Wilmot Park Well #5	Nil
Aug. 24	Hanwell Well	1 coliform/100 ml sample
Aug. 28	Carleton Well	Nil
Aug. 28	Killarney K-10 Well	Nil
Aug. 28	Killarney K-1 Well	Nil
Aug. 28	St. Marys St. Well	Nil
Aug. 28	Maple - McKeen Well	Nil
Aug. 28	Nashwaaksis Well #3	Nil
Aug. 28	Nashwaaksis Well #2 Before Chlorination	Nil
	After Chlorination	Nil

Date	Sample Location	Total Coliform
Aug. 28	Barker's Point Well #1	Nil
Aug. 28	Barker's Point Well #2	Nil
Aug. 28	Marysville Well #1	Nil
Aug. 28	Marysville Well #2	Nil
Aug. 28	Silverwood Well #3 (resample)	1 coliform/100 ml sample
Aug. 28	Hanwell Well (resample)	5 coliform/100 ml sample
Aug. 29	Foley Court	Nil
Sept. 4	Sewell Street	Nil
Sept. 20	Veterans Court (before flushing)	Nil
Sept. 26	Barker's Point Well #1	Nil
Sept. 26	Barker's Point Well #2	Nil
Sept. 26	Marysville Well #1	Nil
Sept. 26	Marysville Well #2	Nil
Sept. 26	Nashwaaksis Well #1	Nil
Sept. 26	Nashwaaksis Well #2	Nil
Sept. 26	Nashwaaksis Well #3	1 coliform/100 ml sample
Sept. 26	St. Marys Street Well	Nil
Sept. 26	Carleton Well	4 coliform/100 ml sample
Sept. 26	Killarney K-1 & K-10 Wells Combined	Nil
Sept. 26	Maple - McKeen	1 coliform/100 ml sample
Sept. 26	41 Veterans Court	Nil
Sept. 27	Silverwood Reservoir	Nil
Sept. 27	Silverwood Well #3	Nil
Sept. 27	Silverwood Well #2	Nil
Oct. 17	77 Cliffe Street (Yellow Water)	3 coliform/100 ml sample

Date	Sample Location	Total Coliform
Oct. 22	310 Union Street	(Iron = 0.3 mg/l)
Oct. 22	Auto Machinery Industrial Park	(Iron = 0.1 mg/l) (Manganese = 0.05 mg/l)
Oct. 23	Silverwood Reservoir	1 coliform/100 ml sample
Oct. 23	Silverwood Well #3	---
Oct. 23	Silverwood Well #2	Nil
Oct. 23	Hanwell Well	Nil
Oct. 23	Duval Well	Nil
Oct. 23	Wilmot Park Well #3	Nil
Oct. 23	Wilmot Park Well #4	Nil
Oct. 23	Wilmot Park Well #1	Nil
Oct. 23	Wilmot Park Well #5	Nil
Oct. 23	Sewell Street	(Iron = < 0.05 mg/l) (Manganese = < 0.05 mg/l)
Oct. 24	Barker's Point Well #1	Nil
Oct. 24	Barker's Point Well #2	Nil
Oct. 24	Carleton Well	3 coliform/100 ml sample
Oct. 24	St. Marys Street Well	Nil
Oct. 24	Nashwaaksis #1	Nil
Oct. 24	Nashwaaksis #2	Nil
Oct. 24	Nashwaaksis #3	Nil
Oct. 24	Maple - McKeen	Nil
Oct. 24	Marysville #1	Nil
Oct. 24	Marysville #2	Nil
Oct. 24	Killarney K-1 & K-10 combined	Nil
Oct. 25	77 Cliffe Street	Nil
Oct. 29	200 Inglewood Drive	(FE = < 0.05 mg/l) (Mn = < 0.05 mg/l) Nil

Date	Sample Location	Total Coliform
Oct. 29	310 Union Street (Rusty Water)	(FE = 0.3 mg/l) (Mn = 0.3 mg/l)
Nov. 1	310 Union Street (After Flushing Main)	(FE = 0.3 mg/l) (Mn = 0.2 mg/l)
Nov. 5	911 Union Street (Bad Smell)	2 coliform/100 ml sample
Nov. 6	J. Martin Residence Springhill Road	Nil
Nov. 6	Monteith Drive Thru Hydrant End of Mayflower St. Thru Hydrant at Monteith & Mayflower Sts.	Nil Nil
Nov. 7	B.O. in DSMH End of Ascot Dr.	Nil
Nov. 7	B.O. in DSMH End of Ascot Ct.	12 coliform/100 ml sampl
Nov. 8	310 Union Street (Rusty Flakes in Water)	(Fe = 0.4 mg/l) (Mn = 0.3 mg/l)
Nov. 8	911 Union St.	Nil
Nov. 9	Auto Machinery (staining)	(FE = <0.05 mg/l) (Mn = 0.1 mg/l)
Nov. 15	A.H. Halfway up new line	Nil
Nov. 16	B.O. at 7 + 50 Hanwell Road Sample #1 (turbid)	
Nov. 16	B.O. at 7 + 50 Hanwell Road Sample #2	
Nov. 26	Rocca Mall	Nil
Nov. 30	Silverwood Reservoir	Nil
Nov. 30	Silverwood Well #3	Nil
Nov. 30	Silverwood Well #2	Nil
Nov. 30	Duval Well	Nil
Nov. 30	Hanwell Well	Nil
Nov. 30	Wilmot Park Well #3	Nil
Nov. 30	Wilmot Park Well #4	Nil

Date	Sample Location	Total Coliform
Nov. 30	Wilmot Park Well #1	Nil
Nov. 30	Wilmot Park Well #5	Nil
Nov. 30	Watermain at Stone Bridge Sunset & Main, Na'sis.	1 coliform/100 ml sample
Dec. 5	Nashwaaksis Well #1	Nil
Dec. 5	Nashwaaksis Well #2	Nil
Dec. 5	Nashwaaksis Well #3	Nil
Dec. 5	Maple - McKeen Well	Nil
Dec. 5	St. Marys Street Well	Nil
Dec. 5	Killarney K-1 & K-10 combined	Nil
Dec. 5	Marysville Well #1	Nil
Dec. 5	Marysville Well #2	Nil
Dec. 5	Barker's Point Well #1	Nil
Dec. 5	Barker's Point Well #2	2 coliform/100 ml sample
Dec. 5	Carleton Well	Nil
Dec. 5	Watermain at Stone Bridge Sample #2	Nil
Dec. 6	Hanwell Road #7-79	Nil
Dec. 6	Prospect Street #7-79	Nil