

# ANNUAL REPORT OF THE ENGINEERING AND PUBLIC WORKS DEPARTMENT

## 1960



INDEXPAGE

Letter of Transmittal .....	1
Total Yearly Expenditure .....	3
Roads and Streets .....	4 - 14
Winter Works Program .....	15
Capital Account - Curb and Gutter .....	16
Capital Account - Paving .....	17 - 19
Capital Account - Sewer Domestic .....	20 - 21
Capital Account - Surface Sewer .....	22 - 23
Capital Account - Water .....	24 - 26
Capital Account - Gravel Roads .....	27 - 28
Capital Industrial Area (Roads) .....	28 - 29
Local Improvement .....	30
Public Works .....	31 - 34
Odell Park .....	34 - 35
Carleton Park .....	35
Wilmot Park .....	36
Recreation .....	36
City Hall .....	37
Municipal Home .....	37
Sewerage Domestic .....	38
Old Burial Ground .....	39
Cement Walks .....	39 - 40
Sanitation .....	40 - 44
City Scales .....	45
Paint Department .....	45 - 46
Fire Department .....	47
Administration of Justice .....	47
Governor General's Visit .....	48
Loyalist Burial Ground .....	48
Municipal Parking Lot .....	48
J. T. Clark Memorial Building .....	48
Contingent .....	49
Lady Beaverbrook Rink .....	49
Street Lights .....	49 - 54
Water .....	55 - 59
Water Ordinary .....	55 - 56
Hydrants .....	57
Meters .....	57 - 58
Distribution System .....	58
Water Pumping Station .....	59 - 61
Report of E. W. Hagerman, City Analyst .....	62 - 64

TO HIS WORSHIP THE MAYOR AND ALDERMEN  
of THE CITY OF FREDERICTON.

Madam and Gentlemen:

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

This report covers the period January 1, 1960 to  
December 31, 1960 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 work:-

New Pavement, 3/4" Dense Mix(Diamond Construction Company) .....	4.49 miles
Resurfacing and Sealing City Streets (Diamond Construction Company) .....	4.49 miles
Resurfacing and Sealing City Sidewalks (Diamond Construction Company) .....	1.96 miles
Concrete Curb and Gutter .....	4.03 miles
Concrete Sidewalk .....	.57 miles
Grading and Gravelling .....	7.86 miles
Ditching (Outlying Roads) .....	3.80 miles
Gravel Road Construction or partial construction) .....	.87 miles
Industrial Site (Road cleared and grubbed for 1961 construction) .....	.64 miles
Sanitary Land Fill, Wilsey Road (Preliminary preparation)	
10" to 48" Surface Sewer .....	1.26 miles
8" & 12" Domestic Sewer .....	1.51 miles
6" to 12" C. I. Water Main .....	1.21 miles

Contractors under contract with the Public Works  
Department of the City of Fredericton in 1960 completed  
construction, constructed, or began construction on the following  
projects:-

Ashfield Construction Co. Ltd. - To installing Domestic Sewer,  
Surface Sewer and Water on  
Harewood Court.

Ashfield Construction Co. Ltd. - To installing Domestic Sewer  
and Water on the following  
City Streets, namely:-  
Rookwood Avenue (Odell Park),  
Inglewood Drive, Montgomery  
Street (Regent to College Hill  
Road), Montgomery Street (End  
of Domestic Sewer laid in 1959  
to Smythe Street) and McEvoy  
Street.

Ashfield Construction Co. Ltd. - To installing Domestic Sewer  
on College Hill Road  
(Montgomery Street to Central  
Repair Depot).

- J. Hallett Housing Ltd. - Construction of a building to house Pumping Equipment for #3 Well at Wilmot Park.
- Byron Phillips - To clearing and grubbing Industrial Road (7 Acres)
- M. E. Phillips - To repairs to Intake Pier at Fredericton Pumping Station
- Forbes and Sloat - To supplying Pit-Run and Crushed Gravel to City of Fredericton
- International Water Supply - To development of #3 and partial development of #4 Wells, situated in Wilmot Park.
- Diamond Construction Co. - To laying asphalt pavement on City streets and sidewalks

The regular expenditures for the twelve month period, January 1, 1960 to December 31, 1960 appear as follows:-

	<u>Appropriation</u>	<u>Expenditure</u>	<u>Debit</u>	<u>Credit</u>
Street Lights	44,010.00	44,841.71	831.71	
Public Works	24,100.00	24,136.72	36.72	
Roads and Streets	174,500.00	177,013.33	2,513.33	
Sanitation	62,600.00	65,894.74	3,294.74	
Wilmot Park	3,300.00	3,278.21		21.79
Odell Park	7,400.00	9,721.26	2,321.26	
Carleton Park	1,700.00	2,151.68	451.68	
Paint Department	9,500.00	9,555.80	55.80	
Old Burial Ground	2,140.00	2,149.34	9.34	
Street Cleaning	49,355.00	49,257.05		97.95
Loyalist Burial Ground	100.00	100.00		

	<u>Revenue</u>	<u>Net Expenditure</u>	<u>Credit</u>
Water Pumping Station		50,288.09	
Water Ordinary		59,453.11	
Sewerage Domestic	208,929.26	20,461.96	58,569.50
Salaries		20,156.60	

The City of Fredericton occupies a total of some 23.5 square miles. This area excludes the Water area occupied by the Saint John River within the boundaries of the City.

The preliminary report on the 1956 census shows the City's population as 18,303.

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 can be readily found by referring to the index on the preceding page.

Respectfully submitted,

*W. L. Barrett*

City Engineer.

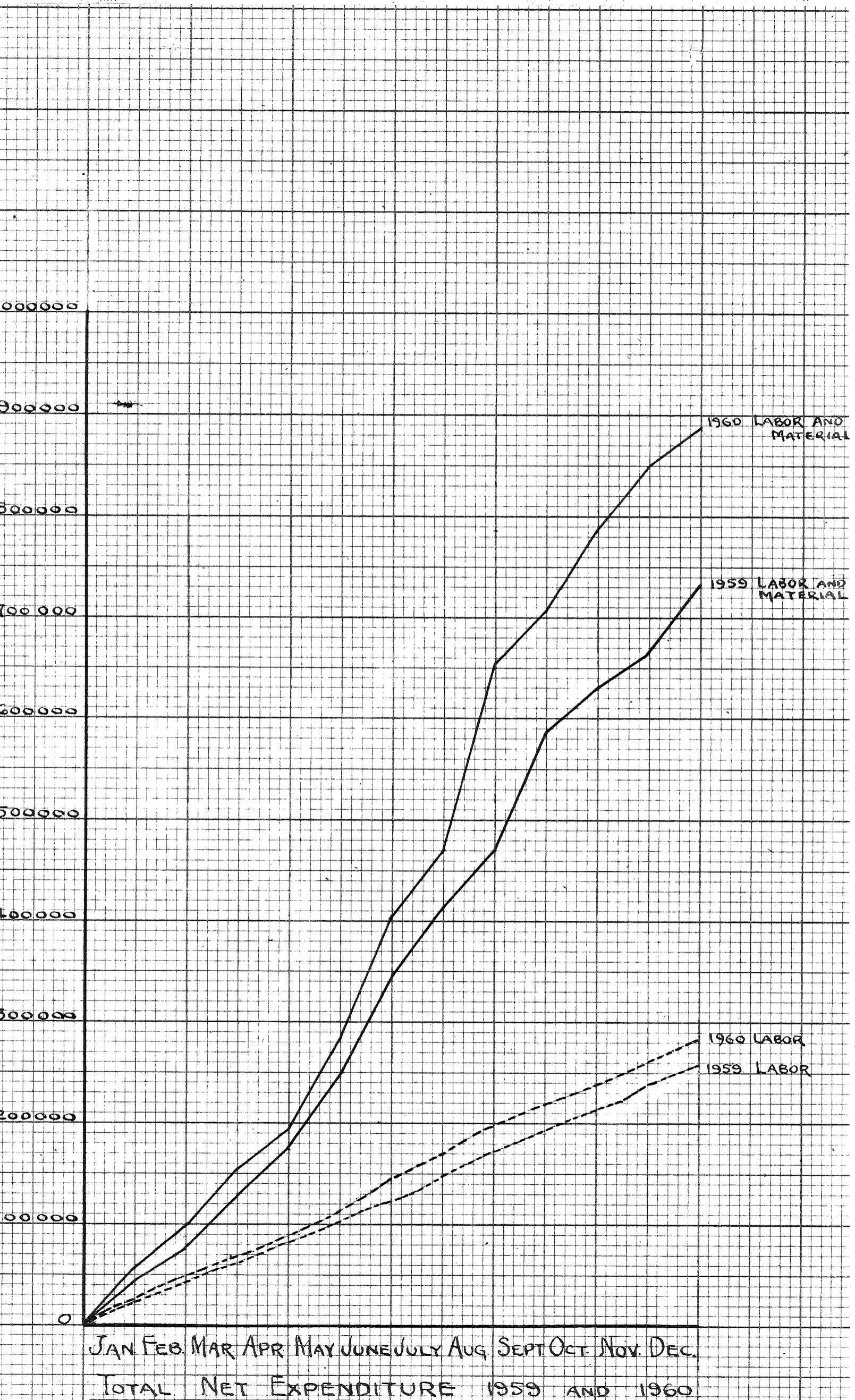
### TOTAL YEARLY EXPENDITURE

The total yearly net expenditure under the direct supervision of the City Engineer in 1960 amounted to \$887,980.74. This expenditure will be taken up in detail under the various headings in this report. The total gross expenditure for 1960 amounted to \$1,009,111.76.

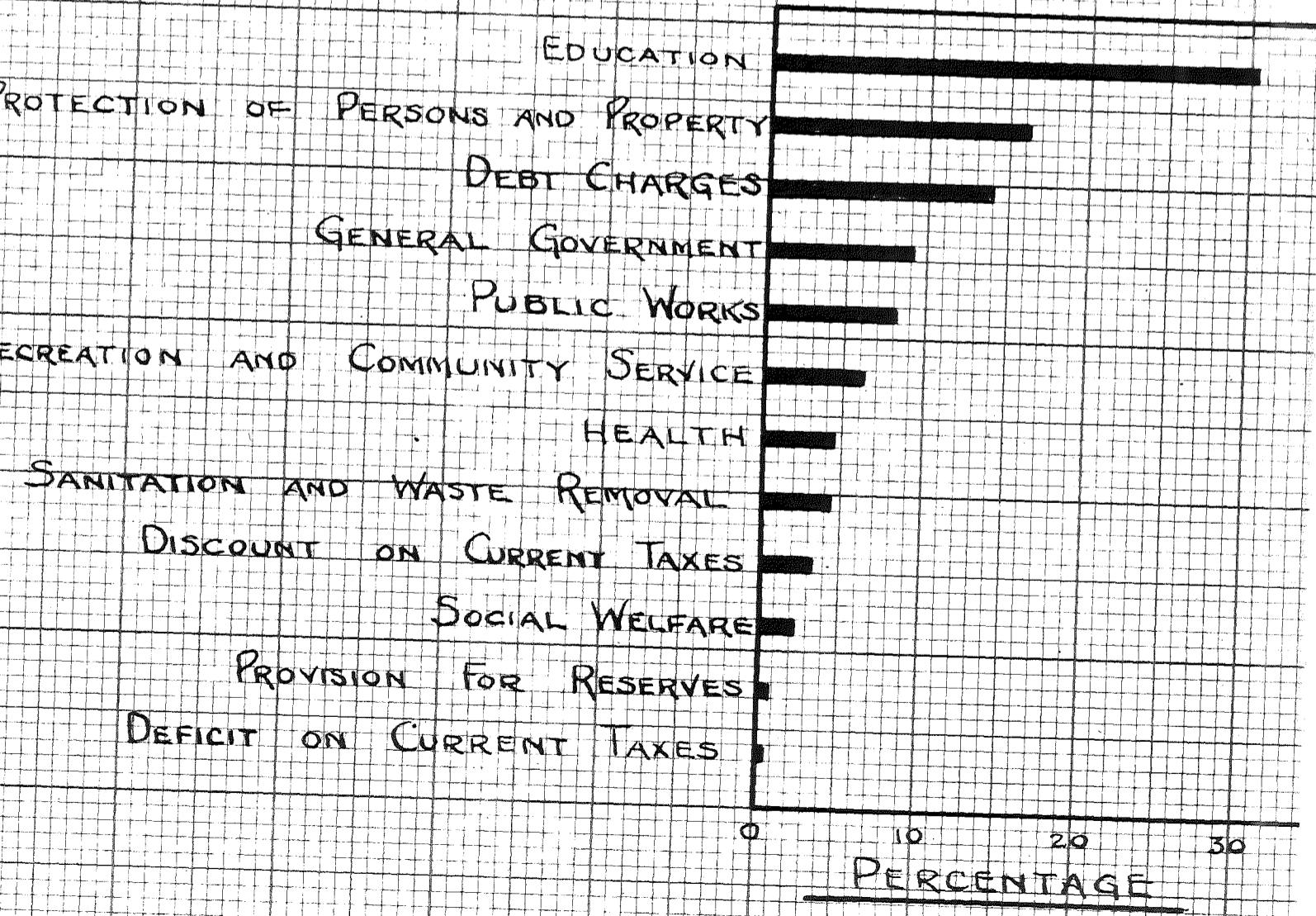
A graphic comparison of expenditures for Labor and Labor and Material for the year 1959 and the year 1960 is shown on the following graph.

The location of new construction completed or commenced in 1960 is shown on three maps inserted after page 3 of this report.

Following the maps is a graph showing the distribution of the City of Fredericton Tax Dollar.



## DISTRIBUTION OF THE 1960 CITY DOLLAR



## ROADS AND STREETS

In 1960 the appropriation for Roads and Streets was \$174,500.00.

There are in Fredericton some 60.94 miles of Roads and Streets; 12.05 miles being located on the north side of the Saint John River and 48.89 miles on the south side. In addition there are 40.64 miles of concrete sidewalks; 6.69 miles on the north side and 33.95 miles on the south side of the Saint John River.

The paved and unpaved Roads and Streets are divided between the Rural and Urban districts (Inside and Outside Tax Rate) as follows:-

<u>Roads and Streets</u>		
	<u>Urban</u>	<u>Rural</u>
Paved	39.55	5.45
Unpaved	6.96	8.98
	<u>46.51</u>	<u>14.43</u>
		<u>Total (Miles)</u>
		45.00
		<u>15.94</u>
		<u>60.94</u>

### Roads and Streets Expenditures - 1960

Gross Expenditure .....	\$ 235,164.06
Credits .....	<u>58,150.73</u>
Net Expenditure .....	177,013.33
1960 Appropriation .....	<u>174,500.00</u>
DEBIT .....	\$ 2,513.33

The above Credits of \$58,150.73 are made up as follows:-

Materials or Charges for Machinery to Private Parties...	\$ 2,401.80
Journal Voucher (Materials sold to other departments)...	336.21
Journal Voucher (Machinery rental on other accounts)....	43,789.25
Journal Voucher (Labor) .....	189.72
Journal Voucher (Gas and Oil) .....	6,611.19
Journal Voucher (Holiday and Sick Leave Account).....	4,082.56
Journal Voucher (Proportion of Compensation Costs).....	<u>740.00</u>
TOTAL .....	<u>\$58,150.73</u>

The Gross Expenditure is divided as follows:-

Labor	- Being the total of Roads and Streets Pay Rolls, which include the cost of hired trucks or any other machinery hired by the hour .....	\$ 109,703.29
Material Charges	- Which includes Workmen's Compensation, Unemployment Insurance and all materials including purchase and repairs to City owned equipment .....	125,460.77

Following is a table comparing Labor Expenditure in these items from 1957 to 1960:-

TABLE COMPARING YEARLY COSTS IN ROADS AND STREETS LABOR ITEMS

<u>ITEM</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
1. Snowploughing Sidewalks	721.59	1,340.20	1,324.35	2,520.81
2. Snow Control	17,654.53	21,490.11	22,115.72	31,282.37
3. Sanding Streets and Walks	4,093.77	9,055.78	10,657.40	8,972.51
4. Streets	25,934.35	24,424.49	34,627.86	37,255.49
5. Surface Sewers	2,864.58	4,085.76	9,985.73	4,975.35
6. Yard	5,338.31	3,876.29	3,417.00	3,729.32
7. Grading and Gravelling	1,668.43	1,298.49	1,037.11	781.31
8. Doak Road	1,497.87	17.12	412.34	830.47
9. Wilsey Road	-----	75.54	877.53	7,023.35
10. New Maryland Road	102.30	1,113.52	54.82	1,531.92
11. Rural Roads	249.56	226.69	441.24	424.30
12. Pavement Repairs & Driveways	6,939.11	8,719.14	4,945.34	9,580.46
13. City Road Patrols	878.56	1,114.30	843.59	783.35
14. Parking Lots	-----	8.68	89.94	12.28
TOTALS	\$ 67,942.96	76,846.11	90,829.97	109,703.29

Some of the above items for Labor may be better understood by the following explanations:-

Item 1 - 40.64 miles of sidewalk were kept ploughed this year. To the labor cost of \$2,520.81 must be added \$1,163.91, (Workmen's Compensation, Pension Fund, Gas, Oil, Repairs and Depreciation) giving a total cost of \$3,684.72 or a unit cost for ploughing of sidewalks of approximately \$90.00 per mile for 1960.

Item 2

<u>Snow Control</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Snowploughing Roads and Streets	3,778.67	4,339.59	4,078.30	6,915.24
Blowing, Hauling and Shovelling Snow	11,298.73	14,794.07	12,565.66	20,240.14
Catch Basins	1,700.65	1,502.68	3,921.80	2,079.39
Snow Fences	480.63	560.21	639.68	618.64
Keeping Drains on the Hills open	250.05	230.60	723.68	1,410.97
Thawing Culverts	145.79	62.96	186.60	17.99
TOTALS	\$ 17,654.52	21,490.11	22,115.72	31,282.37

60.94 miles of Roads and Streets were ploughed and maintained during the winter months.

The unit cost per mile of ploughing and maintaining City Roads and Streets was \$1,355.00 and was calculated as follows:-

Labor (Snow Control) .....	\$ 31,282.37
(Sanding Roads) .....	8,972.51
Workmen's Compensation .....	1,207.65
Pension and Holiday Fund (Paid by City) .....	6,038.23
City Trucks (1879 hours @ \$2.00 per hour) .....	3,758.00
Jeeps (582 hours @ \$1.50 per hour).....	873.00
City Road Patrols (1376 hours @ \$6.00 per hour).....	8,256.00
Sicard Truck Plow (12 hours @ \$10.00 per hour) .....	120.00
City Bulldozers (271 hours @ \$6.00 per hour) .....	1,626.00
(575 hours @ \$4.50 per hour) .....	2,587.50
City Thawing Machines (363 hours @ \$2.00 per hour) ...	726.00
Front End Loader (367 hours @ \$10.00 per hour) .....	3,670.00
City Snow Blower (301½ hours @ \$15.00 per hour) .....	4,522.50
Sand (5917 tons @ 70¢ per ton) .....	4,141.90
Rock Salt (222 tons @ \$19.39 per ton) .....	4,304.58
1960 Ford Sand Spreader (86 hours @ \$6.00 per hour)...	<u>516.00</u>
TOTAL .....	<u>\$ 82,602.24</u>

It is interesting to note the account submitted to the Provincial Government for Snow Control. This account does not exactly coincide with this report, as to dates, being the expenditure made from November 1, 1959 to April 26, 1960. It is a very exact account of Snow Control costs during the above period and is incorporated in this report for record purposes.

Effective 1960 the Provincial Government does not require the above account for Snow Removal Grant purposes.

Snow Fall in Fredericton for the last five years was as follows:-

December 1, 1955 to December 31, 1956 (13 months) ....	139-6/10 inches
January 1, 1957 to December 31, 1957 .....	81-3/10 inches
January 1, 1958 to December 31, 1958 .....	111.25 inches
January 1, 1959 to December 31, 1959 .....	61-5/10 inches
January 1, 1960 to December 31, 1960 .....	88-4/10 inches

Snow Fences:- Eleven thousand feet of lath and wire snow fencing was erected under Snow Control to prevent drifting snow building up on outlying roads.

Item 3

Sanding Streets and Walks:- 5,916 tons of sand was used during the winter of 1960. Cost of the labor for sanding streets and walks during the winter was \$8,972.51.

Item 4

Streets:-

Repairs to Streets (Repairs to Curbs, driveways, sidewalks, bridges, culverts, erecting of guard rails, constructing barricades, rip-rapping, ditching, etc.)....	\$ 6,251.34
Repairs to machinery .....	10,945.44
Dust Control (Unloading and spreading Calcium Chloride) .....	689.72
Weather Account(Holidays) .....	16,572.89
Sodding and Seeding .....	<u>2,796.10</u>
TOTAL .....	<u>\$ 37,255.49</u>

In 1960, 120 tons of Calcium Chloride and 210 tons of salt were purchased for dust control and ice control.

Item 5

Surface Sewers:-

The Surface 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 or extensions needed to the sewer outfalls.

Under this heading no extensions were made this year. The total cost of Surface Sewers amounted to \$8,095.74 which includes Labor, City Machinery and Material.

Item 7

Grading and Gravelling:-

6,765.065 tons of crushed gravel was used in the maintenance and repairs to Gravel Roads under Roads and Streets.

The crushed gravel was purchased from Forbes and Sloat at a cost of 78¢ per ton from stock pile, \$1.26 per ton delivered to the job and \$1.41 per ton delivered to the job, using the Princess Margaret Bridge due to repairs being made to the Fredericton Highway Bridge.

Hauling charges of crushed gravel by hired trucks on City Pay Rolls were 45¢ per ton delivered to the job and 60¢ per ton delivered to the job when using the Princess Margaret Bridge.

The total cost including labor, material and machinery for maintenance of Gravel Roads under the heading "Roads and Streets" amounted to \$16,075.54.

Under this heading the following roads or sections of roads were gravelled:- Smythe Street from Montgomery Street to Trans-Canada Highway; Priestman Street, Doak Road, Wilsey Road, Highland Avenue, McEvoy Street, Squires Street, Forest Hill Road, Woodbridge Street, Hazen Street and the shoulders of the Lincoln Road and Maryland Hill Road where necessary. A stock pile was also placed in the City Yard for spring frost boils and excavation repairs.

Item 8

Doak Road:-

The bushes were cut along the right of way of the above road and sections of the Doak Road were gravelled.

Item 9

Wilsey Road:-

Considerable work this year was done on this road. Bushes were cut, ditches were dug and the road was gravelled from the Old Dump Road to the Trans-Canada Highway. Most of this work was done under Winter Works Programme and the City will be reimbursed for a portion of the cost.

Item 10

New Maryland Road:-

The labor charge of \$1,531.92 was made up of wages to cutting bushes along the right of way to the City line and cleaning the refuse paper, garbage, etc. from the road. Part of the expenditure on this road was charged to Winter Works Programme and will be paid for by the Federal Government.

Item 11

Rural Roads:-

Under this heading work was done on Priestman Street and Smythe Street from Montgomery Street to Trans-Canada Highway. Ditches were dug and bushes were cut along the right of way of the aforementioned streets. This work was also included under Winter Works Programme and a portion of the cost will be paid to the City of Fredericton by the Federal Government.

Item 12

Pavement Repairs and Driveways:-

Labor and Machinery ....	\$ 14,621.13
Materials ....	<u>13,818.79</u>
TOTAL .....	<u>\$ 28,439.92</u>

The labor expenditure charged to this account amounted to \$9,580.46.

In 1958 a large aggregate dryer and aggregate conveyor belt was purchased to facilitate the mixing of patching material in the City Yard. This equipment has made a big improvement in the quality of the patching material produced at the yard and has also accelerated the operation. Asphalt is purchased from local contractors when they are operating in the Fredericton area due to lower price and better control of mix, because of better selection of aggregate materials.

The total expenditure for Pavement Repairs and Driveways for 1960 was \$28,439.92 and was computed as follows:-

Asphalt:-

2925 Gals. RS <sub>1</sub> ....	\$ 1,498.15
Less 855 Gals. RS <sub>1</sub> in stock 1961 ....	<u>436.04</u> 1,062.11
5715 Gals. RC <sub>3</sub> .....	\$ 2,396.09
Less 360 Gals. RC <sub>3</sub> in stock 1961 ....	<u>151.20</u> 2,244.89
#800 - No Strip .....	<u>225.47</u> 3,532.47
Less Credit on Drums .....	<u>1,269.25</u>
	\$ 2,263.22

Cost of Asphalt material used  
in patching streets, obtained from  
W. J. Gorman and Diamond  
Construction Co. .... \$ 9,886.02  
Less Credit on Patching  
Materials sold to Simpson  
Sears and N. B. Telephone Co. 855.05 9,030.97

Total Asphalt Material Cost for Patching  
City Streets ..... \$ 11,294.19  
Kerosene (1,216 Gallons) ..... 318.59  
Crushed Rock (106.95 tons) ... \$ 320.85  
Less 90 tons in stock 1961 . 270.00 ... 50.85  
Crusher Dust (50.7 tons).... \$ 114.08  
Less 25 tons in stock 1961 . 56.25 ... 57.83  
Sand (120 yards) ..... 120.00  
Forward ..... \$ 11,841.46

Carried Forward .....	\$ 11,841.46
Cost of Conveyor Hopper and Dryer	
(\$6,526.08 - Depreciation 10% of \$5,286.75)	528.67
Miscellaneous (Materials, etc.) .....	295.71
Repairs to Plant .....	103.16
Maritime Electric Co. (Power) .....	58.04
St. John Propane Gas Company .....	\$ 98.80
Less Credit on return of cylinders <u>15.45..</u>	83.35
Labor (City Employees including Pension Fund, Workmen's Compensation and Holiday Account)	11,017.53
City Machinery, Trucks, Roller, Loader, Boiler, etc. .....	<u>4,512.00</u>
TOTAL .....	\$ 28,439.92

Item 13

City Road Patrols:-

The repair charges on City Road Patrols,  
exclusive of City Labor for the last three years were:-

<u>Date Purchased</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
1950 Austin Western #99H	\$ 3,863.14	4,675.31	2,348.96
1953 Champion	2,324.45	2,647.18	1,621.19
1955 Allis Chalmers (AD40)	1,992.45	3,365.60	1,661.99

The following were purchased this year and charged  
to Roads and Streets:-

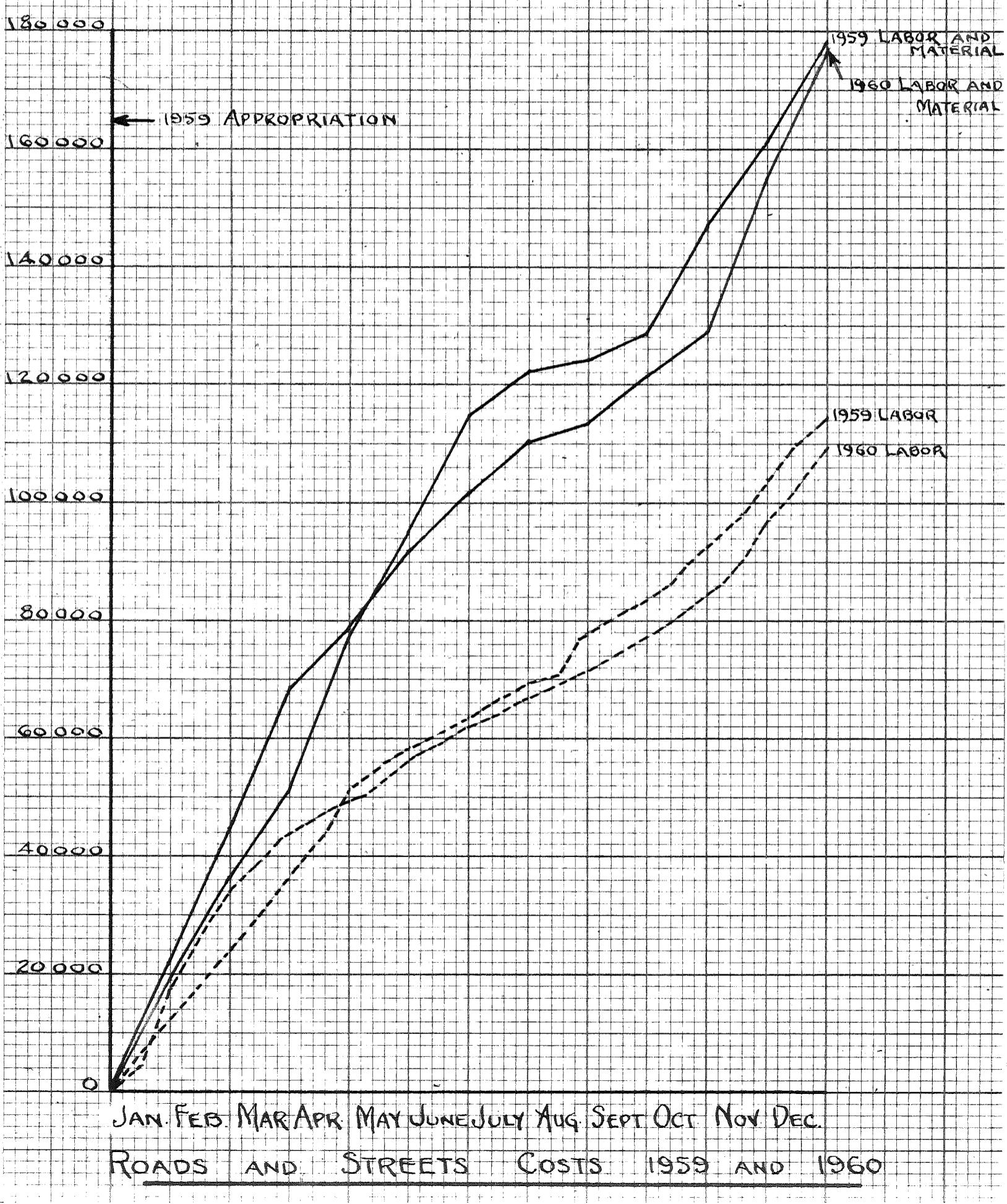
- 1 - Good Roads Model M-2, 9' - 5.5 Cubic Yard Capacity Spreader W/Single Spinner, 24-1 Gear Reduction, complete as follows:-
    - 1 - LL823-104 Hopper Assembly
    - 1 - C-821-289-1 Deflector Plate W/Brackets
    - 1 - C-821-286-6 Electric System
    - 1 - C-821-239-2 Conveyor Bridge
    - 1 - C-821-118-2 Removable Screens
 Serial No. 1450
  - 1 - Model F-700 Ford Truck Serial #015890F4817075ZL Motor #ZAL740, plus installation on truck as specified .....\$ 7,332.64
    - Plus 3% Sales Tax on Spreader .... 79.20
    - Plus 3% Provincial SS and E Tax... 137.44
    - on Truck paid to Wood Motors by City \$ 7,549.28
  - 1 - New 1960 Ford Fairlane - Color, Turquoise Serial #464F60L-145521 .....\$ 3,290.00
    - Less allowance on 1957 Ford Tudor. 1,290.00
    - Tax ..... 60.00 2,060.00
- Forward .....\$ 9,609.28

	Carried Forward .....	\$ 9,609.28
1 - Willys 1960 CJ 5 Jeep, Serial 57548-99962, Motor No. 4J-237943, Heater, Defroster, Dual Wipers with $\frac{1}{2}$ Cab H5300, 500 Western Hydraulic Plow, Undercoated ....	\$ 3,350.00	
Less trade-in, WillysJeep 1957 .	<u>850.00</u>	
	\$ 2,500.00	
Tax .....	<u>75.00</u>	
	2,575.00	
Extra License .....	<u>2.00</u>	
	2,577.00	
1 - New 1960 Chevrolet 3 ton Model C6303 157" W.B., 19500 G.V.W. with 7 Nylon Tires, Auxillary Springs, H. D. Front Springs, 2 Speed Rear Axle, Heater and Defroster, Signal Lights, Clearance Lights, Flaps, Undercoat, Spare Wheel .....	\$ 4,952.00	
DL727 Hoist with Body .....	<u>1,225.00</u>	
	6,177.00	
Less trade-in on 1956 Fargo and Hoist .....	<u>1,427.00</u>	
	4,750.00	
N.B.S.S. and E. Tax .....	<u>142.50</u>	
	4,892.50	
1 - 1960 G.M.C. one-ton pick-up, serviced for delivery, Heater and Defroster, Anti-freeze, Oil bath, Air cleaner, Dual horns, H.D. Front Springs, R.H. Sun Visor 5-700 x 17-6 ply nylon Tires, No Spin Differential....	\$ 3,298.44	
3% Sales Tax .....	<u>57.44</u>	
	3,377.89	
Less Trade-in on 1957 Inter- national $\frac{1}{2}$ ton .....	<u>650.00</u>	
	2,727.89	
1 - No. 150 Portable Flood Light .....	66.02	
2 - Bulbs for Portable Flood Light .....	<u>16.07</u>	
TOTAL .....	\$ 19,888.76	

Following is the list of vehicles and machinery used and charged to Roads and Streets, showing a comparison of repair charges for 1959 and 1960, including tires and tubes.

<u>Name of Vehicle</u>	<u>Year Purchased</u>	<u>Repairs 1959</u>	<u>Repairs 1960</u>
Austin Western Grader #99H	1950	5,181.05	2,756.73
Champion Grader	1953	3,027.16	1,835.25
Allis Chalmers Grade-AD-40	1955	3,835.23	2,047.73
Caterpillar D-6 Bulldozer	1953	4,927.52	2,211.61
Caterpillar D-2 Bulldozer	1954	1,501.92	2,356.70
Caterpillar D-2 Bulldozer	1957	1,614.33	1,375.60
Michigan T6K Shovel (3/8 Yard) Unit Shovel	1947 1957	2,358.69 2,779.42	2,865.47 2,758.06
Sicard Jr. Snow Blower	1949	440.11	1,879.91
Willys Jeep #12	1959	118.07	225.55
Willys Jeep #17 (Traded in 1960)	1957	400.12	157.45
Willys Jeep #11	1958	321.20	407.26
Willys Jeep #17	1960	-----	59.64
Fargo 3 Ton Dump Truck (Traded in 1960)	1956	283.62	237.75
Chevrolet 3 Ton (Dump Truck)	1960	-----	67.90
Chevrolet 3 Ton (Dump Truck)	1957	382.66	733.25
International $\frac{1}{2}$ Ton Pick-Up (Traded in 1960)	1957	647.32	451.30
G.M.C. 1 Ton Pick-Up	1960	-----	76.56
Chevrolet $\frac{1}{2}$ Ton Panel	1957	271.58	322.31
G.M.C. 3 Ton	1958	147.63	440.28
Ford 3 Ton Dump	1959	261.77	248.97
International 1 Ton	1959	124.48	113.66
Ford Sand Spreader	1960	-----	186.08
Arpic Compressor	1953	203.72	209.15
Ingersol Rand Compressor	1957	206.69	496.64
Pettibone Mulliken Loader	1958	2,980.73	1,581.32
Tarvia Roller Model #157	1955	228.85	132.47
Ford Tudor Coach (Traded in 1960)	1957	734.22	353.67
Ford Fairlane (2 Door)	1960	-----	12.89

26.601.16



## WINTER WORKS PROGRAM

Under the Federal Government Winter Works Program in 1960, the City of Fredericton participated in three clearing projects, namely:- Right-of-way clearing on Priestman Street, Regent Street and Smythe Street and reconstruction of Wilsey Road, from near Incinerator to Lincoln By-Pass Road.

An average of twelve men were employed on these projects between November 1, 1960 and December 21, 1960.

The total Pay Roll cost of clearing projects .....	\$ 1,903.43
<u>Less</u> Federal Government Share ....	<u>919.74</u>
Net Pay Roll cost to City of Fredericton	\$ 983.69

---

---

Total Pay Roll cost of Wilsey Road Reconstruction .....	\$ 6,223.69
<u>Less</u> Federal Government Share ....	<u>1,249.85</u>
Net Pay Roll cost to City of Fredericton .....	\$ 4,973.84

---

---

CAPITAL ACCOUNT CURB and GUTTER

The Net Expenditure under this heading amounted to \$35,071.45.

For the above expenditure of \$35,071.45, concrete curbs and gutters were laid at the following locations:-

<u>Location</u>	<u>Lineal Feet</u>
Gibson Street, End of Curbing 1959 to City line (both sides) .....	1,512
Devon Avenue, Henry St. towards Gill St. (both sides)	638
MacLaren Avenue, Hughes St. to Bridge St. (both sides)	675
Bridge Street, C.P.R. track to MacLaren Ave. (both sides) .....	1,204
Dedham Street, Bridge St. to St. Mary's St. (both sides) .....	1,230
York St., Green Rd. to Montgomery St. (both sides)...	3,049
Mitchell St., Green Rd. toward South (both sides)....	562
Squires St., Mitchell St. towards South (both sides).	401
Green Road; Graham Ave. to Windsor St. (both sides)..	763
Fenety St.; Grandame St. to Hazen St.(both sides) ...	686
Hanson St., Fenety St. towards North (both sides) ...	169
Reid Street, Green Road to Regent St. (both sides)...	1,842
Green Road, Smythe St. toward East (both sides).....	1,974
Inglewood Drive, Elmwood Crt. to Sherwood Crt. (both sides) .....	322
Sherwood Court (both sides) .....	1,086
Smythe Street, King to Queen Street (west side).....	468
Beaverbrook Court (both sides) .....	1,487
Dundonald St., Beaverbrook Court to York Street (both sides).....	2,197
Queen St., Northumberland St. towards Smythe Street (north side) .....	125
Northumberland St., Queen St. to Campbell Street (west side) .....	194
Canadian Legion .....	134
Corner Bridge St. and Union St. (southeast corner)...	100
Water Street, St. Mary's St. west (south side) .....	118
 TOTAL .....	 <u>20,936</u>

All the listed Curbs and Gutters were built by City Crews.

All the concrete poured was purchased ready-mixed on the job from the firm of Elmtree Concrete Ltd. at a contract price of \$14.50 per cubic yard. A cubic yard of concrete poured 20.6 lineal feet of Curb and Gutter.

The unit cost of one lineal foot of Curb and Gutter, found by dividing the total length laid, which equals 20,936 lineal feet into the total cost of \$35,071.45, is \$1.67 per lineal foot.

## CAPITAL ACCOUNT PAVING

Gross Expenditure .....	\$ 138,771.17
Credit .....	<u>9,323.19</u>
Net Expenditure .....	\$ 129,447.98

The above Credit of \$9,323.19 was the amount paid to the City of Fredericton by the Provincial Government for one-half the cost of paving Hanwell Road from Parkhurst Drive to the City limits, a distance of approximately 4,200 feet. The paving of the road was an addition to the paving program, after the City Budget was drawn up.

The net expenditure of \$129,447.98 was made up as follows:-

1. Resurfacing and Surface Seal to City Streets
  2. New Pavement
  3. Resurfacing Sidewalks
  4. Paving Hanwell Road

## 1. Resurfacing and Surface Seal to City Streets

The resurfacing and surface seal was laid by the Diamond Construction Company Ltd.

The following streets were resurfaced and sealed:-

TOTAL ..... 2,119.10

$$\text{Base} - 11,906.75 @ 7.80 = 92,872.65$$

Seal - 2695.70 @ 7.80 = 21,026.46

Premier - 27,080 @ 0.30 = 8,124.00

Tack Coat - 3600 @ 0.35 = 1260.00

Total \$ 123,283.11

## 2. New Pavement

The following streets were paved with Asphalt Pavement by the Diamond Construction Company Limited:-

<u>Streets</u>	<u>Tons Asphalt</u>
Gibson Street, near City Limits .....	315.70
Miles Street, Barker Street towards East .....	72.30
York Arena Entrance from Barker Street .....	41.20
Devon Avenue, Henry St. towards Gill Street .....	107.95
Clark Street, C.P.R. track to MacLaren Avenue .....	396.90
MacLaren Avenue, Bridge St. to Hughes Street .....	275.40
Dedham Street, Bridge St. to St. Mary's Street .....	320.75
Bridge Street, C.P.R. track to MacLaren Avenue .....	240.35
Hayes Street, Union Street towards East .....	97.30
Hawthorne Terrace .....	224.55
Forest Hill (Sidewalk) .....	92.60
Elmwood Court .....	342.60
Inglewood Drive, Rookwood Avenue to Sherwood Court...	151.10
Rookwood Avenue, Woodfield Court to C.N.R. Track ....	162.95
Smythe St., Shamrock Terrace to beyond Hawthorne Terrace .....	342.45
Hermitage Court .....	170.70
Edinburgh St., Smythe St. east towards York Street...	988.55
Beaverbrook Street and Beaverbrook Court .....	801.30
York St., Green Road to Montgomery Street .....	865.55
Mitchell Street and Squires Street .....	282.25
Green Road, Graham Avenue to Windsor Street .....	241.50
Valley View Court .....	186.60
Fenety Street; Grandame St. to Hazen Street .....	180.55
Hanson Street, Green Road to Fenety Street .....	468.45
Loyalist Court .....	202.00
Widening Lincoln Road in front of Fredericton Boat Club .....	158.30
<b>TOTAL .....</b>	<b><u>7,729.85</u></b>

The above pavements were laid to a thickness of 3". The street grading and preparatory work was done by regular City crews. The pre-mixed material was supplied and laid by the Diamond Construction Company Ltd. from its plant situated at Springhill. The company charged the City of Fredericton, for the pavement in place, \$7.80 per ton.

## 3. Resurfacing Sidewalks

The following city sidewalks were given an application of asphalt seal:-

<u>Streets</u>	<u>Tons Asphalt</u>
King St., Westmorland St. to Regent St. (both sides)	140.00
Queen St., Northumberland St. to St. John Street (south side) and Fredericton Tire Corporate Store to Carleton St. (north side) .....	222.35
Carleton St., King St. to Campbell St. (both sides)..	60.70
Regent St., Queen to King Streets on both sides and from King to Brunswick St. (west side).....	38.85
York St., King St. to Brunswick St. (west side) and King to Queen Street (both sides) .....	51.00
Westmorland St., Campbell St. to King St. (both sides)	38.60
Phoenix Square .....	23.10
<b>TOTAL .....</b>	<b><u>574.60</u></b>

The above sealing was laid by the Diamond Construction Company at a cost of \$7.80 per ton.

4. Paving Hanwell Road

Gross Expenditure .....	\$ 18,646.37
Credit ( $\frac{1}{2}$ Expenditure paid by Provincial Government) ...	<u>9,323.19</u>
Net Expenditure .....	<u>\$ 9,323.18</u>

The Gross Expenditure of \$18,646.37 was made up as follows:-

Diamond Construction Co. Ltd. (1332.8 tons base @ \$7.80 per ton) .....	\$ 10,395.84
Diamond Construction Co. Ltd. (4500 Gallons Asphalt @ 30¢ per Gallon) .....	1,350.00
Forbes & Sloat Ltd. (2,126.04 tons crushed gravel delivered to job @ \$1.26 per ton) .....	2,678.81
Forbes & Sloat (317.645 tons crushed gravel @ 78¢ per ton Stock Pile) .....	247.76
S. S. Baird (Hauling 118.055 tons crushed gravel @ 45¢ per ton) .....	53.12
Frank H. Smith (Hauling 51.325 tons crushed gravel @ 45¢ per ton) .....	23.10
Wendall R. Thomas (Hauling 88.235 tons crushed gravel @ 45¢ per ton) .....	39.71
J. B. Chaters (Hauling 34.945 tons crushed gravel @ 45¢ per ton) .....	15.73
Journal Voucher (City Pay Rolls) .....	2,216.31
Journal Voucher (Materials such as Pipe, Lumber, Cement, etc.) .....	506.94
Journal Voucher (City Machinery) .....	1,067.00
Journal Voucher (Gas and Oil) .....	<u>52.05</u>
TOTAL .....	<u>\$ 18,646.37</u>

Considerable work was done on this Road this year.  
Ditches were dug, road graded and gravelled before pavement and  
new culverts put in and old culverts replaced where necessary.  
This work was done by City Crews, the laying of the Asphalt  
Prime and Asphalt Pavement was done by the Diamond Construction  
Company Ltd.

Seal Streets 2,119.10 - ~~Base~~  
Sidewalks 574.60  
Base 7,729.85  
~~10423.55~~ @ 7.80/ton = \$ 91,699.53  
Brine - ~~11,756.35~~ gal. @ 30¢/gal.  
Jackfloat - gal. @ 35¢/gal

CAPITAL ACCOUNT SEWER DOMESTIC

Gross Expenditure & Stocked	
Material .....	\$ 37,610.33
Less Inventory, Dec. 31, 1960	<u>418.20</u>
	\$ 37,192.13
Credit .....	<u>4,497.49</u>
Net Expenditure .....	\$ 32,694.64

The above Credit is made up as follows:-

Board of School Trustees (Raising M.H. at Albert St. School Grounds) .....	\$ 11.06
N.B. Provincial Government (Installing Domestic Sewer Service at Central Repair Depot,.. College Hill Road) .....	539.88
S.C.R. Construction Co. Ltd. (Sale of 1 M. H. cover and frame) .....	40.17
N.B. Provincial Government, Department of Public Works (to share of cost in constructing Domestic Sewer line between Montgomery Street and Central Repair Depot, College Hill Road as per agreement with Mr. R. Palmer, Deputy Minister of Public Works) .....	2,250.00
Lounsbury Co. Ltd. (Sale of 1 M. H. Cover and Frame):	40.17
Provincial Government (Sale of 1 M. H. Cover sub- standard) .....	17.25
C. E. Weyman (Sale of 1 Manhole Cover and Frame) ....	40.17
Journal Voucher (Materials paid for by Capital Account Sewer and used by other City Departments).....	<u>1,558.79</u>
TOTAL .....	<u>\$ 4,497.49</u>

Domestic Sewers were laid at the following locations:-

<u>Location</u>	Lineal Feet	
	12" T.C.	8" T.C.
College Hill Road, Montgomery St. to Central Repair Depot .....	1195	
Inglewood Drive and Harewood Court .....	2023	
Montgomery St., End of 1959 Sewer line to Smythe Street .....	775	225
Montgomery St., Regent St. to College Hill Road	2103	
McEvoy Street, End of Sewer line to MacLaren Ave.	1050	
Titus Street, extended existing sewer line ....		130
TOTAL .....	775	6726

The actual costs of installing the above listed sewers was as follows:-

<u>Location</u>	<u>Labor and Machinery</u>	<u>Material</u>	<u>Total</u>
College Hill Road	6,456.32	1,687.63	8,143.95
Inglewood Drive & Harewood Crt.	3,277.20	2,805.86	6,083.06
Montgomery St., end of 1959			
Sewer line to Smythe St. and			
Montgomery St., Regent St. to			
College Hill Road .....	16,396.89	4,615.68	21,012.57
McEvoy Street .....	2,673.11	1,762.88	4,435.99
Titus Street .....	151.48	111.80	263.28
TOTALS .....	\$ 28,955.00	10,983.85	39,938.85

All above costs include any hold-backs in 1960, which will appear in 1961 accounts.

Total lineal feet laid, 7,504, thus making the cost per lineal foot of \$5.31.

Material in Stock, December 31, 1960:-

206 Lineal feet of 8" T.C. pipe @ 86¢ per foot .....	\$ 177.18
6 Manhole Covers and Frames @ \$40.17 each.....	<u>241.02</u>
TOTAL .....	\$ 418.20

CAPITAL ACCOUNT SURFACE SEWER

Gross Expenditure and Stocked Material ....	\$ 45,152.98
Credit ..... . . . . .	<u>8,670.33</u>
Net Expenditure ..... . . . . .	<u>\$ 36,482.65</u>

The above credit is made up as follows:-

Work done and Materials sold to Private Parties.	\$ 1,958.49
Journal Voucher (Materials paid for by Capital Account Surface Sewer and used by other City Departments) .....	<u>6,711.84</u>
TOTAL .....	<u>\$ 8,670.33</u>

Under this heading Surface Sewers were laid at the following locations:-

LOCATION	CONCRETE							C. I. 12"
	10"	12"	15"	18"	24"	30"	48"	
Bridge Street	27							
Campbell Street		36						
Dundonald Street	54	280						
Friel Creek								
Forest Hill Road		44	20	270				
Gibson Street	36							
Green Road	24	4						
Highland Avenue	27	160						
Inglewood Drive	30	60						
Harewood Court	74	792						
Indian Reserve		40						
Montgomery St.		36			4	55		
MacLaren Avenue	162	20						
McEvoy Street	177							
Queen St. (Simpson-Sears)	3	232						
Smythe Street	105	400						
Squires Street	27							
Smythe Street (Off Take Ditch)						829		
Turnbull Court	27	172						
<b>TOTALS</b>	<b>918</b>	<b>2276</b>	<b>20</b>	<b>778</b>	<b>884</b>	<b>856</b>	<b>72</b>	<b>52</b>

Total lineal footage all sizes - 5,856 feet.

An itemized account was kept of installing Surface Sewers at the above locations and expenditures were made as follows on the larger constructions:-

<u>Location</u>	<u>Labor and Machinery</u>	<u>Material</u>	<u>Total</u>
Dundonald Street	700.93	809.07	1,510.00
Friel Creek	1,112.42	2,054.13	3,166.55
Forest Hill Road (Near School Grounds)	1,184.27	3,451.74	4,636.01
Forest Hill Road (near Trans-Canada Highway)	1,564.41	862.67	2,427.08
Green Road	861.24	1,354.00	2,215.24
Highland Avenue	588.68	634.19	1,222.87
Inglewood Drive & Harewood Court	2,343.60	2,150.87	4,494.47
Montgomery Street	448.00	518.09	966.09
MacLaren Avenue	373.97	395.62	769.59
McEvoy Street	141.17	224.73	365.90
Queen St. (Simpson-Sears)	566.53	357.96	924.49
Smythe St. (2 Locations)	3,036.77	2,784.78	5,821.55
Smythe St. (Off take ditch)	3,044.82	4,651.63	7,696.45
TOTAL	<u>\$15,966.81</u>	<u>20,249.48</u>	<u>36,216.29</u>

All above costs include any hold-backs in 1960, which will appear in 1961 accounts.

The following is the total cost for laying the various sizes of pipe in place:-

48" Concrete Pipe .....	\$ 26.86 per Lineal Foot
30" Concrete Pipe .....	9.00 per Lineal Foot
24" Concrete Pipe .....	8.39 per Lineal Foot
18" Concrete Pipe .....	7.53 per Lineal Foot
15" Concrete Pipe .....	6.90 per Lineal Foot
12" Concrete Pipe .....	5.97 per Lineal Foot
10" Concrete Pipe .....	4.52 per Lineal Foot

Stock on hand, December 31, 1960:-

432 feet of 10" Concrete Pipe @ 78¢ per foot .....	\$ 336.96
264 feet of 12" Concrete Pipe @ 85¢ per foot .....	209.10
424 feet of 18" Concrete Pipe @ \$1.90 per foot .....	705.60
68 feet of 30" Concrete Pipe @ \$4.89 per foot .....	332.52
12 feet of 36" Concrete Pipe @ \$5.13 per foot .....	61.56
4 feet of 42" Concrete Pipe @ \$10.88 per foot .....	43.52
4 feet of 48" Concrete Pipe @ \$13.34 per foot .....	53.36
37 Bags Portland Cement @ \$1.32 per bag .....	48.84
Catch Basins, 11 Gratings and Covers @ \$42.21 each ...	<u>464.31</u>
TOTAL .....	<u>\$ 2,255.77</u>

CAPITAL ACCOUNT WATER

Gross Expenditure & Stocked Material..	\$ 113,172.49
Less Inventory, December 31,	<u>22,526.31</u>
	90,646.18
Credits .....	<u>6,004.05</u>
Net Expenditure .....	<u>\$ 84,642.13</u>

The above credits are made up as follows:-

Invoice to Government (Winter Works) .....	\$ 541.62
F'ton. Housing (Sale of Fittings) .....	115.55
Atlantic Veneer Ltd. (1-6" Shed Sleeve and 42½" - 6" C. I. Pipe).....	25.79
International Water Supply Co. (Labor supplied drilling Well #3) .....	1,083.24
E. B. Billings (33" - 10" C. I. Pipe) .....	12.95
C. W. Ritchie (2-6" C.I. Flanges) .....	14.50
Journal Voucher (Materials charged to Capital Account Water and sold to other City Departments)....	<u>4,210.40</u>
TOTAL .....	<u>\$ 6,004.05</u>

Installations were made at the following locations:-

Location	Size of C. I. Pipe			
	12"	10"	8"	6"
Inglewood Drive and Harewood Court.....			1,188	895
Montgomery Street.....	1,043	2,047		36
McEvoy Street .....				170
Drilled Wells .....		336		
TOTALS .....	1,043	2,383	1,188	1,101

Total lineal footage, all sizes - 5,715 feet

An itemized account was kept of installing water at the following locations and expenditures were made as follows:-

<u>Location</u>	<u>Labor and Machinery</u>	<u>Material</u>	<u>Total</u>
Inglewood Drive & Harewood Court .....	3,364.55	9,604.68	12,969.23
Montgomery Street ....	<u>13,703.95</u>	<u>22,447.45</u>	<u>36,151.40</u>
McEvoy Street .....	<u>386.00</u>	<u>748.57</u>	<u>1,134.57</u>
TOTAL .....	<u>\$ 17,454.50</u>	<u>32,800.70</u>	<u>50,255.20</u>

All above costs include any hold-backs in 1960, which will appear in 1961 accounts.

The following is the total cost for laying the various sizes of pipe in place:-

12" Mechanical Pipe .....	11.13 per lineal foot
10" Mechanical Pipe .....	10.04 per lineal foot
8" Mechanical Pipe .....	7.69 per lineal foot
6" Mechanical Pipe .....	6.67 per lineal foot
6" Mechanical Pipe (Inglewood Drive & Harewood Court) .	
Sand .....	4.63 per lineal foot

Also included under the heading Capital Account Water is Capital Account Drilled Wells, the expenditure of which is as follows:-

Gross Expenditure .....	\$ 45,098.38
Credit .....	<u>1,639.36</u>
Total .....	\$ 43,459.02

The above expenditure includes the following:-

1. Development of a Gravel Wall Well, (Well #3) at Wilmot Park
2. Connecting No. 3 Well at Wilmot Park to City Water main and construction of a Surface Sewer from No. 3 Well to Catch Basin in Wilmot Park
3. To construction of a Pump House at No. 3 Well at Wilmot Park.
4. Partial development of No. 4 Well at Wilmot Park

#### 1. Development of Gravel Wall Well No. 3

In 1959 the City of Fredericton entered into an agreement with the International Water Supply Co. to develop a gravel wall well in Wilmot Park. This Well, No. 3, is situated at the easterly end of Wilmot Park and at the rear of the Chamber of Commerce Building. The construction of this Well began in 1959 and was completed this year and water was turned on into the City mains on October 24, 1960.

The expenditures for the developing of this Well are as follows:-

Journal Voucher (City Labor) .....	\$ 1,192.18
Journal Voucher (City Machinery) .....	161.00
Elmtree Concrete Co. (3 Cu. Yds. Concrete).....	43.50
Horsnell's Machine & Iron Works .....	58.58
International Water Supply Co.	
Contract Price ....	\$ 33,300.00
Less City Labor ...	<u>1,083.24</u>
	..... 32,216.76
Expenditure 1959 (Journal Vouchers, Labor, Machinery and Material) .....	<u>647.97</u>
TOTAL .....	\$ 34,319.99

2. Connecting No. 3 Well to City Water Main & Surface Sewer

The expenditure under this heading amounted to \$3,998.05 and was made up as follows:-

T. McAvity & Sons Ltd. (Fittings, valves, etc.).....	\$ 562.45
Canadian Iron Foundries Ltd. (Bends, Tees, Reducers, etc.)	435.95
Valva and Primer Corporation Co. Ltd. ....	33.83
Canadian Pacific Railway Co. ....	27.05
Frank Toner .....	2.00
Auto Machinery & Supply Co. Ltd. ....	3.66
Journal Voucher (Material) .....	2,069.83
Journal Voucher (Pay Rolls) .....	590.78
Journal Voucher (Machinery) .....	262.50
<b>TOTAL .....</b>	<b>\$ 3,988.05</b>

3. To Construction of Pump House No. 3 Well at Wilmot Park

In 1960, tenders were called for the construction of a building to house the Pump and Equipment at No. 3 Well at Wilmot Park. This building was constructed by Hallett Housing Limited. The expenditure for the above building, including electrical, was as follows:-

Forbes and Sloat (696.360 tons base gravel) .....	\$ 501.38
Daily Gleaner (Notice for tender) .....	17.64
Bemrose and Kilburn (90 yards Sand) .....	45.00
Richards Electric Company .....	685.46
Northern Electric Company .....	157.46
Melanson Electric Company .....	31.98
James S. Neill & Sons Ltd. .....	33.61
Hallett Housing Limited .....	5,554.00
Journal Voucher (City Labor) .....	18.55
Journal Voucher (City machinery) .....	46.00
<b>TOTAL .....</b>	<b>\$ 7,091.08</b>

The total cost for the complete Well #3 is as follows:-

Development of Gravel Wall Well #3 .....	\$ 34,319.99
Connecting No. 3 Well to City Water main and Surface Sewer .....	3,988.05
Construction of Pump House and Electrical .....	7,091.08
<b>TOTAL .....</b>	<b>\$ 45,399.12</b>

In addition, this year the International Water Supply Company developed a new Well in Wilmot Park, (Well No. 4). This Well is ready for Pump, Pump House and connection to City water main in 1961. Payment to the International Water Supply Company has been deferred on this construction until 1961. The City expenditure on this Well in 1960 amounted to \$347.23 and was made up as follows:-

Journal Voucher (Labor) .....	\$ 290.23
Journal Voucher (Machinery) .....	57.00
<b>TOTAL .....</b>	<b>\$ 347.23</b>

## CAPITAL ACCOUNT GRAVEL ROADS

Gross Expenditure .....	\$ 67,229.96
Credit .....	<u>2,845.28</u>
Net Expenditure .....	<u>\$ 64,374.68</u>

The above credit of \$2,845.28 was for material paid for by Capital Account Gravel Roads and used by other City Departments.

Included in the above expenditures are:-

1. Grading newly curbed streets
  2. Grading and graveling streets
  3. New road construction and graveling

1. The following newly curbed streets were graded and gravelled:-

<u>Location</u>	<u>Lineal Feet</u>
Bridge Street, C.P.R. track to MacLaren Avenue .....	602
Dedham Street, Bridge St.to St. Marys Street .....	615
Devon Avenue, Henry Street towards Gill Street .....	638
Dundonald Street, Beaverbrook Court to York Street ....	1,098
Beaverbrook Court .....	744
Fenety Street, Grandame Street to Hazen Street .....	323
Green Road; Graham Avenue to Windsor Street .....	381
Green Road, Smythe Street towards York Street .....	1,000
Gibson Street, End of Curbing 1959 to City line.....	756
Hanson Street, End of Curbing 1959 to Fenety Street ...	85
MacLaren Avenue, Bridge Street to Hughes Street .....	338
Reid Street, Green Road to Regent Street .....	921
Sherwood Court .....	543
York Street, Green Road to Montgomery Street .....	<u>1,524</u>
TOTAL .....	<u>9,568</u>

2. Under this heading the following streets were reconstructed and gravelled this year:-

3. The following streets were gravelled under this heading:-

<u>Location</u>	<u>Lineal Feet</u>
Campbell Street, Westmorland Street to Northumberland Street .....	740
Inglewood Drive, Sherwood Court to Parkhurst Drive .....	1,150
Harewood Court .....	836
Waggoner's Lane, Smythe Street to Rookwood Avenue .....	1,282
TOTAL .....	<u>4,008</u>

The gravel used under this heading was as follows:-

<u>Crushed Gravel</u>	<u>Pit Run Gravel</u>
<u>Class A - 1<math>\frac{1}{4}</math>"</u>	<u>Class C - 3"</u>
14,536.450 tons	21,258.820 tons
	15,432.475 tons

The crushed gravel was purchased from Forbes and Sloat at a cost of 78¢ per ton from Stock Pile, \$1.26 per ton delivered to the job and \$1.41 per ton delivered to the job, using the Princess Margaret Bridge due to repairs being made to the Fredericton Highway Bridge.

From the Stock Pile, the City of Fredericton paid the hauling charges of 45¢ and 61¢ per ton delivered to the different locations, depending on which Bridge was used for transportation.

The Pit Run Gravel was obtained for 72¢ per ton from Stock Pile.

#### Capital Industrial Area (Roads)

In August 1960, the Fredericton City Council passed a resolution to construct a road through the Industrial Area, near Doak Station.

Due to the lateness of the decision, the Road could not be completed in 1960, however the right of way has been surveyed, cleared and grubbed and culvert pipe purchased for a brook-crossing in one location and a new railway crossing has been authorized by the Board of Transport Commissioners. This railway crossing when constructed, will eliminate the present railway crossing at Doak Station and a portion of the Wilsey Road between the new road and Doak Station.

It is anticipated that the above portion of the Wilsey Road will be deeded to the Federal Government (Experimental Station) in exchange for Right of Way required between the Wilsey Road and the new Railway crossing of the Canadian Pacific Railway tracks into the Industrial area.

Expenditures on the above project in 1960 were as follows:-

Clearing and Grubbing 7 Acres @ \$300.00 per acre .....	\$ 2,100.00
Culvert Pipe (Armco Drainage and Metal Products).....	5,712.38
Anric Engineering Ltd. ....	175.00
H. S. Gill .....	10.30
Eastern Chain Saw Ltd. ....	196.00
Lockhart's Ltd. ....	2.06
Journal Voucher (Labor, material, machinery, gas and oil) .....	<u>5,791.44</u>
TOTAL .....	\$13,987.18

Clearing of the area (approximately 20 acres) between the Canadian Pacific Railway tracks and the new road was authorized by the City Council under the Federal Winter Works Programme and as this work did not commence until December 22, 1960 most of the costs will appear in 1961 accounts.

Clearing costs on this project from December 22, 1960 to December 31, 1960 were \$663.91 and are made up as follows:-

Journal Voucher (Labor).....\$ 651.36
Journal Voucher (Material) ... <u>12.55</u>
TOTAL .....\$ 663.91

LOCAL IMPROVEMENT - 1960

In 1960 services were installed at the following locations, under the Local Improvement By-Law:-

<u>Location</u>	<u>Service</u>	<u>Cost</u>	<u>Subdivider's Share at By-Law Rates</u>	<u>Cost to City of F'ton.</u>
Allied Bldg.	Water	12,969.23	4,167.13	8,802.10
Construction	Domestic Sewer	6,083.06	5,110.63	972.43
Inglewood Dr. and Harewood Court	Storm Sewer	4,494.47	3,135.25	1,359.22
	Gravel Road	12,310.53	4,717.50	7,593.03
	TOTALS	<u>\$35,857.29</u>	<u>17,130.51</u>	<u>18,726.78</u>

A. A. Colter Turnbull Court Forest Hill	Water ) Installed by 538.48) Domestic Sewer ) subdivider 304.80)	Credited to Subdivider's Account
	Storm Sewer 1,386.26	861.26
	Gravel Road 1,761.76	1,152.16
	TOTALS <u>\$ 3,148.02</u>	<u>2,013.42</u>

Under Cost Column, Engineering, Pension, Workmen's Compensation, Holiday and Sick Leave costs have not been taken into consideration. For a more realistic cost figure, 10% should be added to include these items.

## PUBLIC WORKS

Gross Expenditure .....	\$ 25,659.72
Credits .....	<u>1,523.00</u>
Net Expenditure .....	\$ 24,136.72
1960 Appropriation .....	<u>24,100.00</u>
Debit .....	<u>\$ 36.72</u>

The Credits of \$1,523.00 are made up as follows:-

British American Oil Co. Ltd. (Removing 2 trees on York Street) .....	\$ 242.16
Dept. Public Works, Ottawa (Cleaning Wharf) .....	50.00
N. B. Travel Bureau (To ground improvement at Fredericton Picnic Site).....	400.00
Journal Voucher (Machinery) .....	145.00
Journal Voucher (Labor and machinery, mowing Greens)...	600.00
Journal Voucher (Labor and machinery, mowing entrance to Loyalist Cemetery).....	<u>85.84</u>
TOTAL .....	<u>\$ 1,523.00</u>

The labor charge under the Public Works expenditure was incurred as follows:-

Trees .....	\$ 8,557.61
Surveying .....	754.24
Back Drain .....	288.16
Surface Sewers .....	1,173.98
Unforseen .....	<u>4,773.30</u>
TOTAL .....	<u>\$15,547.29</u>

### Trees:-

Expenditure .....\$12,128.77

The above expenditure includes \$8,557.61 for labor, \$2,257.00 for machinery (Jeeps, Trucks, Shovels, etc.), \$714.16 for material charges and \$600.00 to Mr. Charles Smith, Honorarium for services rendered.

In 1960, some thirty trees were removed on the recommendation of the Fredericton Tree Commission. The condemned trees were either in a decadent condition or were a menace to public safety.

The procedure followed at the present time is as follows:-

The trees are condemned by four members of the Fredericton Tree Commission, the list is then forwarded to this office, signed by the four members.

Trees on private property which are condemned as possible breeding places for the Elm Bark Beetle, which carries the fungus of Dutch Elm Disease, are also being removed by City Crews.

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

The system is working very well with a minimum of delay after the tree has been condemned.

Tree pruning was also carried out during the year as well as the usual planting programme.

Trees were planted at the following locations:-

Edinburgh Street	Connaught Street
Woodstock Road	Scully Street
School Street	Acacia Court
York Street	Elmcroft Place
Mitchell Street	Carleton Park
Queen Street	

Tree work is an endless job, due to the fact that the Elm trees are reaching a very mature age and die-back on branches is very rapid.

Trees from which dead wood was removed in the fall of 1959 required practically the same amount of pruning in 1960.

No spraying was needed in 1960 due to the excellent results obtained from the spraying program during 1958.

The Chairman of the Fredericton Tree Commission is Mr. Charles Smith.

Under the above heading the following trees were purchased in 1960.

12 - Barberis Thunbergii (18"-24") @ 35¢ each ... \$	4.20
30 - Norway Maple (8-10 feet) @ \$2.70 each .....	81.00
30 - Silver Maple (6-8 feet) @ \$1.50 each .....	45.00
30 - Crimson King Maple (6-8 feet) @ \$4.30 each..	129.00
5 - Aesculus Brioti (6-8 feet) @ \$4.25 each ....	21.25
5 - Moraine Locust (6-8 feet) @ \$3.60 each .....	18.00
5 - Sunburst Locust (6-7 feet branched) @ \$5.25.	26.25
Packing at Cost to Collect .....	<u>13.95</u>
	\$ 338.65
Freight .....	<u>13.85</u>
TOTAL.....	<u>\$ 352.50</u>

#### Surveying:-

Under this heading the expenditure amounted to \$1,200.20 made up of \$754.24 for wages for labor and \$445.86 for material charges.

The labor charge of \$754.24 was for wages for helpers with the Engineers during the course of their work during 1960, on other than programmed projects.

The material charges of \$445.86 were made up as follows:-

Survey, St. Mary's and Jaffrey Streets by Anric Engineering Ltd.

Rental on level, purchase of wooden stakes and iron pins and miscellaneous items such as nails, crayons, laths, tapes, etc.

Back Drain:-

Expenditure ..... \$ 521.16

The labor charge under this heading amounted to \$288.16 which was for cutting ice away from the culverts on York, Dundonald and the outlet at Phyllis Creek, during the winter and for general maintenance to the Back Drain.

The material charges amounted to \$445.86 which includes machinery and material charges such as top soil, fill, etc.

Surface Sewer:-

Expenditure ..... \$ 3,635.58

The above expenditure is made up as follows:-

Labor charges, \$1,173.98; machinery charges, \$1,552.00 and material charges of \$909.60 including concrete pipe, cement, reinforced steel grates, crushed gravel and sand fill.

Grates made up of 550' of reinforcing steel were placed in the sewer at Friel Creek. Beaverbrook Street Sewer was repaired and extended to C.P.R. right of way. A Catch Basin was constructed at the corner of Dundonald and Northumberland Streets on private property.

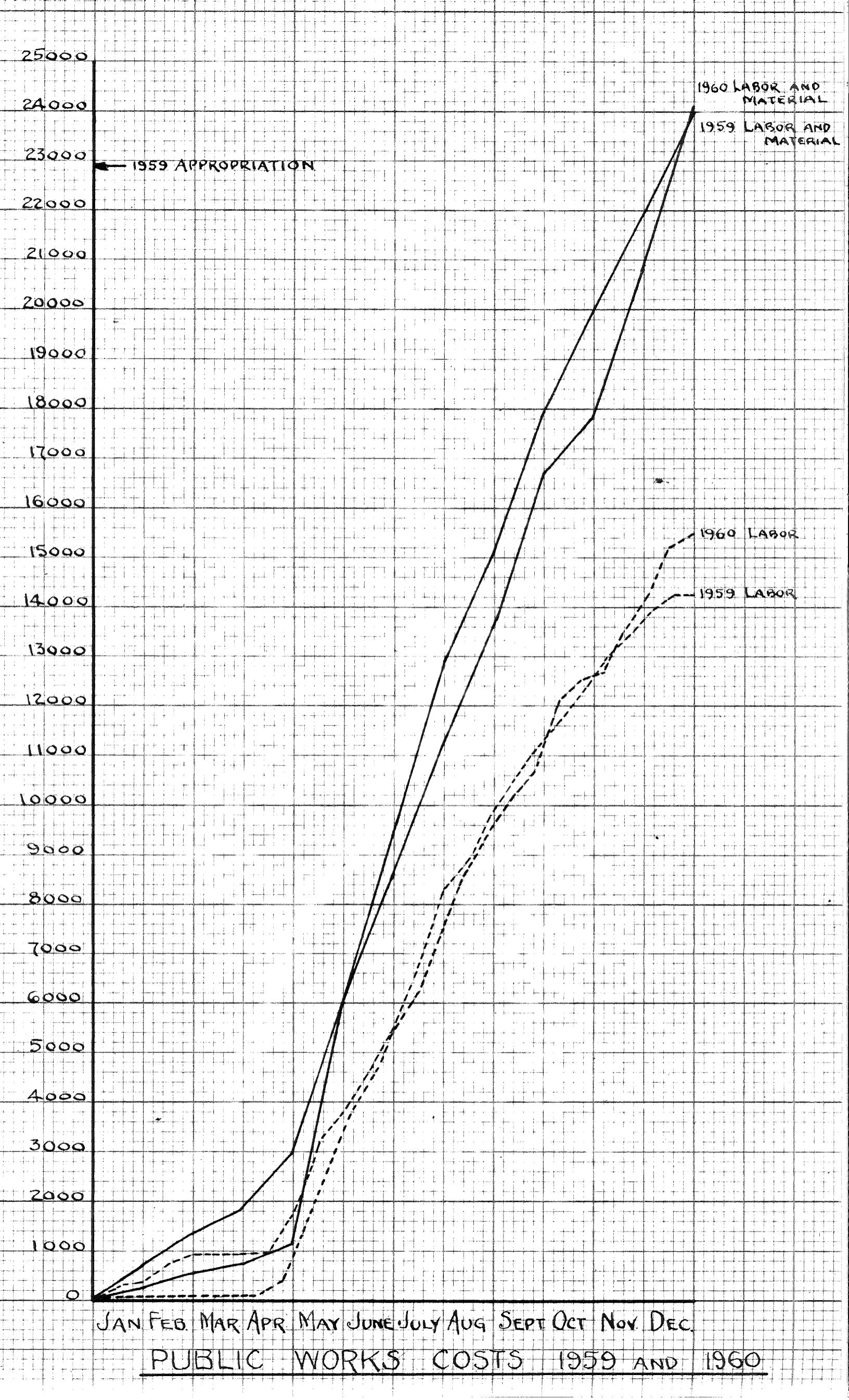
Also included in the above expenditure was the construction of a Sewer on College Hill Road.

Due to the flood conditions incurred during the severe rain storm in November, the course of the ditch on College Hill Road in front of the Central Repair Depot was changed. A ditch was constructed from the original ditch on College Hill Road in front of the Central Repair Depot, across College Hill Road, through the lands of Musson's Ltd. to a ditch on the west side of the Trans-Canada Highway, a distance of 400 feet. By changing the course of this ditch, the water now flows along the Trans-Canada Highway and empties into Forest Hill Road natural drainage course (Silver Falls).

The expenditure for the above construction was as follows:-

Labor .....	\$ 926.29
Machinery .....	1,227.50
Materials .....	<u>302.80</u>

TOTAL ... \$2,456.59



Unforseen Account:-

Greens (Cutting, raking, seeding, fill, etc.).....	\$ 3,099.96
Placing trees around Sewer Outlet, Lansdowne Street.	8.04
Fredericton Boat Club Marina .....	79.44
Custom House, Queen Street (Repairing Fence).....	4.74
Benches (Repairs, painting, etc.) .....	31.66
Spraying Swamps .....	44.22
Fort Nashwaak Monument .....	2.76
Cleaning Regent Street Wharf .....	11.46
Changing location of Billboard (Rookwood Avenue and Inglewood Drive)....	42.47
Cemetery Road, Carleton Ward (Ditching) .....	59.70
Royal Mills (Barricades for fire) .....	5.10
Band Stand .....	1.62
Hurricane Donna (Repairs caused by flooding).....	1,283.41
Speaker Stand .....	58.50
Election .....	31.80
Burning condemned building on Priestman Street .....	8.42
TOTAL .....	<u>\$ 4,733.30</u>

Under the above Public Works, 1 Power Lawn Mower was purchased from Federal Hardware at a cost of \$168.92.

ODELL PARK

Expenditure .....\$ 9,721.26

Under this heading, Water and Sewer were laid from Waggoner's Lane and Rookwood Avenue, along Rookwood Avenue, a distance of 536 feet for future expansion. This work was recommended by the Odell Park Commission. Permission was given the Fredericton Pony Club to erect a building on the Odell Park property. This building has been constructed by the Fredericton Pony Club and is now in use.

The expenditure incurred for laying Water and Sewer mains to Odell Park amounted to \$5,973.93 including hold backs of \$165.68 for water and \$183.49 for sewer from Ashfield Construction Co. which do not show in the gross expenditure of \$9,721.26 for 1960.

The Gross Expenditure of \$9,721.26 is made up as follows:-

New Brunswick Telephone Company .....	\$ 50.64 ✓
Workmen's Compensation Board .....	153.45 ✓
James S. Neill & Sons Ltd. (Pentox, Brushes, Axes, Files, Paint, etc.) .....	43.91 ✓
J. C. Risteen Co. (Lumber) .....	3.00 ✓
Noble Snowden (Filing Saws) .....	2.00 ✓
Kilburn Equipment (Repairs to Saw) .....	4.70 ✓
H. S. Gill (Lumber) .....	55.43 ✓
Fredericton Welding and Machine Shop .....	29.26 ✓
Water and Sewer, Odell Park (Not including hold backs) ...	5,624.76
Journal Voucher (City Machinery) .....	313.37 ✓
Journal Voucher (Material) .....	411.11
Journal Voucher (Labor) .....	2,753.63 ✓
Journal Voucher (Holiday) .....	<u>276.00</u>
TOTAL .....	<u>\$ 9,721.26</u>

*Total Expenditure Proprietary 1960*

*3,629.76  
313.37  
411.11  
6349.14*

*For total of Salaries  
2673.60 - 186.80 =  
2886.80*

*6,349.24  
3,372.02*

#### CARLETON PARK

Expenditure ..... \$ 2,151.68

The expenditures in Carleton Park for 1960 were as follows:-

John Gibson and Son Ltd. (Grass, Seed & Lime).....	\$ 27.56
James S. Neill & Sons Ltd. (Rakes) .....	2.20
Canadian Pacific Railway Co. (Rental Gibson St. north) .....	300.00
Canadian Pacific Railway Co. (Tax abatement, Gibson Street, south) .....	381.62
Journal Voucher (City Labor) .....	1,257.80
Journal Voucher (Machinery) .....	<u>182.50</u>
TOTAL .....	<u>\$ 2,151.68</u>

For the above expenditure, paths were scuffed, grass was kept mowed, trees were planted and in general, the Park was kept in a clean and orderly condition. This year the Park Area was extended in an easterly direction 800 feet along Union Street.

## WILMOT PARK

Expenditure ..... \$ 3,278.21

The above expenditure is made up as follows:-

Materials used on lawns and flower beds .....	\$ 51.90
Supplies and repairs to lawn mowers, etc. ....	177.86
Miscellaneous (tools, paint, brushes, etc.).....	11.04
Repair and Painting Posts at Wilmot Park .....	78.82
N. B. Telephone Company .....	50.64
Journal Voucher (City labor).....	1,861.48
Journal Voucher (Machinery) .....	243.50
Journal Voucher (Gas and Oil).....	2.97
Journal Voucher (Labor and Machinery, mowing green, charged to Public Works) .....	600.00
Journal Voucher (Labor and Material painting benches and charged to Paint Department).....	<u>200.00</u>
TOTAL .....	<u>\$ 3,278.21</u>

Included in the above expenditure was the purchase of  
1-21" H. D. Snapper Lawn Mower from City Heat and Electric Ltd.  
at a cost of \$168.92.

## RECREATION

Expenditure ..... \$ 856.44

The above expenditure does not include all playground  
expenditures, but only those which appear on department pay-rolls  
or costs of materials ordered through the office of the City  
Engineer. The salaries of the Recreation Director and Playground  
Supervisors hired for the summer months is not on the above costs,  
nor does the cost of equipment on the playgrounds appear here.

The above cost is divided as follows:-

Playgrounds (Journal Vouchers, Labor, Machinery and Material) .....	\$ 477.41
Forbes and Sloat (172.485 tons crushed gravel @ 78¢ per ton) .....	134.54
J. B. Charters (Hauling 21.580 tons crushed gravel @ 45¢ per ton) .....	9.71
Frank Smith (Hauling 22.475 tons crushed gravel @ 45¢ per ton) .....	10.11
Wendall Thomas (Hauling 49.145 tons crushed gravel @ 45¢ per ton) .....	22.12
S. S. Baird & Sons Ltd. (Hauling 79.285 tons crushed gravel @ 45¢ per ton) .....	35.68
Journal Voucher (Gas and Oil used by Recreation Truck)	<u>166.87</u>
TOTAL .....	<u>\$ 856.44</u>

### CITY HALL

Expenditure ..... \$ 538.33

The above cost is only the expenditure for City Hall made through the City Engineer's Department and is not the total expenditure made on City Hall.

The expenditure of \$538.33 is made up as follows:-

Labor at City Hall, including winding and repairs to clock, extra janitor and extra labor.....	\$ 505.65
J. L. Simms (Plywood) .....	7.21
J. S. Neill & Sons Ltd. (Paint, door spindle, copper water trough, bulbs, etc.) .....	15.55
Atlas Building Supplies (Plywood) .....	5.92
Journal Voucher (Machinery) .....	<u>4.00</u>
TOTAL .....	<u>\$ 538.33</u>

### MUNICIPAL HOME

Expenditure ..... \$ 907.44

The above cost is of course, only part of the Municipal Home costs, but is the expenditure which was made through the office of the City Engineer and is therefore shown in this report.

The above expenditure is made up as follows:-

Bemrose & Kilburn (186 yards Top Soil @ \$1.75 per yard) .....	\$ 325.50
Forbes & Sloat Ltd. (183.15 tons crushed gravel @ \$1.26 per ton) .....	230.77
Journal Voucher (Material) .....	1.07
Journal Voucher (City Labor) .....	185.60
Journal Voucher (Machinery) .....	<u>164.50</u>
TOTAL .....	<u>\$ 907.44</u>

### SEWERAGE DOMESTIC

Gross Expenditure .....	\$ 28,624.02
Credits .....	<u>8,162.06</u>
Net Expenditure .....	<u>\$ 20,461.96</u>

The above credits are made up as follows:-

Material & Labor and Machinery supplied for house connections .....	\$ 7,804.69
Capital Co-op Ltd. (Cleaning Sewer) .....	32.69
Maritime Co-op Services Ltd. (Cleaning Sewer) .....	6.96
Gunter's Plumbing (Cleaning Sewer) .....	11.75
Sussex Ginger Ale (Cleaning Sewer) .....	5.10
Province of N. B. (Sale of Sewertite) .....	53.15
Journal Voucher (City labor, machinery & materials) ..	<u>247.72</u>
TOTAL .....	<u>\$ 8,162.06</u>

New customers connected to City Sewer System this year were 94.

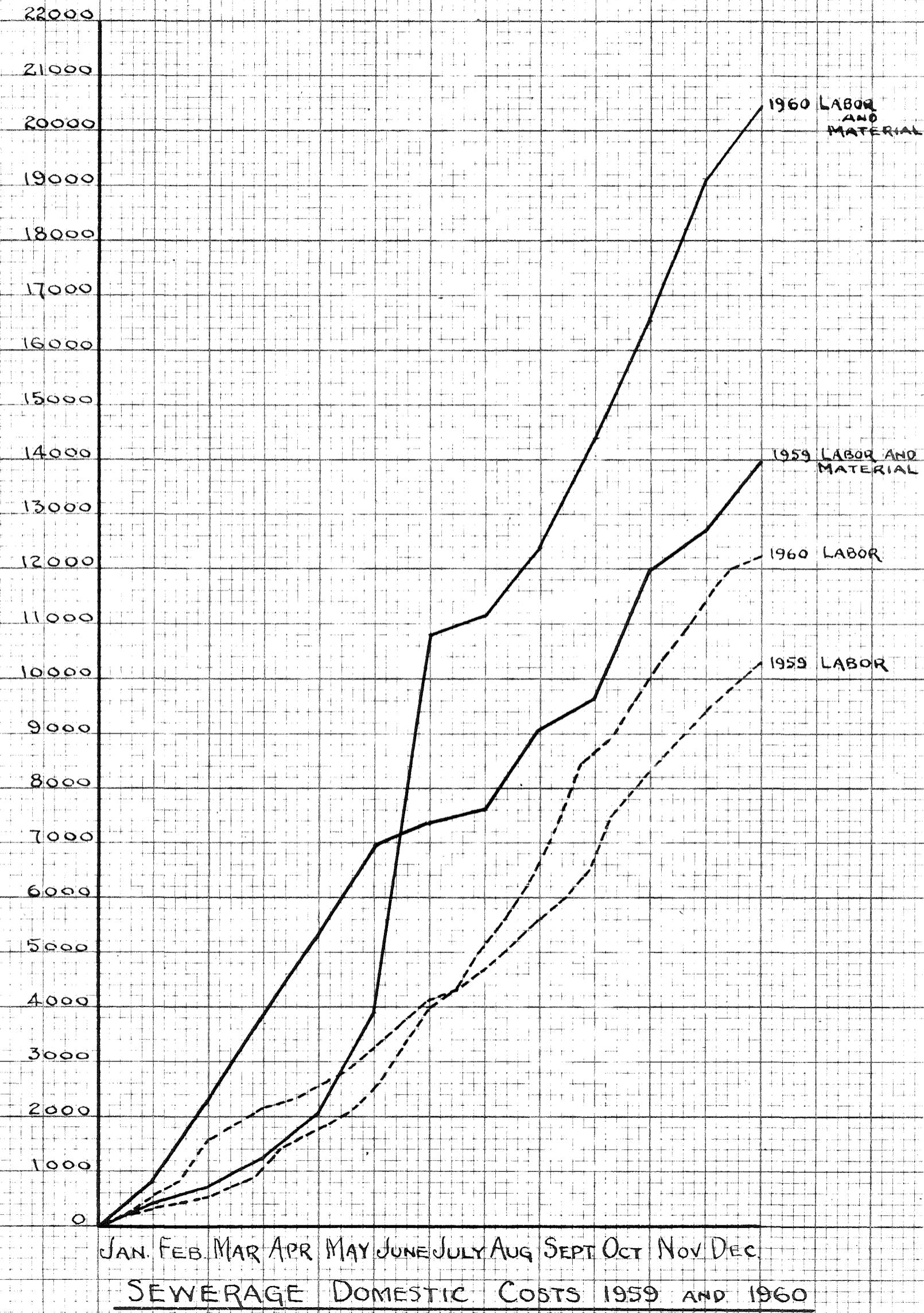
No Domestic Sewer extensions were made this year under this heading but appear under "Capital Account Sewerage Domestic."

All sewers were flushed and cleaned where necessary.

A bucket machine for removing sand from main sewer lines was purchased in 1960 at a cost of \$5,020. Several miles of main sewer lines were cleaned with the machine in 1960.

The Fredericton Domestic Sewer System consists of 46.49 miles (11.24 miles in Carleton Ward and 35.25 miles in the City proper) of Sewer mains and are made up as follows:-

36" Armco Pipe .....	0.05 miles
36" Concrete Pipe .....	0.84 miles
30" Concrete Pipe .....	0.20 miles
24" T. C. Pipe .....	0.54 miles
18" T. C. Pipe .....	1.29 miles
15" T. C. Pipe .....	1.63 miles
12" T. C. Pipe .....	6.27 miles
10" T. C. Pipe .....	.92 miles
8" T. C. Pipe .....	<u>34.75 miles</u>
TOTAL .....	<u>46.49 miles</u>



### OLD BURIAL GROUND

The Old Burial Ground between Brunswick Street and George Street was kept in good condition in 1960.

The tombstones that could be repaired and were not too seriously damaged by vandals were repaired. The grass was kept mowed and sodding and seeding was done wherever necessary.

The expenditures on the Old Burial Ground were as follows:-

J. C. Ristein Co. (Lumber) .....	\$ 13.93
A. H. VanWart and Sons Ltd. (Seed) .....	30.00
Maritime Electric Co. (Lights) .....	520.42
Journal Voucher (City Labor) .....	1,203.99
Journal Voucher (City Machinery) .....	81.00
Journal Voucher (Construction and erection of fencing charged to Paint Department) .....	300.00
TOTAL .....	<u>\$2,149.34</u>

In 1960 Maritime Electric Company installed 6-72" Fluorescent lights in the Old Burial Ground, to reduce vandalism damage at night. The cost of these new lights is \$75.00 per light per year.

### CEMENT WALKS

Expenditure ..... \$ 4,923.88

For the above expenditure of \$4,923.88, concrete sidewalks were laid at the following locations:-

<u>Location</u>	<u>Lineal Feet</u>
Rookwood Avenue, Inglewood Drive to Woodfield Court (west side) .....	251
Inglewood Drive, Sherwood Court to Rookwood Avenue (north side) .....	532
Smythe Street, Tamarack Terrace to Hawthorne Terrace (west side) .....	789
Hanson Street, Green Road to Fenety Street (west side) .....	856
Waterloo Row, Acacia Court east (west side) .....	107
Regent Street, end of previously laid sidewalk to Montgomery Street (west side) .....	145
University Avenue, near C.P.R. and C.N.R. tracks (west side) .....	26
Dedham Street .... (South side) .....	40
TOTAL .....	<u>2,746</u>

The cost of the above sidewalks was paid, one-half by the City and one-half by the property owner.

The concrete for the above construction of sidewalk was obtained from Elmtree Concrete Ltd. @ \$14.50 per cubic yard.

The total cost for laying the above lineal feet of concrete sidewalk was \$1.80 and was obtained by dividing the total lineal feet 2,746 into the total cost which was \$4,923.88.

The property owners share was 95¢ per lineal foot which included Workmen's Compensation, Pension and Holiday Fund.

#### SANITATION

Gross Expenditure .....	\$ 79,883.21
Credits .....	<u>4,331.42</u>
Net Expenditure .....	<u>\$ 75,551.79</u>

Under the heading Sanitation, the following projects are included:-

1. Wilsey Road Park and Sanitary Land Fill
2. Incinerator
3. Dump
4. Cleaning Streets

#### (1) - Wilsey Road Park and Sanitary Land Fill

Under the Federal Government Winter Works Program of 1959-1960, the City of Fredericton cleared approximately fifty acres of land on the Wilsey Road in preparation for a Sanitary Land Operation.

As mentioned in the 1959 report of the City Engineer, the state of repair of the Fredericton Incinerator was very poor and in anticipation of the abandonment of the Incinerator due to high repair costs, insufficient size for efficient operation and in view of the increased volume of material that was being deposited for burning, one hundred and thirty acres of ground was purchased on the Wilsey Road to be used as a Sanitary Land Fill area.

The clearing of a portion of this area was carried out under the Winter Works Program during the year 1960.

The total payroll cost of clearing .....	\$ 8,607.42
Less Federal Share .....	<u>3,167.71</u>
	\$ 5,440.71
Less Credit, S.S.Baird & Sons Ltd. .	<u>300.00</u>
Net Payroll cost to City of Fredericton..	<u>\$ 5,140.71</u>

It was necessary to remove stumps from the area and prepare the area for the disposal of garbage upon the closing of the existing incinerator and dump.

The cost of stumping and preparing the area for Sanitary Land Fill operation was as follows:-

City Labor and Machinery .....	\$ 2,296.44
Journal Voucher (3 Bags Cement) .....	3.96
Journal Voucher (108'-30" Concrete Pipe) .....	578.88
Journal Voucher (Gas and Oil) .....	4.95
Journal Voucher (Portion of Compensation Costs).....	14.65
Forbes and Sloat (715.865 tons crushed gravel @ \$1.60 per ton) .....	1,145.38
Miscellaneous (rakes, forks, coupling and fire extinguisher) .....	<u>15.93</u>
TOTAL .....	<u>\$ 4,060.19</u>

Sanitary Land Fill operations commenced December 14, 1960.

(2) Incinerator

Expenditure .....\$ 10,934.58

The above expenditure is made up as follows:-

Maritime Electric Co. Ltd. (Light and Power) .....	\$ 287.00
Richards Electric Co. (checking wiring and repairing lights) .....	13.60
Eastern Chain Saw Co. (Fire extinguishers and charging extinguishers)....	85.63
L. E. Shaw Ltd. (Fire Brick) .....	256.96
Horsnell's Machine & Iron Works (Steel rods, angle iron, covers for furnace and cutting plates for furnace).	539.05
Harry C. Moore (Fuses) .....	6.30
Federal Hardware (Padlock, hasp, hinges, light bulbs)..	5.71
Atlas Building Supplies (Plywood) .....	21.57
J. C. Risteen (Lumber) .....	6.92
J. S. Neill & Sons Ltd. (Light bulbs, shovels, spikes, potato hooks, high temperature cement, broom handles, etc.).....	256.51
Journal Voucher (City labor) .....	8,677.95
Journal Voucher (City machinery) .....	62.50
Journal Voucher (2 Bags Cement, 100 Brick) .....	8.14
Journal Voucher (Sick leave and Statutory Holidays) ...	554.88
Journal Voucher (Portion of Compensation costs) .....	<u>151.86</u>
TOTAL .....	<u>\$10,934.58</u>

The City Incinerator was closed December 13, 1960. It was tended by two men who worked a daily shift of nine hours, starting at 7:30 P.M. and finishing at 5:30 P.M. Besides these two attendants, extra city labor was used in bulldozing incinerator dump, shifting tracks, etc.

(3) Dump

Expenditure ..... \$ 6,162.30

The above expenditure of \$6,162.30 is made up as follows:-

Forbes and Sloat (29,040 tons crushed gravel).....	\$ 22.65
Journal Voucher (Gas) .....	2.06
Journal Voucher (City Labor) .....	3,912.95
Journal Voucher (City Machinery) .....	<u>2,224.64</u>
TOTAL .....	<u>\$ 6,162.30</u>

The City Dump had one tender. One of the City's bulldozers worked on the dump from time to time, helping the dump tender keep the dump in order. The dump was closed on December 13, 1960. Part of this dump site has been levelled and covered with material from ditching excavation along the Wilsey Road and the remaining area will be levelled and covered with excavation material, when funds are authorized for the project. This area should be retained by the City for future use.

The Garbage Collection is operated by Mr. J. A. Coates. The amount paid in 1960 for this operation was \$39,600.00.

(4) Cleaning Streets

Gross Expenditure .....	\$ 50,118.72
Credits .....	<u>861.67</u>
Net Expenditure .....	<u>\$ 49,257.05</u>

The above credit of \$861.67 is made up as follows:-

Sobeys Ltd. (Flushing Parking Lot) .....	\$ 11.80
Commanding Officer No. 8 Works Company (Rental on Sweeper).....	118.20
Journal Voucher (Rental of Flusher to various City <i>(# Repair Clean)</i> Departments) ..	<u>731.67</u>
TOTAL .....	<u>\$ 861.67</u>

The labor expenditure charged to this account amounted to \$27,946.19 and city machinery and material charges amounted to \$22,172.53.

The above expenditure of \$22,172.53 is made up as follows:-

Hand Brooms, Shovels, Repairs to Carts, etc. ....	\$ 885.16
Journal Voucher (City Machinery) .....	3,579.03
1 - Elgin Sweeper, Model White Wing .....	11,107.82
Labor and Repairs on 1953 Elgin Sweeper and purchase of Brooms and Gutter Broom wire .....	857.57
Labor and Repairs on 1960 Elgin Sweeper and purchase of Brooms .....	2,211.69
Repairs and labor charges to Sicard Flusher .....	678.49
Gas, Oil and Antifreeze to Sweepers and Flusner - 4,571.0 Gallons Gasoline .....	1,363.83
244 Quarts Oil .....	80.52
4½ Gallons Antifreeze (Winterizing Flusher for Front End Plow use) .....	10.62
Sanfax Corporation (45 Gallons Sanfax, plus tax).....	257.80
Journal Voucher (Constructing and Painting Waste Cans, charged to Paint Department).....	<u>1,140.00</u>
TOTAL .....	<u>\$22,172.53</u>

On June 2, 1960 the City purchased from Mussen's Canada Limited, a 1960 Elgin Sweeper, the purchase price being as follows:-

1 - Elgin Sweeper, Model White Wing IV with standard equipment and tools, Unit Serial K 121 .....	\$ 13,794.00
Municipal Use - plus 3% Tax .....	<u>413.82</u>
	\$ 14,207.82
Less Trade-in 1953 Elgin 81 Motor Street Sweeper .....	<u>3,100.00</u>
TOTAL .....	<u>\$ 11,107.82</u> ✓

The Elgin Street Sweepers worked 1,282 hours during 1960. The actual cost for cleaning streets with these machines was \$7,132.29 and was computed as follows:-

Labor and Repairs on 1953 Elgin Sweeper and purchase of Brooms and Gutter Broom wire .....	\$ 857.57
Labor and Repairs on 1960 Elgin Sweeper and purchase of Brooms and Wire .....	2,211.69
Gas (1703.7 Gallons) .....	511.11
Oil (100 Quarts) .....	33.00
Antifreeze (½ Gallon) - Storage .....	1.18
Water (385,500 Gallons) .....	143.92
Insurance on 1953 Elgin Sweeper .....	24.00
Insurance on 1960 Elgin Sweeper .....	34.00
Depreciation on 1953 Elgin Sweeper .....	----
Depreciation on 1960 Elgin Sweeper .....	1,110.78
Labor (Including Workmen's Compensation, Holiday and Pension Fund) .....	<u>2,205.04</u>
TOTAL .....	<u>\$ 7,132.29</u>

The operating dates for the above machines (sweepers) were from April 19, 1960 to December 7, 1960.

In 1955 the City of Fredericton purchased a Sicard Master Flusher with a capacity of 2,250 Imperial Gallons. The price of this machine was \$19,435.00 and was paid for in 1956.

The operating dates for the above mentioned machine were from April 19, 1960 to November 11, 1960.

The Flusher worked 1,122 hours. The actual cost for flushing streets with this machine was \$6,379.59 and was computed as follows:-

Labor and Repair charges to Sicard Flusher .....	\$ 678.49
Gas (286.73 Gallons) .....	917.54
Oil (144 Quarts) .....	47.52
Antifreeze (4 Gallons) - (Winterize) .....	9.44
Water (5,028,800 Gallons) .....	882.74
Insurance .....	65.00
Depreciation .....	1,950.00
Labor (Including Workmen's Compensation, Holiday and Pension Fund) .....	<u>1,828.86</u>
TOTAL .....	<u>\$ 6,379.59</u>

Following is the list of machinery used and charged to Sanitation, showing a comparison of repair charges for 1959 and 1960, including tires and tubes.

Name of Machine	Year Purchased	Repairs 1959	Repairs 1960
Elgin Street Sweeper (Traded June 1960)	1953	5,316.05	155.30
Elgin Street Sweeper Sicard Flusher (2250 I.G.)	1960 1955	----- 584.12	645.95 932.01

1733.26

### CITY SCALES

Expenditure .....	\$ 59.62
Credit .....	<u>1,106.70</u>
Credit Balance .....	<u>\$ 1,047.08</u>

The above credit of \$1,106.70 was amount charged to Roads and Streets and Capital Account Gravel Roads and credited to City Scales for weighing Gravel.

The expenditure of \$59.62 was made up of wages for extra help during operator's holidays and thawing scales during the Spring of 1960.

The wages of the Weigh Scale Operator do not appear in the above expenditure. This expenditure is not made through the office of the City Engineer and is therefore not shown in this report.

### PAINT DEPARTMENT

Gross Expenditure .....	\$ 11,195.80
Credit .....	<u>1,640.00</u>
Net Expenditure .....	\$ 9,555.80
1960 Appropriation .....	<u>9,500.00</u>
TOTAL .....	<u>\$ 55.80</u>

The above credit of \$1,640.00 is made up as follows:-

Journal Voucher (Labor & Material Painting Benches and charged to Paint Department) .....	\$ 200.00
Journal Voucher (Construction and erection of fencing charged to Paint Department).....	300.00
Journal Voucher (Waste Can construction and painting charged to Paint Department) .....	<u>1,140.00</u>
TOTAL .....	<u>\$ 1,640.00</u>

The expenditure of \$11,195.80 is made up as follows:-

Atlas Building Supplies (Plywood) .....	\$ 43.89
Motor Vehicle Branch Provincial Government (License) ..	2.00
Cassidy's (Paint Brushes) .....	6.23
C. W. Hall (Elastic Bands) .....	.93
Radiator Specialty Company (Safety cones) .....	64.93
Paul Burden Ltd. (Ink, Pads, Pens) .....	11.02
H. W. Wilson Company Ltd. (Road sign cards) .....	116.62
J. Clark & Sons Ltd. (Undercoating truck & lubrication)	36.00
Phillips & Pringle (Drill and Accessories) .....	45.86
Federal Hardware (Wipers, paint) .....	151.83
J. Walter Company Ltd. (Saw blades) .....	10.66
Harrison Parlee (Filing Saw) .....	2.00
H. S. Gill (Lumber) .....	251.51
Johnson Duplessis (Repairing Band-Saw) .....	5.15
Auto-Machinery & Supply Co. Ltd. (Repair parts for paint machine) .....	11.85
Lockhart's Woodworking (Lumber) .....	19.71
Canada Decalcomania (Numerals) .....	13.94
Canadian Pittsburgh Ltd. (Paint) .....	73.16
Andave Ltd. (Aluminum sign posts) .....	406.49
Fredericton Tire Ltd. (Changing tires) .....	3.00
Canadian Good Roads Association (Traffic signs) .....	22.00
Unemployment Insurance Commission .....	11.52
W. R. Kenny (Filing Saw) .....	3.00
Canadian National Railway (Express on Paint) .....	2.95
Horsnell's Machine & Iron Works (Repairing standards) ..	59.21
J. C. Risteen (Lumber) .....	23.11
James S. Neill & Sons Ltd. (Paint, Bolts, Nails, Files, Brushes, etc.) ....	536.42
J. L. Simms (Paint and plywood) .....	336.56
E. M. Young (60 Gallons Paint) .....	280.18
Minnesota Mining and Manufacturing Co. (Scotchlite) ...	1,427.58
Province of N. B., Dept. of Public Works (Scotchlite on signs) .....	61.40
Lean Bros. (200 Gallons traffic paint) .....	983.66
Journal Voucher (Machinery) .....	10.50
Journal Voucher (Material) .....	46.84
Journal Voucher (Holiday and Sick Leave Account) ....	505.20
Journal Voucher ( $\frac{1}{2}$ Gallon Antifreeze) .....	1.16
Journal Voucher (540.0 Gallons Gas) .....	163.83
Journal Voucher (36 Quarts Oil) .....	11.88
Journal Voucher (City Labor) .....	5,432.02
TOTAL .....	<u>\$11,195.80</u>

On August 26, 1960, the Paint Department was transferred to the City Police Department, under the direct supervision of the Chief of Police, Mr. Bryce Neely.

FIRE DEPARTMENT

Expenditure ..... \$ 9,155.07

The above expenditure is made up as follows:-

Journal Voucher (2022.30 Gallons Gasoline @ 28¢ and 30¢ per Gallon) .....	\$ 611.07
Journal Voucher (356 hydrants, rental) .....	<u>8,544.00</u>
TOTAL .....	<u>\$9,155.07</u>

ADMINISTRATION OF JUSTICE

Expenditure ..... \$ 4,069.13

The above expenditure is made up as follows:-

Journal Voucher (9,751.90 Gallons Gas and 18 Quarts Oil) .....	\$ 2,958.40
Journal Voucher (City Labor) .....	902.97
Journal Voucher (Machinery) .....	178.75
Journal Voucher (Materials) .....	<u>29.01</u>
TOTAL .....	<u>\$ 4,069.13</u>

The above City Labor charge was the installing of new meters and the construction and placing a small building at the Railway Crossing at Regent Street for the traffic officers at the crossing and painting parking meters and traffic lights.

### GOVERNOR GENERAL'S VISIT

Expenditure ..... \$ 18.32

The above expenditure was a labor charge incurred in the preparation for the visit of Governor General Vanier. The visit was later postponed to a future date.

### LOYALIST BURIAL GROUND

On the recommendations of the Park Committee of the Fredericton Town Planning Commission, the Loyalist Cemetery on the "Flats" adjacent to the back of the lots in Elmcroft Place was improved in 1958.

In 1960 the expenditure amounted to \$100.00. It is intended that this area be used as a tourist attraction with pedestrian traffic only from the Little League Ball Field on the "Flats."

### MUNICIPAL PARKING LOT

In 1958 the City of Fredericton constructed a Parking Area on the north side of Brunswick Street, between York and Carleton Streets, just east of J. Clark & Sons property.

The expenditure for the up-keep of the above Parking lot for 1960 as shown through the office of the City Engineer, was \$62.76 and was made up as follows:-

Journal Voucher (City Labor) .....	\$ 22.26
Journal Voucher (Machinery) .....	8.00
Journal Voucher (10 Bags Calcium Chloride) .....	<u>32.50</u>
TOTAL .....	\$ 62.76

### J. T. CLARK MEMORIAL BUILDING

Under this heading the expenditure amounted to \$179.43 and was for labor and machinery incurred to taking books from library to City Dump, repairing windows (glass, putty) and painting storm windows.

### CONTINGENT

Expenditure ..... \$ 62.32

In 1960, Lord Beaverbrook donated a fountain to the City of Fredericton. The expenditure for labor and machinery to unloading and storing fountain amounted to \$62.32.

### LADY BEAVERBROOK RINK

Under this heading the expenditure amounted to \$32.50 and was for material (10 Bags Calcium Chloride) purchased from Roads and Streets Department for the Lady Beaverbrook Rink.

### STREET LIGHTS

The City Street lighting System on December 31, 1960 consisted of:-

- (1) A Series Lighting System which lights most of the City on the south side of the Saint John River.
- (2) A Multiple Lighting System on the south side of the Saint John River.
- (3) A Multiple Lighting System in the C.N.R. Subway.
- (4) A Series Lighting System in Carleton Ward.
- (5) A Multiple Lighting System in Carleton Ward.

#### System No. 1

The Series Lighting System consists of some 22.48 miles of line and 320 lamps. This system is divided into five circuits, one of which is controlled by a 25 K.W. constant current transformer, three by a 15 K.W. constant current transformer and one circuit controlled by a 7.5 K.W. constant current transformer. Four of these transformers along with the main switchboard are housed in a building, the site of which was purchased from Willett Fruit Company on Carleton Street, south of Needham Street. The fifth transformer is on a pole situated on Regent Street, between Green Road and Albert Street and controls the rear circuit for Maryland Heights.

The five circuits are made up as follows:-

<u>Lower Front Circuit</u>	<u>Load</u>	<u>Transformer Size</u>
21-600 C.P.Lamps @ .350 K.W. demand	7.35 K.W.	
2 - 250 C.P.Lamps @ .160 K.W. demand	.32 K.W.	
	<u>7.67 K.W.</u>	15 K.W.
<u>Lower Rear Circuit</u>		
50-250 C.P.Lamps @ .160 K.W. demand	8.00 K.W.	
1 - 600 C.P.Lamps @ .350 K.W. demand	.35 K.W.	
	<u>8.35 K.W.</u>	7.5 K.W.
<u>Upper Front Circuit</u>		
32-250 C.P.Lamps @ .160 K.W. demand	5.12 K.W.	
11-Fluorescent Lamps @ .50 K.W. demand	<u>5.50 K.W.</u>	
	<u>10.62 K.W.</u>	15 K.W.
<u>Upper Rear Circuit</u>		
31-600 C.P.Lamps @ .350 K.W. demand	10.85 K.W.	
85-250 C.P.Lamps @ .160 K.W. demand	13.60 K.W.	
4-Fluorescent Lamps @ .50 K.W. demand	<u>2.00 K.W.</u>	
	<u>26.45 K.W.</u>	25 K.W.
<u>Maryland Heights</u>		
6-600 C.P.Lamps @ .350 demand	2.10 K.W.	
77-250 C.P.Lamps @ .160 demand	<u>12.32 K.W.</u>	
	<u>14.42 K.W.</u>	15 K.W.

#### System No. 2 and No. 5

The Multiple Lighting System as of December 31, 1960 was as follows:-

214-500 Watt Incandescent Units @ \$60.00 per light per year  
 174-200 Watt Incandescent Units @ \$40.00 per light per year  
 58-400 Mercury Vapor Units @ \$90.00 per light per year  
 68 - 4 ft. Fluorescent Units @ \$60.00 per light per year  
 10 - 6 ft. Fluorescent Units @ \$75.00 per light per year

Each of the above units, excepting the Fluorescents, consists of either a 500, 400 Mercury or 200 Watt 125 Volt Lamp set in a nouvalex luminair fixture and hung on a bracket attached to the pole. These units being controlled by a control switch which is energized by our series lighting system. The system was installed and is maintained by the Maritime Electric Company, the City paying the Company \$60.00 per year for each 500 Watt Unit, \$40.00 per year for each 200 Watt Unit, \$90.00 per year for each 400 Mercury Vapor Lamp, \$60.00 per year for each 4' Fluorescent Lamp and \$75.00 per year for each 6' Fluorescent Lamp.

### System No. 3

System No. 3 consists of 4 Multiple Lights, each of 150 Watt strength, located in the C.N.R. Subway. This system is also controlled by a control switch which is energized by the series lighting system.

### System No. 4

System No. 4 is a series lighting system which had formerly been installed in the Town of Devon and consists of 8.59 miles of line and 191 lamps. The system originally comprised three circuits but in 1960 a new circuit was added due to the change from 2500 lumen series lamps on Gibson, Barker and Union Streets, east of Gibson Street, to Fluorescent Series Lamps. The three former circuits are controlled by three 15 K.W. constant current transformers located on a pole platform on Pine Street while the new circuit is controlled by a 15 K.W. constant current transformer, situated on a pole on the road leading from MacLaren Avenue to the Carleton Ward School.

The four circuits comprise the following areas:-  
Carleton Ward (Up) mainly from Hughes Street west; Carleton Ward (Central) mainly between Hughes Street and Pine Street and including Dobie Subdivision; Carleton Ward (Down) Pine Street east to Irving Oil Company premises and between C.P.R. tracks and Union Street and Carleton Ward (Rear) including Gibson Street from Devon Avenue to City line and the easterly extremities of the Dobie Subdivision.

		Transformer Size
	<u>Load</u>	
<u>Carleton Ward (Up)</u>		
2-600 C.P. Lamps @ .350 demand	.70 K.W.	
37-250 C.P. Lamps @ .160 demand	5.92 K.W.	
15-Fluorescent Lamps @ .50 demand	7.50 K.W.	
	<u>14.12 K.W.</u>	15 K.W.
<u>Carleton Ward (Central)</u>		
46-250 C.P. Lamps @ .160 demand	7.36 K.W.	
11-Fluorescent Lamps @ .50 demand	5.50 K.W.	
	<u>12.86 K.W.</u>	15 K.W.
<u>Carleton Ward (Down Front)</u>		
20-250 C.P. Lamps @ .160 demand	3.20 K.W.	
2-600 C.P. Lamps @ .350 demand	.70 K.W.	
19-Fluorescent Lamps @ .50 demand	9.50 K.W.	
	<u>13.40 K.W.</u>	15 K.W.
<u>Carleton Ward (Down Rear)</u>		
18-250 C.P. Lamps @ .160 demand	2.88 K.W.	
21-Fluorescent Lamps @ .50 demand	10.50 K.W.	
	<u>13.38 K.W.</u>	15 K.W.

The power for systems 1, 3 and 4 is purchased from the Maritime Electric Company at a contract price as agreed upon in a contract between the Maritime Electric Company and the City of Fredericton, made in 1957. This contract also covers the maintenance cost of \$20.00 per year per mile of pole line which is paid for by the City to the Company.

All material such as wire, poles, pole fixtures, lamps, lamp fixtures, transformers, etc. are paid for by the City installed by the Maritime Electric Company under their contract price for maintenance. Any new installations that require an enlargement of circuits must be paid for by the City of Fredericton, both labor and material.

The Street Lighting costs for the year 1960 are as follows:-

Gross Expenditure .....	\$ 44,889.48
Credit .....	<u>47.77</u>
Net Expenditure .....	\$ 44,841.71
1960 Appropriation .....	<u>44,010.00</u>
Debit .....	\$ 831.71

The above credit of \$47.77 was the sale of 281 lbs. of scrap wire to Abe Levine and Sons.

The Street Lighting expenditure of \$44,889.48 is made up as follows:-

8-100T 12/CW/HO Lamps .....	\$ 36.82	
96-600 C.P. Series Lamps ...	98.11	
768 - 250 C.P. Lamps .....	<u>482.82</u>	
	\$617.75	
Less Credit on return of lamps 1960 .....	<u>26.91</u>	
	\$590.84 .....	\$ 590.84
Power Costs for Subways and Series Lighting, December 22, 1959 to December 28, 1960, (432850 K.W. hours) .....	10,891.08	
Charges on Multiple Fixtures owned and operated by the Maritime Electric Co. @ \$40.00, \$60.00, \$75.00 and \$90.00 per light per year.....	29,121.00	
Maintenance and Contract of pole line .....	621.36	
Maintenance of Lamp Fixtures, including only such articles as lamp standards, lamp brackets, heads, sockets, shades, cut-outs, time switches, etc.	387.46	
Material and Labor used in major repairs and new installations .....	2,420.75	
Light Bill - Fredericton Highway Bridge .....	676.56	
Cenotaph Light Bill .....	157.53	
Miscellaneous (Repairs to Subway and Provincial Secretary Treasurer Tax) .....	<u>22.90</u>	
TOTAL .....	\$ 44,889.48	

During the year 1960 various changes and extensions were made to the City of Fredericton Street Lighting System and are listed as follows:-

Change from 2500 Lumen Series Lamps on Gibson, Barker and Union Street, east of Gibson Street to Fluorescent Series Lamps. Thirty-six (36) Fluorescent fixtures were installed comprising six (6) 72" and thirty (30) 48" Fluorescents. One of these 72" fixtures replaced a 48" fixture at the corner of Gibson and Union Streets. The 48" fixture was placed at the corner of Smythe and Victoria Streets.

One (1) 2500 Lumen fixture installed on Miles Street  
One (1) 2500 Lumen fixture installed on Titus Street  
Five (5) 2500 Lumen fixtures installed on McEvoy Street  
Ten (10) 2500 Lumen fixtures were removed from the Uptown Front Circuit and seven (7) from the Downtown Front Circuit on Charlotte Street, between C.N.R. and Smythe Street and from cross streets between George and Charlotte Streets. These lamps were replaced with 500 Watt Incandescent fixtures.

One (1) 6000 Lumen fixture was removed from Brookmount Court and placed on Hanwell Road near C.N.R. Crossing.

Two (2) 2500 Lumen fixtures were installed in Beaverbrook Court.

Five (5) 2500 Lumen fixtures were removed from Shamrock Terrace and Tamarack Terrace, replaced with 200 Watt Incandescents. Three (3) of the above mentioned 2500's were installed on Montgomery Street, between York and Smythe Streets.

One (1) 6000 Lumen fixture installed at Swimming Pool.

Uptown Front Aerial Cable Feeder, crossing Willett Fruit building was removed and Uptown Front Circuit rerouted north on Carleton Street, thence west on Needham Street to corner of York and Needham Streets to pick up original circuit.

Outdoor series street light transformer (15 K.V.A.) removed from Carleton Street Series Station and replaced with  $7\frac{1}{2}$  K.V.A. The 15 K.V.A. was used to feed new circuit in Carleton Ward.

Thirty-four (34) 48" Fluorescents and three (3) 72" Fluorescents replaced 200 Watt multiples between Back Drain on Waterloo Row and Targett's on Lincoln Road. The 200's were reset between Targett's and Lincoln Crossing.

One (1) 500 Watt Incandescent at corner of Sherwood Court and Inglewood Drive.

Six (6) 200 Watt Incandescents on Windsor Street (two of these now out of service).

Two (2) 200 Watt Incandescents on Fenety Street.

One (1) 500 Watt Incandescent added on Carleton Street.

Three (3) 200 Watt Incandescents added on Tower Road.

Thirteen (13) 48" Fluorescents on cross streets between King and Queen Streets, replacing 500 Watt Incandescents which were installed on Charlotte Street and cross street between George and Charlotte Streets.

One (1) 500 Watt Incandescent added on Charlotte Street.

Three (3) 500 Watt Incandescents removed from vicinity of High School and placed on Charlotte Street.

Two (2) 200 Watt Incandescents placed in Turnbull Court.

Three (3) 200 Watt Incandescents placed in Shamrock Terrace (three 2500's removed).

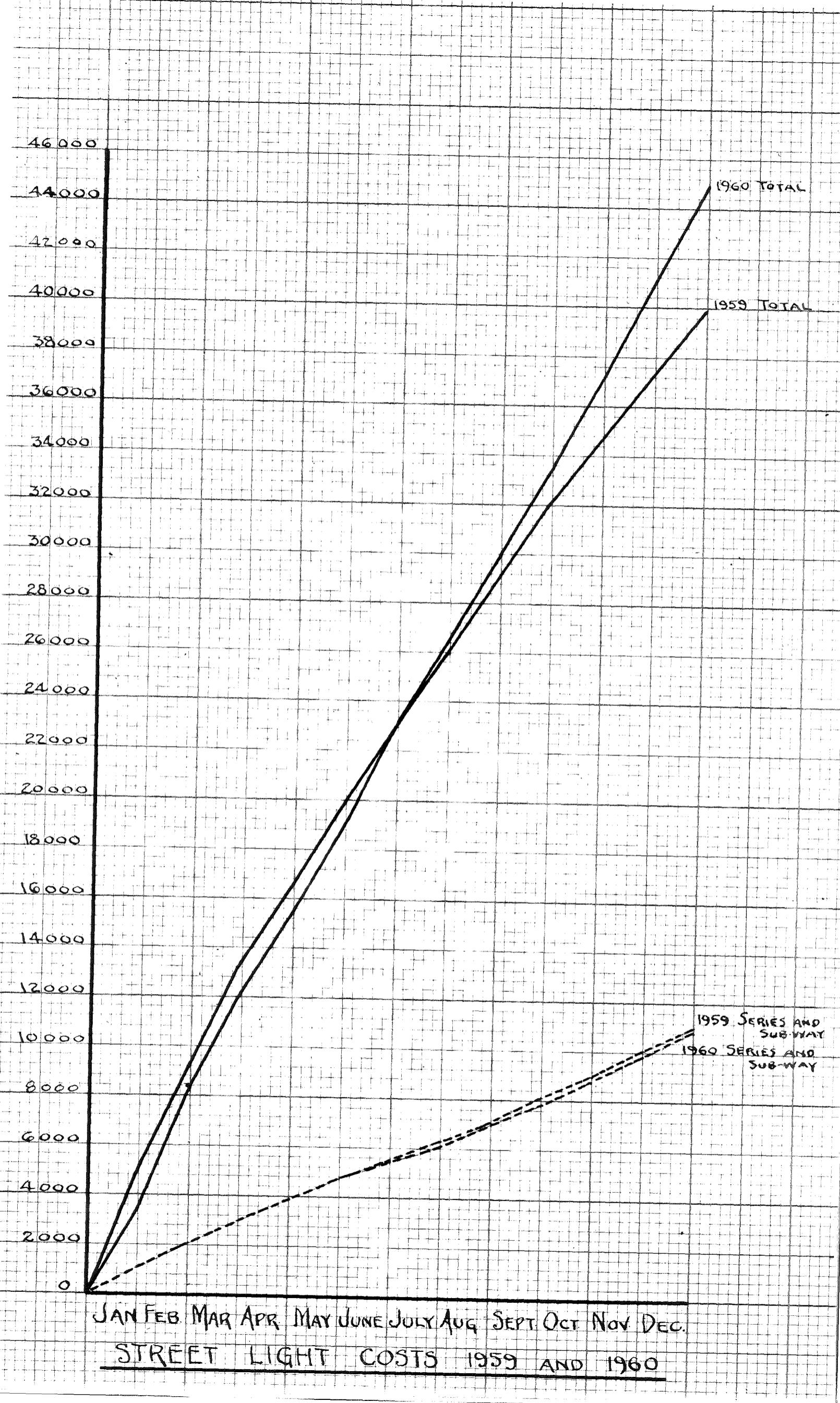
Two (2) 200 Watt Incandescents placed in Tamarack Terrace (two 2500's removed).

The total per capita charge for Street Lighting for 1960 population of 18,303 as per 1956 census is:-

$$\frac{44,841.71}{18,303} = \$ 2.45$$

TABLE SHOWING COMPARATIVE YEARLY COST IN STREET LIGHTING

<u>Year</u>	<u>Total Yearly Cost</u>	<u>Yearly Appropriation</u>
1946	11,611.45	12,000.00
1947	12,530.94	15,000.00
1948	15,269.12	15,000.00
1949	15,720.93	16,000.00
1950	25,300.30	20,000.00
1951	23,848.42	20,000.00
1952	25,211.39	25,000.00
1953	25,487.71	27,000.00
1954	23,812.54	27,000.00
1955	28,542.77	27,000.00
1956	31,877.10	27,700.00
1957	33,101.56	29,000.00
1958	36,038.79	33,500.00
1959	39,907.64	37,500.00
1960	44,841.71	44,010.00



## WATER

There are two separate water systems in the City of Fredericton.

(1) During 1960 the south side of the Saint John River derived its water from a Gravel Well located at the western end of Wilmot Park, from a test hole at the rear of the Fredericton Waterworks and from a new Gravel Well situated at the easterly end of Wilmot Park and at the rear of the Chamber of Commerce Building. The construction of this Well was begun in 1959 and was completed in 1960 and water was turned into the system, October 24, 1960.

The water from the test hole was a temporary supply equipped with a pump and motor on loan from the International Water Supply. This latter supply has been discontinued and pump and motor have been removed.

No. 2 Well on Saunders Street cannot be used in its present state because of the prohibitive manganese content, which causes "Red" water and stains linen, etc. and is not acceptable as a Municipal supply. The electric power has been discontinued for the operation of this Well.

(2) The water supply on the north side of the Saint John River is derived from three Wells. Two of these Wells are outside the City limits and pump into open reservoirs or can be directed into the 1,000,000 I. G. Reservoir completed by Maritime Engineering Ltd. in 1959. The third Well is located on Bridge Street and is now in use.

Several modifications were carried out on this Well in 1960 due to the high water hammer, caused by the fact that the pump is a high capacity pump (600 I.G.P.M.) and the system in Carleton Ward is to a great extent small size pipe.

During the test pumping period it was found that the turbidity of the water was not as desired, due to an open seam at a depth of approximately thirty feet. This has been corrected by removing the pump and casing the Well to a depth of forty feet and cement grouting between the casing and the rock wall of the Well.

Chlorine has been added to the Water in Carleton Ward due to the reports from the City Analyst of objectionable Coliforms in the Water. A Gas type chlorinator has been installed at the Bridge Street Well.

The water costs for the City of Fredericton are divided into two headings:-

Water Ordinary and Water Pumping Station.

## WATER ORDINARY

This account takes in all expenditures, other than Capital Expenditure for water outside the Pumping Station and Pumping Station grounds and includes all current Water

expenditure in Carleton Ward. The expenditure under this heading is made up as follows:-

Gross Expenditure .....	\$ 74,276.15
Credit .....	<u>14,823.04</u>
Net Expenditure .....	<u>\$ 59,453.11</u>

The above Credit is made up as follows:-

Work done for and materials sold to private parties when installing a water service over ground other than City property or when the material is to be used on parts of the system which do not belong to

the City .....	\$ 5,397.64
Mr. Sid Satter (Sale of 6.486 tons scrap, hydrants)...	137.22
William R. Thomas (Repairs to broken hydrant - Pine Street) .....	28.42
Pay cheque, Workmen's Compensation Board, S. Parent ..	216.80
Jerry's Service Station (flushing pavement in front of Service Station) .....	7.27
City Spring Service Ltd. (Sale of 66' of 5/8" Copper Tubing) .....	19.80
Edison Billings (Sale of 66' of 1" Copper and 1-1" Copper to Copper Union) .....	40.78
Alfred Brown (Sale of 7.14 tons scrap iron) .....	142.80
Carson Pugh (Sale of 3 Fittings 5/8" Copper - 3/4" Iron)	3.75
Horsnell's Machine & Iron Works (30' of 5/8" Copper tubing) .....	9.00
R. Dorcas (Sale of 66' of 5/8" Copper tubing) .....	19.80
Steen Mechanical Contractors (Repairs to hydrant, St. Mary's and Union Streets) .....	143.32
Journal Voucher (Rental on Hydrants) .....	8,544.00
Journal Voucher (Material) .....	<u>112.40</u>
TOTAL .....	<u>\$ 14,823.04</u>

The Gross Expenditure is made up as follows:-

City Pay Roll for Hydrants .....	\$ 4,508.09
City Pay Roll for Meters .....	3,165.92
City Pay Roll for Water Ordinary .....	11,456.62
City Pay Roll, Carleton Ward Pumping Station .....	<u>2,092.11</u>
Total Pay Rolls .....	\$ 21,222.74
Material and other charges .....	<u>53,053.41</u>
Gross Expenditure ....	<u>\$ 74,276.15</u>

No water extensions were laid under this heading but they appear under "Capital Account Water."

No sprinkle systems were installed in 1960.

There are at present 57 Sprinkler Systems in the City. The City charge for water supplied for sprinkler systems is \$25.00 per year.

Hydrants:-

There are in the City, 365 hydrants, 267 hydrants on the south side of the Saint John River and 98 on the north side. The credit for rental charge on these hydrants appear under credits Water Ordinary.

New hydrants this year were installed at the following locations:-

<u>Number</u>	<u>Location</u>
1	McEvoy Street
3	Harewood Court and Inglewood Drive
1	Montgomery Street, between Smythe and York Streets
3	Montgomery Street, Regent Street to College Hill Road
1	Odell Park

In addition a number of old hydrants were this year replaced with new McAvity hydrants. The location of these changes are as follows:-

- 1 - Regent Street, corner Regent and Charlotte Streets
- 1 - Brunswick Street, corner Church and Brunswick Streets
- 1 - Brunswick Street in front of Residence #751 Brunswick Street
- 1 - Aberdeen Street, corner Smythe and Aberdeen Streets
- 1 - Brunswick Street, in front of Residence #637 Brunswick Street
- 1 - Smythe Street, corner Smythe and Charlotte Streets
- 1 - Smythe Street, corner George and Smythe Streets
- 1 - Smythe Street, corner King and Smythe Streets
- 1 - Queen Street, corner Smythe and Queen Streets
- 1 - Odell Avenue, corner Odell Avenue and Brunswick Street
- 1 - Victoria Street, between Northumberland & Westmorland Streets
- 1 - George Street, corner George and Church Streets
- 1 - University Avenue, corner University Ave. and Charlotte St.
- 1 - Brunswick Street, between Westmorland and Northumberland Streets
- 1 - Saunders Street, corner Saunders and Northumberland Streets
- 1 - Saunders Street, corner Saunders and Smythe Streets
- 1 - Saunders Street, opposite Fredericton Exhibition Gate
- 1 - Indian Reserve
- 1 - Union Street above St. Mary's Street
- 1 - Argyle Street, corner Argyle and Smythe Streets

Meters:-

Of all the services in the City, 659 are charged under flat rate and 3,327 on meter rate, making a total of 3,986 services.

The labor cost this year per meter for installing, reading, repairing, etc. is \$1.05.

This year 11 discontinued services were dug out and shut off at the main.

All meters are read twice a year and bills are sent out twice a year. The meters of 144 customers are read once a month although they are billed twice a year. These are meters of

customers who ordinarily have large consumptions and where a stopped meter or meter digit turned over without being noticed would mean considerable loss of revenue to the City. All meters on Military Buildings are included in this group of monthly meter readings.

Meters in Store Room, December 31, 1960 were:-

5/8" Meters, repaired and fit for service ....	40
5/8" Meters to be reconditioned .....	6
New 5/8" Meters .....	90
New 1" Meters .....	1
1" Meters repaired and fit for service .....	1
1½" Meters, repaired and fit for service ....	6
New 1½" Meters .....	3

#### Distribution System:-

New Services installed this year .....	84
Old Services relaid this year .....	22
Old Services repaired this year .....	1
Frozen services that had to be thawed .....	0

The Fredericton distribution system consists of 47.96 miles of Water Main made up of the following sizes:-

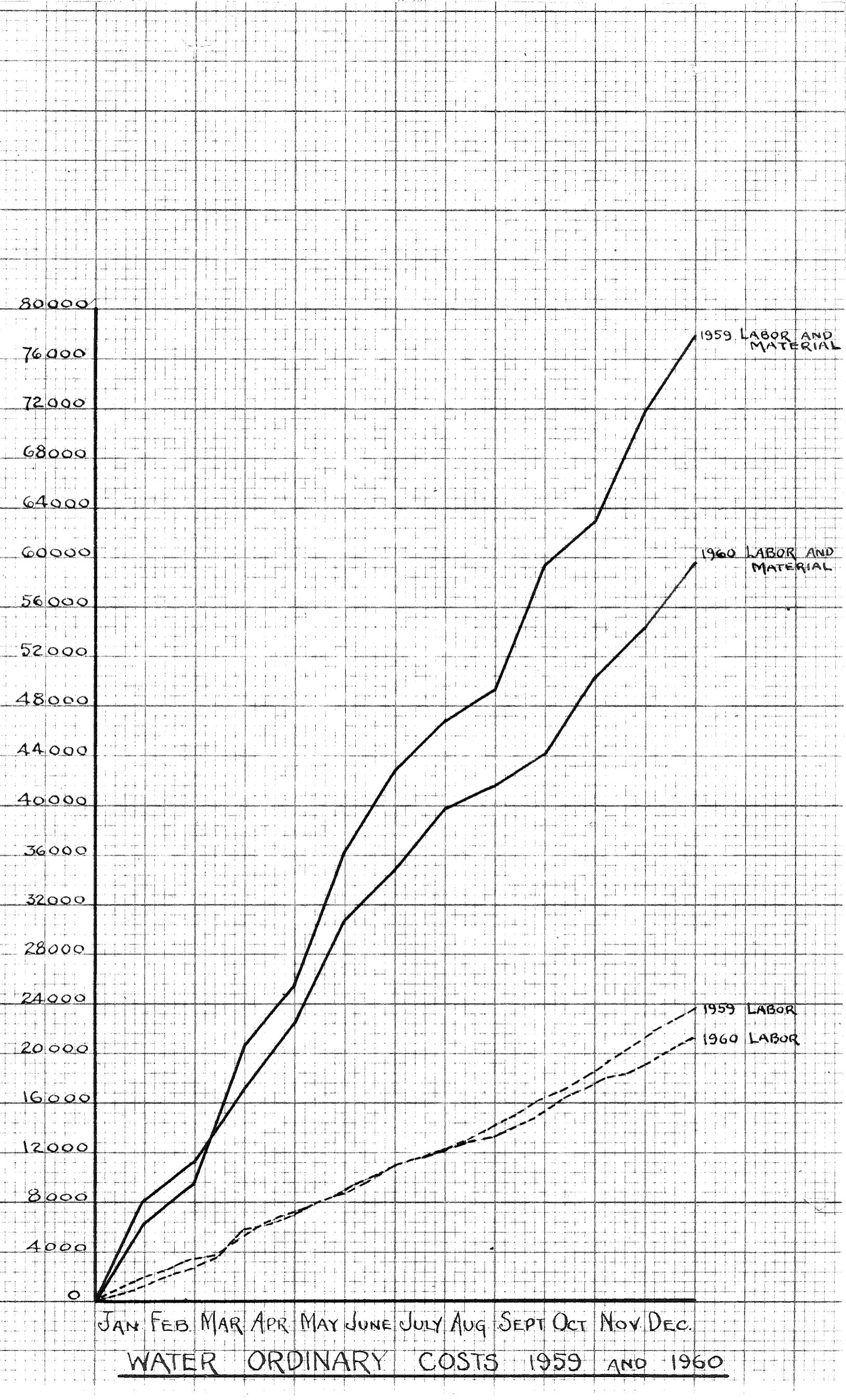
18" Main .....	0.98 miles
14" Main .....	0.33 miles
12" Main .....	3.94 miles
10" Main .....	3.16 miles
8" Main .....	9.00 miles
6" Main .....	25.23 miles
4" Main .....	5.05 miles
3" Main .....	0.27 miles

This does not include the water main installed by the National Defence at the Exhibition Grounds, Military Depot #7, now Department of Health and Social Welfare, Woodstock Road and the Army Garage, Waggoner's Lane.

The supply system consists of .36 miles of 14" Cast Iron Pipe, extending from the Well sites at Wilmot Park to the Pumping Station and .10 miles of 15" Steel Pipe extending from the Intake Pier in the Saint John River to the Pumping Station.

Also included in the above expenditures was the purchase of the following meters from Neptune Meter Ltd.: -

- 250 - 5/8" x 3/4" Trident C.I.B. cold water meters, straight reading, imperial gallons, complete with couplings included.
- 6 - 1" Trident C.I.B. cold water meters, straight reading, imperial gallons, complete with couplings included.
- 2 - 2" Trident C.I.B. cold water meters, straight reading, imperial gallons, flanged, complete with companion flanges included.
- 3 - 4" Trident Compound cold water meters, straight reading, imperial gallons, complete with flanges included.



The number of Meters installed in 1960 was 226.

Following is the list of vehicles used and charged to Water Ordinary, showing a comparison of repair charges for 1959 and 1960, including tires and tubes.

Name of Vehicle	Year Purchased	Repairs 1959	Repairs 1960
Dodge 1 Ton	1958	144.22	280.26
International 1/2 Ton	1958	300.98	417.91
Chevrolet $\frac{1}{2}$ Ton	1959	55.60	66.42

#### WATER PUMPING STATION

Expenditure ..... \$ 50,280.09

The above expenditure is divided as follows:-

City Pay Rolls for Salaries of employees at Pumping Station .....	\$ 18,722.36
Work done by other City employees in and around Pumping Station .....	<u>298.32</u>
Total City Pay Roll.....	\$ 19,020.68
Material & Workmen's Compensation Charges .....	<u>31,259.41</u>
TOTAL .....	<u>\$ 50,280.09</u>

The material cost of \$31,259.41 is itemized as follows:-

Item 1 - Light and Power supplied by Maritime Electric Co. (930848 K.W. Hours) .....	\$ 17,626.23
Item 2 - Light and Power supplied by Maritime Electric Co. at wells in Park .....	3,628.55
Item 3 - Heating (6165.50 Gallons Furnace Oil) .....	1,012.19
Item 4 - Gasoline (350 Gallons) .....	97.83
Item 5 - Liquid Chlorine (1950 lbs.) .....	277.57
Item 6 - Oil (2 Cases HD#10 and 5 Gallons Tereso #43). ....	21.32
Item 7 - Maintenance and repair to buildings, machinery and intake pier .....	5,348.87
Item 8 - New Installations .....	-----
Item 9 - Supplies, Packing Rags, Lamps, etc. ....	155.64
Item 10 - Stationary, Forms, Charts, Chemicals, Ink, etc. ....	192.21
Item 11 - Workmen's Compensation .....	591.89
Item 12 - E. W. Hagerman .....	1,510.08
Item 13 - Lime .....	-----
Item 14 - Calgon (5-100 lb. Bags including freight)....	96.90
Item 15 - Diesel Oil (800 Gallons) .....	164.00
Miscellaneous - Telephone, trucking, machinery, materials from other city departments, uniforms, etc. ....	<u>536.13</u>
TOTAL .....	<u>\$31,259.41</u>

The intake pier at the Fredericton Pumping Station was repaired this year at a contract price of \$4,600 by the construction firm of M. E. Phillips and Sons. The wire fence

around the Pumping Station property was replaced and the pumping equipment and floor of the Pump Room were painted.

The Pumping Station plant can be operated automatically on the ground water supply and manually on the Saint John River supply which must pass through the Filter plant for purification and which will only be used in an emergency; that is, when the Wells are not operating due to failure, etc. or when the demand for water is higher than the Wells can produce or during a prolonged electrical interruption, probably longer than 24 hours.

During a 24-hour interruption the 2,000,000 Gallon Reservoir will supply the system unless there is a serious break or a fire where a high consumption of water is required.

COMPARISON OF WATER PUMPED AND COSTS  
FOR SOUTH SIDE OF RIVER  
FOR LAST NINETEEN YEARS

<u>Year</u>	<u>Water Pumped Imperial Gallons</u>	<u>Yearly Gross Expenditure at Pumping Station</u>	<u>Pumping Station Cost per 1000Gals. Gross Expenditure</u>
1942	257,205,000	23,400.09	9.1 cents
1943	280,115,000	26,338.50	9.4 cents
1944	295,945,000	22,926.61	7.7 cents
1945	321,355,000	23,900.14	7.7 cents
1946	338,979,000	25,640.43	7.5 cents
1947	319,243,000	37,123.42	11.6 cents
1948	322,339,000	31,050.97	9.6 cents
1949	345,320,000	30,513.39	9.8 cents
1950	372,412,000	44,548.09	11.9 cents
1951	367,130,000	35,058.57	9.5 cents
1952	339,330,000	40,476.10	11.9 cents
1953	351,310,000	36,179.74	10.3 cents
1954	388,540,000	40,403.81	10.4 cents
1955	376,591,000	48,063.07	12.7 cents
1956	448,096,000 (13 Mos.)	41,351.18	9.2 cents
1957	469,185,000	42,465.50	9.0 cents
1958	454,765,000	42,888.56	9.4 cents
1959	487,704,000	47,923.19	9.8 cents
1960	520,081,000	50,280.09	9.6 cents

The column in the preceding comparison, showing Imperial Gallons pumped, does not include water used from Wells in Carleton Ward.

By taking the average consumption of Carleton Ward as 300,000 Gallons per day the estimated water pumped for twelve months from these Wells was 109,500,000 Imperial Gallons.

The total amount of water pumped from January 1, 1960 to December 31, 1960, therefore, for the whole City, is 629,581,000 Imperial gallons.

The total net water expenditure for the City from January 1, 1960 to December 31, 1960 is \$109,733.20.

Therefore the net cost to pump and deliver to the customer 1,000 Imperial Gallons of water from January 1, 1960 to December 31, 1960 is 109,733.20 = 17.4 cents.  
629,581

All the preceding costs shown under "Water Pumping Station" and "Water Ordinary" do not include the cost of billing and collecting water bills or any other overhead charge included in the City Government cost, nor do they include bond payment or sinking fund charges.

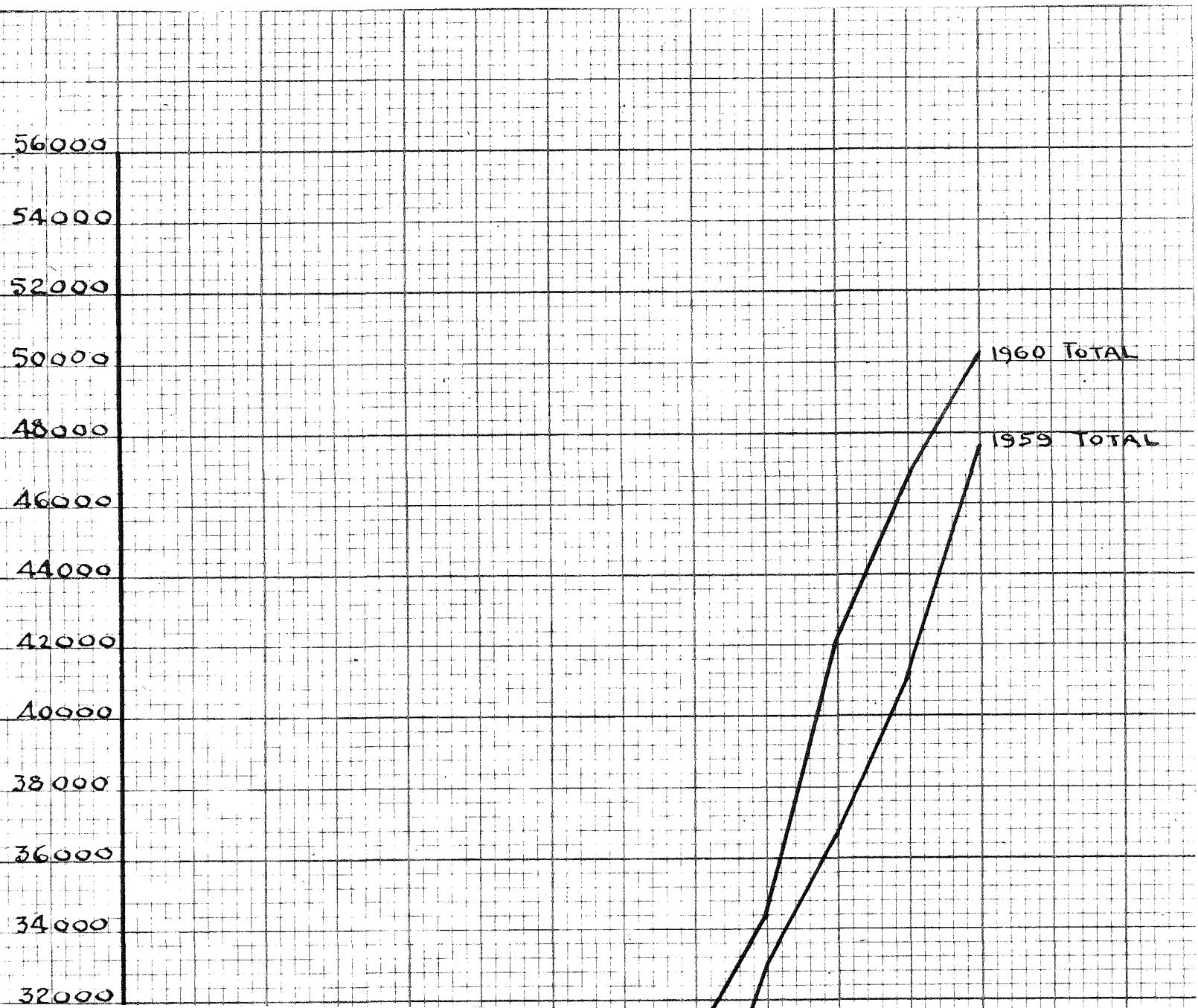
The Water Pumping Station was under the supervision of the Plant Superintendent, Mr. George Clark.

Accompanying this report is the report of Mr. E. W. Hagerman, City Analyst, on the Fredericton Water Supply from January 1, 1960 to December 31, 1960.

Respectfully submitted,

*W. L. Baird.*

City Engineer.



## FREDERICTON WATER SUPPLY

1960

All water flowing through the city mains in 1960 came from Wells. In Carleton Ward of Fredericton or that part north of the St. John River the Wells are bored in the rock but to the south of the river they are in gravel.

The Bacteriological and chemical characteristics of both supplies are the equal of and in most cases better than other city waters.

Water from the river has not been admitted to the system since 1957 when, for the last time, a small amount was used to supplement the Well supply during the peak summer demand.

The old filter plant is maintained to cover an unlikely emergency such as a simultaneous long period failure of two of our three Wells.

Carleton Ward has been taking its water from the Killarney and Range reservoirs which are supplied by their adjoining Wells. These reservoirs are uncovered and have been, we think, the point where bacteria of undesirable nature occasionally gain entrance to the system. This summer the new covered Highland Avenue reservoir was put in service. This, with the Bridge Street Well and its modern chlorinator, has almost eliminated the occasional appearance of the coliform group of bacteria.

A small chlorine residual (about one-tenth of one part per million free chlorine) is maintained in both systems. This serves as an emergency measure in case of a break in the main and it also acts as a deterrent to undesirable growths in pipes and reservoirs.

Some complaints were received about undesirable tastes. Upon investigation it was found that these are neither general nor lasting through the system. The writer has never been able to detect such tastes in the effluent of the plant at point of entrance to the mains. It is known that a new water put in an old system frequently dissolves some of the deposits laid down on the pipe walls by the old water. This dissolving takes place at various places, not always the same, and continues for varying lengths of time. This action may account for some cases.

Some of the tastes attributed to the water may be caused by the consumer's dishes in which he serves water. Insufficient rinsing off of detergents, use of roughened plastic dishes which do not clean properly, stale ice cubes, all these can cause bad tastes. Water rarely tastes normal to sick persons. It is the writer's belief that these may be some of the causes of bad tastes.

Some variation in the chemical qualities of the water in the south system occurs, depending on the proportion taken from each Well. The following values are average. The pH is 7.5 Alkalinity 77 ppm, total hardness 98 ppm, Iron and Manganese a trace each and Chlorides 11 ppm.

On the north side of the river the pH is 7.9, Alkalinity 91 ppm, total hardness 120 ppm, iron .06 ppm., manganese .06 ppm., and chlorides 6.5 ppm.

Tests were made on 54 samples for Coliform bacteria. These samples taken at various points, are listed below. The date and place of collection of each sample is shown. Each sample is set up as 5 portions of 10 cc each which are planted in Lactose Broth as primary media. Confirmatory media used is Brilliant Green Bile 2%. Nothing is noted in the list if the result was negative but a Positive result is indicated as, 1 Plus or 2 Plus etc. up to a possible of 5 Plus.

Only one Plus or Positive reaction was detected in 1960 in 270 portions (54 samples by 5 portions is 270) as against 26 Positive out of 315 portions in 1959. As mentioned above, we believe that this reduction in Coliform numbers is the result of the covered reservoir and a continuous chlorination program.

January 3	127 Charlotte Street
January 8	377 Gibson St., Greer & Lawson
January 17	Fire Station, MacLaren Avenue
January 24	479 Union St., Union Motors
February 2	U.N.B. Engineering Bldg.
February 10	MacLaren Ave. Fire Station
February 15	127 Charlotte Street
February 21	277 Gibson St. - D.D.Pringle
February 28	277 Gibson St. - D.D.Pringle
March 6	Experimental Farm Garage
March 14	127 Charlotte Street
March 27	Fire Station, MacLaren Ave.
March 29	U.N.B. Engineering Bldg.
April 3	127 Charlotte Street
April 9	Fire Station, MacLaren Ave.
April 16	277 Gibson St., D.D.Pringle
April 18	Thistle Dairy Well
April 19	377 Gibson St., Greer & Lawson
April 25	Fire Station, MacLaren Ave.
May 4	127 Charlotte Street
May 9	277 Gibson St., D.D.Pringle
May 17	377 Gibson St., Greer & Lawson
May 27	Fire Station, MacLaren Ave.
May 28	Ronald Baird, 583 Smythe St.
June 6	479 Union St., Union Motors
June 11	377 Gibson St., Greer & Lawson
June 19	U.N.B. Engineering Bldg.
June 25	Fire Station, MacLaren Ave.
July 1	U.N.B. Engineering Bldg.
July 7	R.A.Malloy, 66 McKeen Street
July 17	277 Gibson St., D. D. Pringle
July 23	Fire Station, MacLaren Ave.

August 1 66 McKeen St., R. A. Malloy  
August 1 377 Gibson St., Greer & Lawson  
August 7 U.N.B. Engineering Bldg.  
August 12 377 Gibson St., Greer & Lawson  
August 20 377 Gibson St., Greer & Lawson

Sept. 1 66 McKeen St., R. A. Malloy  
Sept. 16 377 Gibson St., Greer & Lawson  
Sept. 24 277 Gibson St., D. D. Pringle

October 1 127 Charlotte Street  
October 7 377 Gibson St.; Greer & Lawson  
October 14 277 Gibson St., D. D. Pringle  
October 20 U.N.B. Engineering Bldg.  
October 28 479 Union St., Union Motors

November 4 99 Smith St., H. G. Bailey  
November 9 U.N.B. Engineering Bldg.  
November 13 Fire Station, MacLaren Ave.  
November 18 127 Charlotte Street  
November 25 277 Gibson St., D. D. Pringle

December 6 Fire Station, MacLaren Ave.  
December 12 277 Gibson St., D. D. Pringle  
December 16 U.N.B. Engineering Bldg.  
December 22 154 Aberdeen Street  
December 31 377 Gibson St., Greer & Lawson

February 16, 1961

(Signed) E. W. Hagerman  
City Analyst.

W A T E R   I N S T A L L A T I O N S   1 9 6 0 .

1.	B. R. B. Ltd.	106 St. John Street	2--1" C.	New
2.	Thomas Gough	Fenety Street	5/8" C.	Extended
3.	Gustave Grandame	772 Prince Street	5/8" C.	Relay, Box to House
4.	Canadian National Railways	Queen Station	3/4" C.	Relay
5.	H. W. Elliott Est.	463 Union Street	5/8" C.	Relay
6.	E. C. Atkinson	286 Northumberland Street	5/8" C.	Relay
7.	B. S. Wood	37 Kensington Court	5/8" C.	New
8.	Clive Sutton	7 Tamarack Terrace	5/8" C.	New
9.	Annie I. Mitchell Est.	358 Brunswick Street	5/8" C.	Relay
10.	Eldon Dunphy	471-473 Montgomery Street	3/4" C.	New
11.	LeLand W. McBrine	235 Green Road	5/8" C.	New
12.	George McCready	250 Victoria Street.	5/8" C.	Relay
13.	Malcolm Cummings	773 Byng Street	5/8" C.	New
14.	Oakley Dann	Friel & Union Streets	3/4" C.	New
15.	Willis Patterson	418 Smythe Street	5/8" C.	Relay
16.	Craig Electric Co.	912 Union Street	3/4" C.	Relay
17.	Aulder W. Manzer	245 Sewell Street	5/8" C.	New
18.	John T. Gregory	616 Union Street	5/8" C.	Relay
19.	F. L. Williams	132 Argyle Street	5/8" C.	Relay
20.	Allen Hudlin	303 Highland Avenue	5/8" C.	New
21.	Stan Cassidy	Water & St. Marys Streets	3/4" C.	New
22.	S. C. R. Con. Ltd. (Cathedral Hall)	Church Street	1" C.	New
23.	Hill Bros.	831 Hanson Street	5/8" C.	New
24.	Donald McGuire	792 York Street	5/8" C.	New
25.	Fredericton Boat Club Inc.	Lincoln Road	3/4" C.	New
26.	Hill Bros.	824 Regent Street	5/8" C.	New
27.	Grant Watson	215 Green Road	5/8" C.	New
28.	David E. Cornish	11 Spruce Terrace	5/8" C.	New
29.	Malcolm Cummings	491 Montgomery Street	5/8" C.	New
30.	Hazen Boone	320 Montgomery Street	5/8" C.	New
31.	Mrs. John Doherty Sr.	146 Lincoln Road	5/8" C.	New
32.	James O'Hara	196 Lincoln Road	5/8" C.	New
33.	William Hewitson (St. Margarets Hall)	Lincoln Road	5/8" C.	New
34.	Mrs. Mildred Love	476 Charlotte Street	5/8" C.	Relay
35.	W. G. Clark Est.	482 Charlotte Street	5/8" C.	Relay
36.	Gordon E. Merrithew	175 Green Road	5/8" C.	New
37.	Allied Building Co. Ltd.	144-146 Inglewood Drive	3/4" C.	New
38.	Allied Building Co. Ltd.	158-160 Inglewood Drive	3/4" C.	New
39.	Merle Nisholson	648 Smythe Street	3/4" C.	New
40.	Don Belmore	35 Sherwood Court	5/8" C.	New
41.	George Bridge	836 Windsor Street	5/8" C.	New
42.	Merlyn E. Cull	205 Green Road	5/8" C.	New
43.	F. O. Comuzzi	83 Golf Club Road	3/4" C.	New
44.	Merrill A. Edwards	778 Windsor Street	5/8" C.	New
45.	Weyman Construction Co.	165 Green Road	5/8" C.	New
46.	Lawrence Knowles	17 Spruce Terrace	5/8" C.	New
47.	J. L. Simms & Sons Ltd.	York & King Streets	1" C.	New
48.	Mrs. F. S. Horncastle	282 Odell Avenue	5/8" C.	Relay
49.	W. E. Emerson (Simpson Sears)	332 Queen Street	1" C.	New
50.	Wendell Farris	518 Squires Street	5/8" C.	New
51.	T. M. Waugh	839 Hazen Street	5/8" C.	New
52.	Ben & Ruben Budovitch	269 King Street	5/8" C.	Relay
53.	Roger Holdsworth	685 Montgomery Street	5/8" C.	New
54.	N. B. dep't. of Agriculture	Montgomery Street	1" C.	New
55.	B. D. Colter	552-554-556 Beaverbrook Street	1" C.	New
56.	C. W. Itchie	831 Smythe Street	3/4" C.	New
57.	Harvey Jones	637 Scully Street	5/8" C.	Relay
58.	Reginald P. Gulliver	Titus Street	5/82 C.	New
59.	Taylor & Steeves	261-263 Connaught Street	3/4" C.	New
60.	E. J. Grant	Montgomery Street	5/8" C.	New
61.	Hazen DeWitt	875 Regent Street	5/8" C.	New
62.	R. Kaiser	796 Windsor Street	5/8" C.	New
63.	Paul E. Burden	769 Montgomery Street	5/8" C.	New
64.	Animal Hospital of Fredericton	Montgomery Street	5/8" C.	New
65.	Fred Boone	800 Forest Hill	5/8" C.	New
66.	Gerald White	800 Irvine Street	5/8" C.	New
67.	Fred Sloat	Gibson Street	5/8" C.	New

68	Rev. E. D. Wills	760 McEvoy Street	5/8" C.	New
69.	Fredericton Housing Ltd.	744 Fenety Street	5/8" C.	New
70.	Richard E. MacNeill	323 Gibson Street	5/8" C.	New
71.	Ivan McKnight	93-95 Regent Street	5/8" C.	Relay
72.	Areta Gerow Est.	171 Smythe Street	5/8" C.	Relay
73.	C. W. Ritchie (Imperial Bank)	554 Queen Street	3/4" C.	New
74.	William C. Glass	3 Spruce Terrace	5/8" C.	New
75.	Wendell Farris	150 Green Road	%" C.	New
76.	Roland C. Rickard	Dayton Court	5/8" C.	New
77.	James C. Flynn	Hughes Street	5/8" C.	New
78.	William Swift	110 Harewood Court	5/8" C.	New
79.	Clifford Rymes	117 Jaffrey Street	5/8" C.	Relay
80.	Maritime Engineering (Chippins)	Queen Street	5/8" C.	On Old Service
81.	Roy Ramey	115 Charlotte Street	5/8" C.	Relay
82.	Nelson Cameron	867 Union Street	5/8" C.	Relay
83.	William H. Hancock	440 Northumberland Street	5/8" C.	Relay
84.	E. E. Burden (Lot 44)	814 Windsor Street	5/8" C.	New
85.	John M. Whelby	784 Windsor Street	5/8" C.	New
86.	Harold Forbes	Hillcrest Drive	5/8" C.	New
87.	Bailey & Steen	Regent Street	5/8" C.	New
88.	Edward K. Robb	10 Spruce Terrace	5/8" C.	New
89.	Wm. A. Savage	221 Inglewood Drive	5/8" C.	New
90.	Hill Bros.	10 Harewood Court	5/8" C.	New
91.	Malcolm Cummings	100 Harewood Court	5/8" C.	New
92.	Diamond Con. Co. Ltd.	640 Charlotte Street	5/8" C.	New
93.	Knights of Pythias	130 Carleton Street	5/8" C.	Relay
94.	John Clark	York Street	5/8" C.	New
95.	Fred Comuzzi	80 Harewood Court	5/8" C.	New
96.	Fredericton Housing Ltd.	546 Brunswick Street	5/8" C.	New
97.	Wendall Farris	488 Squires Street	5/8" C.	New
98.	Weyman Con. Co. (High School)	Regent & George Streets		New
99.	Taylor & Steeves	130 Harewood Court	5/8" C.	New
100.	Hill Bros.	Montgomery Street	5/8" C.	New
101.	Suburban Con. Co.	90 Harewood Court	5/8" C.	New
102.	Shell Oil Co.	Union & St. Marys Streets	1" C.	New
103.	Paul H. Crabbe	172-174 Inglewood Drive	5/8" C.	New
104.	Frank Hatchey	25 Sherwood Court	5/8" C.	New
105.	Atlas Building Supplies Ltd.	30 Sherwood Court	5/8" C.	New
106.	Fowler Bros.	Smythe Street	5/8" C.	New
107.	Suburban Con. Co.	Smythe Street & Spruce Terrace	5/8" C.	New

S E W E R   I N S T A L L A T I O N S   1 9 6 0 .

L.	B. S. Wood	Kensington Court	New
2.	Clive Sutton	Tamarack Terrace	New
3.	Charles Irvine	141 St. Marys Street	New
4.	Eldon Dunphy	Montgomery Street	New
5.	M. Perley Estey	549 Albert Street	New
6.	Gerald Whitlock	236 St. Marys Street	New
7.	Leland W. McBrine	Green Road	New
8.	John Booker	267 St. Marys Street	New
9.	Mrs. Virgus Ståne	152 Titus Street,	New
10.	Mrs. Faye Titus	164 Titus Street	New
11.	Malcolm Cummings	Byng Street	New
12.	Oakley Dann	Friel & Union Streets	New
13.	George Till	314 St. Marys Street	New
14.	George Booker	270 St. Marys Street	New
15.	Aulder W. Manzer	Sewell Street	New
16.	G. E. Nason Jr.	446 Gibson Street	New
17.	Gerald P. Cain	656 Union Street	New
18.	John T. Gregory	616 Union Street	New
19.	Mrs. Ida Nason	374 Gibson Street	New
20.	Allen Hudlin	303 Highland Avenue	New
21.	Stan Cassidy	Water & St. Marys Streets	New
22.	S. C. R. Construction Ltd.	Church Street	New - CATCH DR 444 1/4
23.	Hill Bros.	Hanson & Fenety Streets	New
24.	Donald McGuire	792 York Street	New
25.	Hill Bros.	Regent Street.	New
26.	Grant Watson	Green Road	New
27.	David E. Cornish	Spruce Terrace	New
27.	Malcolm Cummings	Montgomery Street	New
28.	Hazen Boone	320 Montgomery Street	New
29.	Mrs. Catherine Hodgson	342 Gibson Street	New
30.	Gordon E. Merrithew	Green Road	New
31.	Allied Building Con. Ltd.	Inglewood Drive	New
32.	Allied Building Con. Ltd.	Inglewood Drive	New
33.	Merle Nicholson	Smythe Street	New
34.	Don Belmore	Sherwood Court	New
35.	George Bridge	Windsor Street.	New
36.	Merlyn E. Cutt	Green Road	New
37.	Merrill A. Edwards	Windsor Street	New
38.	Weyman Construction Co.	Green Road	New
39.	Lawrence Knowles	Spruce Terrace	New
40.	J. L. Simms & Sons Ltd.	York & King Streets	New
41.	Simpson Sears Ltd.	Queen Street	New Storm Sewer
42.	W. E. Emerson (Simpson Sears)	Queen Street	New
43.	Wendell Farris	Squires Street	New
44.	T. M. Waugh	Hazen Street	New
45.	Roger Holdsworth	685 Montgomery Street	New
46.	N.B. Dep't. of Agriculture	Montgomery Street	New
47.	Board of School Trustees	York Street	New Storm Sewer
48.	C. W. Ritchie	Smythe Street	New
49.	St. Andrews Church Hall	Charlotte Street	New
50.	N. B. Prov. Gov't.	College Hill Road	New
51.	Reginald P. Gulliver	Titus Street	New
52.	Indian Affairs Branch	Indian Reserve	New Storm Sewer
53.	Taylor & Steeves	Connaught Street	New
54.	E. J. Grant	Montgomery Street	New
55.	Hazen DeWitt	Regent Street	New
56.	R. Kaiser	Windsor Street	New
57.	N. B. Artificial Breeding Co-Op. Ltd.	Montgomery Street	New
58.	Prov. Veterinary Service	Montgomery Street	New
59.	Paul E. Burden	769 Montgomery Street	New
60.	Animal Hospital of Fredericton	Montgomery Street	New
61.	Fred Boone	800 Forest Hill	New
62.	Gerald White	Irvine Street	New
63.	Fred Sloat	Gibson Street	New
64.	Rev. E. D. Wills	McEvoy Street	New
65.	Fredericton Housing Ltd.	Fenety Street	New
66.	Richard E. MacNeill	Gibson Street	New
67.	Lounsbury Co. Ltd.	College Hill Road	New

68.	Maritime Engineering Ltd. (IMperial Bank)	Queen Street	New
69.	William C. Glass	Spruce Terrace	New
70.	Wendell Farris	Green Road	New
71.	Roland C. Rickard	Dayton Court	New
72.	James W. Flynn	Hughes Street	New
73.	William Swift	Harewood Court	New
74.	Maritime Engineering Ltd. (Chippins)	Queen Street	New
75.	Roy Ramey	115 Charlotte Street	New
76.	E. E. Burden	814 Windsor Street	New
77.	John M. Whelby	784 Windsor Street	New
78.	Harold Forbes	Hillcrest Drive	New
79.	Bailey & Steen	Regent Street	New
80.	Edward K. Robb	10 Spruce Terrace	New
81.	Malcolm Cummings	100 Harewood Court	New
82.	Diamond Con. Co. Ltd.	640 Charlotte Street	New
83.	John Clark	York Street	New
84.	Fred Comuzzi	Harewood Court	New
85.	Fredericton Housing Ltd.	546 Brunswick Street	New
86.	Wendall Farris	Squires Street	New
87.	Weyman Con. Ltd. (High School)	Regent & George Streets	New
88.	Taylor & Steeves	Harewood Court	New
89.	Hill Bros.	Montgomery Street	New
90.	Suburban Con. Ltd.	Harewood Court	New
91.	Shell Oil Co.	Union & St. Marys Streets	New
92.	Paul H. Crabbe	Inglewood Drive	New
93.	Frank Hatchey	Sherwood Court	New
94.	Atlas Building Supplies Ltd.	Harewood Court	New
95.	Fowler Bros.	Smythe Street	New
96.	Suburban Con. Ltd.	Smythe Street & Spruce Terrace	New

W A T E R   M E T E R   I N S T A L L A T I O N S   1 9 6 0 .

L.	A. Wade	581 Windsor Street
2.	Currie Gulliver	132 Miles Street
3.	Alfred Horsnell et ux	131-133 Miles Street
4.	Leo Mazerolle	141 Miles Street
5.	N. B. Teachers Association	766 King Street
6.	Mrs. Herbert Estabrook	146 Miles Street
7.	Frank McElman "st.	152 Miles Street
8.	Arthur Wood	181 Miles Street
9.	Mrs. Mary DeGrasse	185 Miles Street
10.	Irving Oil Co. Ltd.	967 Union Street
11.	Irving Oil Co. Ltd.	963 Union Street
12.	A. T. Sweed Est.	702 King Street (Meter # 1)
13.	A. T. Sweed Est.	702 King Street (Meter # 2)
14.	John Kilburn	228 Queen Street (Meter # 1)
15.	John Kilburn	228 Queen Street (Meter # 2)
16.	Demolitions Ltd.	929 Union Street
17.	Demolitions Ltd.	933 Union Street
18.	Demolitions Ltd.	935 Union Street
19.	Demolitions Ltd.	925 Union Street
20.	Demolitions Ltd.	919-921 Union Street
21.	Merrill Fraser	911 Union Street
22.	Demolitions Ltd.	907 Union Street
23.	Demolitions Ltd.	887 Union Street
24.	Joseph Burrows	879 Union Street
25.	Gifton Burtt	877 Union Street
26.	H. L. Robinson	875 Union Street
27.	Harold E. Fraser	867 Union Street
28.	Mrs. Melvin McKiel	843 Union Street
29.	Mary Henry & Grace Oldham	839 Union Street
30.	Herbert Gill	731 Union Street
31.	Mrs. Minnie Forbes	745 Union Street
32.	Mrs. Ethel MacDonald	750 Union Street
33.	Mrs. R. E. Flowers	751 Union Street
34.	Bernard Chippin	769--771 Union Street
35.	Joseph Scott	778 Reid Street
36.	M. Ryan & Son Ltd.	696--696 Union Street
37.	Harold E. Jewett	707 Union Street
38.	Walter Haining	711--713 Union Street
39.	Mrs. Mildred Turner	714 Union Street
40.	Bruce MacFarlane	716 Union Street
41.	Mrs. A. R. Voye	819 Union Street
42.	George Johnson	833 Union Street
43.	Cecil Gorman	728 Union Street
44.	Claude MacDonald	677 Union Street
45.	Fred Garrity	673 Union Street
46.	Lawrence Carroll	659--661 Union Street
47.	Gordon Christenson	796 Hanson Street
48.	John Young	256 Highland Avenue
49.	Wendell Farris	508 Squires Street
50.	Arts Building, U. N. B.	University Avenue
51.	Estey & Curtis	535 Beaverbrook Court
52.	Malcolm Cummings	65 Sherwood Court
53.	N. Liphsetz	195 Ingewood Drive
54.	Mrs. Harry Ryan	76 Smith Street
55.	Percy J. Corning	651 Union Street
56.	Ronald G. Simms	668 Union Street
57.	Wilfred Sullivan Est.	606 Union Street
58.	George Niles	652 Union Street
59.	Gerald Cain	656 Union Street
60.	Frank Barry	678 Union Street
61.	Mrs. Yvette Breau	478 Union Street
62.	B. B. Allen	614 Union Street
63.	Clarence Gourley Est.	367 Main Street, (Nashwaaksis)
64.	Forbes & Sloat Ltd.	650 Union Street
65.	D. E. Wolsenholm	768 Fenety Street
66.	Minnie Thompson	83-85-87 Regent Street
67.	Forbes & Sloat Ltd. (garage)	Union Street
68.	L.S.Morrison & L. Armstrong	73-75 York Street

69.	L. & L. Builders	732 Fenety Street
70.	Byron Boone	330 Union Street
71.	L. W. Hughes et ux	333 Union Street
72.	Kenneth Moore	344 Union Street
73.	John T. Wilkins et ux	356 Union Street
74.	Pearl Boone	388 Union Street
75.	Mrs. Grace Stickles	390 Union Street
76.	William Kesson Est.	377 Union Street
77.	Ernest Bourque et al	402 Union Street
78.	Lena R. Long	416 Union Street
79.	Mrs. E. Maude Rush et al	418-420 Union Street
80.	Mrs. Queenie Taylor	432 Union Street
81.	Irving Oil Co. Ltd.	109 Friel Street.
82.	D'evon Construction Co. Ltd.	106 St. Marys Street
83.	Ralph Dingee	180 Pine Street
84.	L. & L. Builders	821 Windsor Street
85.	L. & L. Builders	813 Windsor Street
86.	L. & L. Builders	799 Windsor Street
87.	L. & L. Builders	793 Windsor Street
88.	Fredericton Housing	772 Reid Street
89.	Fredericton Housing	777 Reid Street
90.	Fredericton Housing	769 Reid Street
91.	Fredericton Housing	770 Reid Street
92.	Gordon Christenson	195 Inglewood Drive
93.	U. N. B. (Biology & Physics Bldg)	University Avenue
94.	Fredericton Housing	767 Reid Street
95.	Fredericton Housing	782 Reid Street
96.	Atlantic Wholesalers Ltd.	698 McLeod Avenue (Meter # 2)
97.	Fredericton Housing	765 Reid Street
98.	Fredericton Housing	771 Reid Street
99.	Fredericton Housing	773 Reid Street
100.	Fredericton Housing	779 Reid Street
XXXXXXXXXXXXXX	XXXXXXXXXXXXXX	XXXXXXXXXXXXXX
101.	Paul Harris	10 Sherwood Court
102.	Allen Ramey	71-73 Regent Street
103.	Sharkey Building	562 Queen Street
104.	Drake & Bourque	567 Beaverbrook Court
105.	Mrs. Eva Pond	243 Gibson Street
106.	Ralph Brown	255 Gibson Street
107.	Thistle Dairy Restaurant	480 Windsor Street
108.	L. & L. Builders	897 Windsor Street
109.	Fowler Bros.	155 Green Road
110.	G. McCready	250 Victoria Street
111.	Eldon Dunphy	471-473 Montgomery Street
112.	B. S. Wood	37 Kensington Court
113.	Oakley Dann	367 Union Street
114.	Mrs. Stokoe	490 Gibson Street
115.	U.N.B. Civil Engineering Bldg.	University Avenue
116.	Imperial Service Station	Water Street
117.	Clive Sutton	7 Tamarack Terrace
118.	Fredericton Boat Club Inc.	Lincoln Road
119.	Grant Watson	215 Green Road
120.	L. W. McBride	235 Green Road
121.	Malcolm Cummings	491 Montgomery Street
122.	Balfour Bailey	773 Byng Street
123.	Bryce Neeley	824 Regent Street
124.	Hill Bros.	831 Hanson Street
125.	William D. McNaught	738 Athlone Street
126.	James O'Hara	196 Lincoln Road
127.	New Exhibition Bldg.	Exhibition Court
128.	David Cornish	11 Spruce Terrace
129.	Fredericton Public Library	605 Campbell Street
130.	J. Clark & Son	420 King Street (Meter # 2)
131.	R. Merrithew	175 Green Road
132.	T. M. Waugh	839 Hazen Street
133.	Wendell Farris	518 Squires Street
134.	A. A. Colter	552-554-556 Beaverbrook Street
135.	Merlyn Cull	205 Green Road
136.	Merrill Edwards	778 Windsor Street
137.	Eden Rock Motor Hotel	Forest Hill
138.	David Graham	334 Montgomery Street
139.	Everett Glenn	248 Gibson Street
140.	C. W. Ritchie	831 Smythe Street

141.	B. A. Service Station	York & King Streets
142.	Don Belmore	35 Sherwood Court
143.	F. O. Comuzzi	83 Golf Club Road
144.	Basil Wood	170 Miles Street
145.	W. R. Adams	843 Barker Street
146.	M. L. Saunders	835 Barker Street
147.	Sydney Nason	422 Gibson Street
148.	Richard MacTavish	282 Gibson Street
149.	William R. Thomas	238 Gibson Street
150.	Stanley Turnbull	302 Gibson Street
151.	Lawrence Ritchie	831 Barker Street
152.	F. S. Bailey	741 MacLaren Avenue
153.	G. H. Powers	743 MacLaren Avenue
154.	O. R. Cochrane	626 MacLaren Avenue
155.	Lloyd E. Wilkins	590 MacLaren Avenue
156.	James J. Comeau	585 MacLaren Avenue
157.	A. William MacLaughlin	723 MacLaren Avenue
158.	J. C. Touchie	602 MacLaren Avenue
159.	Fréd E. Brown	567 MacLaren Avenue
160.	M. E. Scammell	211 School Street
161.	A. E. Strang	259 Medley Street
162.	Harry R. Sutton	324 Union Street
163.	W. R. Scott	219 School Street
164.	William H. Reynolds	691 MacLaren Avenue
165.	R. Harvey	734 Union Street
166.	H. C. Doyle	859 Union Street
167.	A. Chaters	749 MacLaren Avenue
168.	R. & C. Bishop	377 Forbes Street
169.	A. A. Colter	965 Union Street
170.	Robert MacLaggan	851 Union Street
171.	Mary Henry & Grace Oldham	849 Union Street
172.	M. A. Hughes	543 Union Street
173.	Leslie J. Brewer	271 Montgomery Street
174.	Weyman Construction Co.	165 Green Road
175.	Hubert Dunbar	656 Forest Hill
176.	W. B. Thompson	242 Medley Street
177.	Lawrence Knowles	17 Spruce Terrace
178.	Allied Building	158-160 Inglewood Drive
179.	Allied Building	144-146 Inglewood Drive
180.	Hazen DeWitt	875 Regent Street
181.	Fred Boone	800 Forest Hill
182.	Mrs. T. W. Jones	627 Scully Street
183.	George Bridge	836 Windsor Street
184.	Merle Nicholson	648 Smythe Street
185.	Paul E. Burden	769 Montgomery Street
186.	Fredericton Pony Club	Rookwood Avenue
187.	John H. Reynolds	245 Medley Street
188.	Animal Hospital of Fredericton	797 Montgomery Street
189.	R. Kaiser	796 Windsor Street
190.	Taylor & Steeves	261-263 Connaught Street
191.	Simpson Sears Ltd.	332 Queen Street
192.	Imperial Bank Ltd.	554 Queen Street
193.	William Swift	110 Harewood Court
194.	J. C. Hurley	785 Regent Street
195.	Mrs. R. Patterson	775 Regent Street
196.	Richard MacNeill	323 Gibson Street
197.	D. Rowney	130 Argyle Street
198.	E. J. Grant	258 Montgomery Street
199.	Alfred Feeney	180-184 Regent Street
200.	Rev. E. D. Wills	760 McEvoy Street
201.	E. Cameron	863 Union Street
202.	Willard Tims	274 Montgomery Street
203.	Aulder Manzer	245 Sewell Street
204.	D. Bamford	270 Neill Street
205.	E. J. Miles	441 Elm Street
206.	B. J. McMillan	744 Fenety Street
207.	J. Chippin	558 Queen Street
208.	H. Bailey	530 Regent Street
209.	Roland Rickard	307 Dayton Court

210. Joe Stone  
211. N. B. Dep't. Agriculture  
212. Fredericton Housing  
213. William G. Glass  
214. Wendall Farris  
215. Irving Oil Co. Ltd.  
216. Malcolm Tait  
217. Miss Luella Brown  
218. Taylor & Steeves  
219. Wm. Savage  
220. J. Chippin  
221. Harold Forbes  
222. H. Pike  
223. U. N. B. (Neville B;dg.)  
224. U. N. B. (New Residence)  
225. John Clark  
226. Fred Sloat

562 Queen Street  
Montgomery Street  
546 Brunswick Street  
3 Spruce Terrace  
150 Green Road  
828 Barker Street  
861 Barker Street  
138 Miles Street  
130 Harewood Court  
221 Inglewood Drive  
640 Charlotte Street  
Hillcrest Drive  
70 Sherwood Court

779 York Street  
Gibson Street

## WATER METERS 1960.

Aberdeen	89	Fairlawn	7	Main	1	Union	103
Acacia	10	Fenety	10	Manor	8	University	84
Albert	56	Forbes	5	Medley	7	Valley View	10
Alexandra	18	Forest Acres	1	Miles	13	Victoria	41
Allan	3	Forest Hill	39	Mitchell	26	Wagoner	1
Argyle	36	Friel	9	Montgomery	16	Water	7
Ashland	7	George	118	Needham	32	Waterloo	47
Athlone	2	Gibson	104	Neill	6	Westmoreland	57
Avondale	11	Gill	10	Northumberland	64	Windsor	29
Babbitt	1	Golf Club	5	Odell	15	Winslow	13
Barker	30	Graham	30	Palmer	35	Woodbine	7
Beaverbrook	30	Green	62	Parkhurst	40	Woodbridge	15
Beckwith	4	Grey	17	Phillips	2	Woodfield	17
Bridge	12	Hanson	53	Phoenix	3	Woodstock	67
Brookmount	8	Hanwell	3	Pine	10	York	114
Brunswick	127	Harewood	2	Prince	13		
Byng	10	Haviland	1	Queen	203	TOTAL	3327
Campbell	11	Hawthorne	5	Regent	109		
Camperdown	1	Hayes	3	Reid	53		
Carleton	29	Hazen	2	Riverdale	7		
Carney	2	Henry	14	Rookwood	17		
Charlotte	154	Hermitage	8	Ryan	4		
Chestnut	25	Highland	17	St. John	61		
Church	28	Hillcrest	19	St. Marys	9		
Churchill	28	Hughes	1	Saunders	66		
Clark	17	Inglewood	10	School	2		
Connaught	23	Irvine	5	Scully	16		
Coombes	6	Jaffrey	11	Sewell	9		
Crerar	2	Kendington	7	Shamrock	10		
Dayton	1	King	101	Sherwood	12		
Devon	6	Kitchen	32	Shore	13		
Dobie	11	Lansdowne	20	Smith	8		
Dundonald	34	Lincoln	15	Smythe	65		
Edinburgh	38	Londale	6	Spruce	6		
Elizabeth	1	Loyalist	7	Squires	5		
Elm	3	MacLaren	39	Tamarack	11		
Elmcroft	8	McEvoy	22	Titus	1		
Elmwood	17	McKeen	7	Turnbull	2		
Exhibition	4	McLeod	8	Tweedsmuir	7		

To  
Gout  
Gran

A hand-drawn map showing a property boundary. The main boundary is a thick black line. A road, labeled "HILL ROAD", runs along the bottom and right side of the property. A street, labeled "TURNBULL CT.", runs perpendicular to the road on the left. Two areas are labeled: "FOREST" on the top left and "FOREST ACRES COURT" on the top right. A small circle is drawn near the intersection of the two roads.

S  
A  
N

John

RIVER

**SAINT JOHN RIVER**

**NASHWAUK RIVER**

**NEW CONSTRUCTION 1960.**

**SURFACE SEWER**

48" PIPE = 72 LIN. FT.  
30" PIPE = 856 LIN. FT.  
24" PIPE = 1928 LIN. FT.  
18" PIPE = 1550 LIN. FT.  
15" PIPE = 1516 LIN. FT.  
24" PIPE = 2448 LIN. FT.  
12" PIPE = 1238 LIN. FT.  
6" PIPE = 6865 LIN. FT. = 1.26 MILES

**DOMESTIC SEWER**

12" PIPE = 813 LIN. FT.  
8" PIPE = 8139 LIN. FT.  
8" PIPE = 8952 LIN. FT. = 1.69 MILES

**WATER**

12" PIPE = 1061 LIN. FT.  
10" PIPE = 2401 LIN. FT.  
8" PIPE = 1104 LIN. FT.  
6" PIPE = 1716 LIN. FT.  
6" PIPE = 6282 LIN. FT. = 1.19 MILES

**PLAN OF THE CITY OF FREDERICTON.**

CITY ENGINEERS OFFICE MAR. 1960.

SCALE IN CHAINS (APP)

