

# ANNUAL REPORT OF THE ENGINEERING AND PUBLIC WORKS DEPARTMENT

## 1935



YEARLY REPORT OF CITY ENGINEER

FREDERICTON, N.B. 1935

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January 31, 1936.

TO HIS WORSHIP THE MAYOR AND THE ALDERMEN  
OF THE CITY OF FREDERICTON:-

Gentlemen:-

This report is a statement of the work done in the different City Departments under the direct supervision of the City Engineer and covers the period of time from the first of December, 1934 to the first of December, 1935.

This report is written with a purpose of reporting to the Council on the costs of the various construction work carried out during the year, and on the maintenance and repair costs of the different City Departments under the supervision of the City Engineer. It is also written with the idea of having on file an accurate record of these activities and costs.

All figures and statements derived from them appearing in this report have been carefully compiled and I believe are correct and fit to be used in working out costs for future expenditures.

The various City activities which come particularly under the supervision of the City Engineer are:-

Roads and Streets, construction and maintenance.

Public Works, construction and maintenance.

Water System, operation, construction and maintenance.

Domestic Sewerage System, operation, construction and maintenance.

Surface Sewer, operation, construction and maintenance.

Street Light, operation, construction and maintenance.

Shade trees, planting, pruning, removal, etc.

Other construction or maintenance activities such

as repairs to City Hall or other City buildings or

any other construction job which the Council may from time to time put in the hands of the City Engineer.

I believe our labour costs for the last two or three years and especially for the last year have been increased by at least 10% on account of the unemployment conditions which necessitate the giving of direct relief. There has been a tendency to employ as many men on a piece of work as could possibly be taken on. For this reason there have been times when under ordinary circumstances the crews on construction work would have been cut down, but on account of the condition of unemployment the large crews have been kept on until the last possible use could be found for them.

Again work has been done such as loading carts in stone yard by hand labour methods which could more economically have been done by machinery.

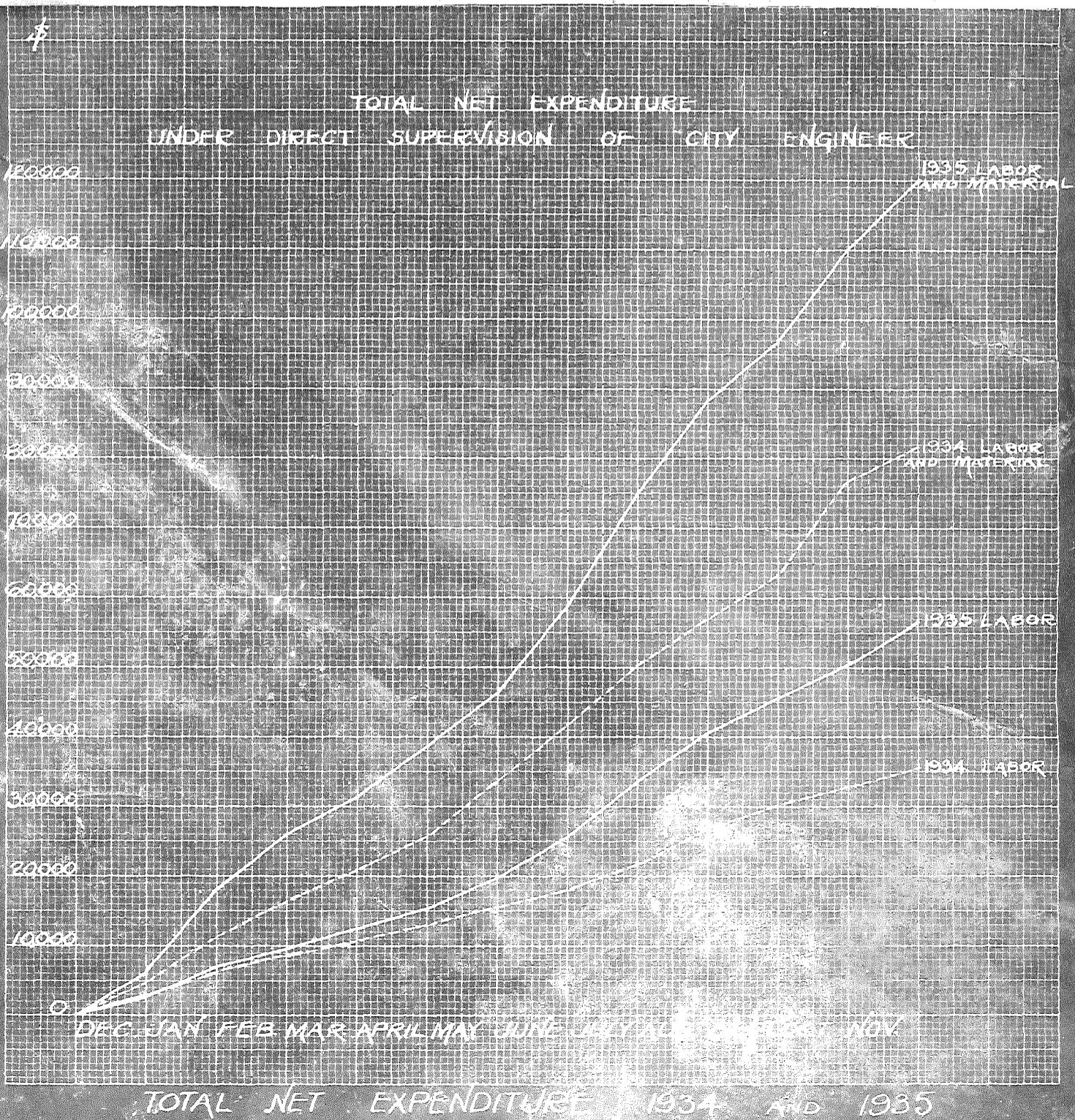
On the whole I would judge that our labour costs on our City construction jobs have been increased at least 10% on this account. This unemployment situation has, no doubt, decreased our material costs as this surplus of labour has undoubtedly been reflected in lower material prices.

Following the body of the report is a detailed statement of work done, comparative expenditure and unit costs under the different Departments. This detailed report of any particular department can readily be found by referring to the Index found on Page 1.

#### TOTAL YEARLY EXPENDITURE

Our total yearly net expenditure under the direction of the City Engineer this year amounted to \$120,000.00 or some \$56,000.00 last year. This ~~large expenditure~~ was accounted for by extra paving work and new street construction and also by some new water and sewerage installation and will be taken up in detail under the different headings in this report.

A graphic comparison of the total expenditure for both labour and material for 1934 and 1935 is shown on the following chart.



## ROADS AND STREETS

The City of Fredericton's roads and streets system can well be divided into two districts, viz., the urban district and the outlying or rural district. The urban district is roughly bounded by the river from the Forest Hill Road crossing to the western City line and on the rear by the line of Albert and Dundonald Street.

The outlying or rural district would be the district within the city limits outside of the above written boundaries.

Altogether in Fredericton we have some  $44\frac{1}{2}$  miles of roads and streets and about 31 miles of sidewalk. This sidewalk, of course, all lies within the urban district.

The roads and streets are divided between the two districts as follows:-

### Roads and Streets

	<u>Paved</u>	<u>Gravel</u>	<u>Total Miles</u>
Urban District	7.43	10.25	17.68
Outlying District	1.92	24.75	26.67
Total	9.35	35.00	44.35

Gross Expenditure.....	\$46588.85
Credits.....	21502.31
Net Expenditures.....	25086.54
1935 Appropriation.....	23000.00
1935 Roads and Streets overexpenditure.....	\$ 2086.54

The above credits are made up as follows:

Received from other City Departments for work done or materials sold by Roads and Streets Dept. \$19,230.41

Received from Provincial Government as per the agreement between the Government and the City, one-half of cost of quarrying and hauling stone during November and December 1935 as per account tendered by City..... 2,232.40

N.B. There are further statements which have been sent to the Government by the City for this job but as these accounts were not furnished and sent in to the Government by the end of the year they will not appear in this year's statement...

Work done for or material sold to private parties by Roads and Streets Department..... 39.50  
\$21,502.31

In the receipts from other City Departments appear the following items:

677 cu. yds. crushed stone @ 1.75 used on Needham Street paving under Permanent Road Capital Account.....	\$1184.75
8737 cu. yds. crushed stone at 1.90 used on Saint John Road paving, under Permanent Road Capital Account.....	\$16600.50
4½ cu. yds crushed stone @ 1.90 sold to scale house at City Hall.....	8.55
34 cu. yds. gravel at 50¢ sold to Needham Street, Paving Capital Account.....	17.00
46 cu. yds. of gravel @ 50¢, sold to Smythe Street, curb and gutter, Public Works Account.....	23.00
543 cu. yds. gravel @ 55¢ sold to Saint John Road Paving Capital Account.....	298.65
15 cu. yds. gravel @ 50¢ sold to scales at City Hall.....	7.50

The above items in all totaling some 9418 cu. yds.  
of crushed stone and 638 cu. yds. of gravel and amounting to  
\$18,139.75.

The gross expenditure of \$46,588.85 is made up as  
follows:-

Labour.....	\$25,264.14
Charges for material and Workmen's Compensation.....	<u>21,324.71</u> \$46,588.85

The Labour charge of \$25,264.14 is made up as  
follows:-

Snowploughing sidewalks:-..... \$ 225.05

Snow Control:- Shoveling and hauling snow,  
ploughing or scraping roads, cleaning gutters  
of ice or snow and any other means of snow control..... 3973.77

Streets:- General work on maintenance of streets  
and sidewalks and any other items such as building  
culverts, curbs and gutters or pavements which are  
not mentioned under some particular heading..... 2908.55

Surface Sewers:- Cleaning, flushing and repairing  
surface sewers and building new surface sewers within  
street limits..... 238.05

Sanding Walks:- Hauling, drying and storing sand in  
winter storage piles and spreading same on slippery  
walks..... 108.53

Yard:- Men working at blacksmith shop and repair work  
in City yard, taking out summer equipment and storing  
winter equipment, etc..... 1073.73

Gravel:- Tallying..... 55.91  
Forward \$8583.59

Brot. fwd.	8583.59
<u>Street Sprinkling</u> :- Watering carts.....	817.63
<u>Stone Crushing</u> :- Repairs to crusher and crushing stone.....	3550.57
<u>Saint John Road</u> :- (not Capital account) All work done on River road from Alexandria Street to eastern City line other than work done by power maintainer..	497.56
<u>Doak and Wilsey Road</u> :- All work done on these roads other than work done by power maintainer,....	296.30
<u>New Maryland Road</u> :- From C.P.R. crossing to southern City line, all work done on this road other than that done by power maintainer.....	168.84
<u>Outlying Roads</u> :- Hanwell Road, Cross Roads, lying between Brick Hill Road and College Hill Road, Brick Hill road, Poor House Hill road, College Hill road and Forest Hill Road, all work done on these roads other than work done by power maintainer.....	142.15
<u>Street Cleaning</u> :- All cleaning and removal of dirt from streets.....	3095.83
<u>Patching</u>	
<u>Tarvia Repairs</u> :- Paving and repairing asphalt and tar pavings and sidewalks and applying seal coat of light tar or asphalt to pavements.....	488.6 / 632.88
<u>City Road Patrol</u> trap	632.98
<u>Quarry</u> :- Quarrying and hauling <del>trap</del> rock from City quarry and from LeBaron Grasse quarry to City yard..	6990.20
Total.....	\$25264.16

The above items are made up entirely of labour costs and give a good idea of the amount and kind of work done by the Roads and Streets Department for this year.

Following is a table comparing labour expenditures in these items from 1930 to 1935.

TABLE COMPARING YEARLY COSTS IN ROADS AND STREETS LABOR ITEMS

Item	1930	1931	1932	1933	1934	1935
Snowploughing side-walks	326.01	264.10	284.13	121.71	329.78	225.05
Snow control	3047.50	3619.50	1548.55	918.95	4999.27	3973.77
Streets	1578.32	2968.98	617.40	1292.66	940.39	2908.55
Surface sewers	593.25	1609.15	450.20	351.75	241.33	238.05
Sanding walks	142.47	42.66	203.02	242.07	73.20	108.53
Yard	1527.15	427.98	995.31	844.42	1134.39	1073.73
Gravel						55.91
Street Sprinkling	739.95	644.74	693.45	758.18	813.20	817.63
Stone crushing	1165.56	522.44	713.71		65.66	3550.57
St. John Road	750.36	558.44	2812.73	259.45	240.25	497.56
Doak & Wilsey Rd.	565.53	1252.93	2390.52	218.69	99.90	296.30
New Maryland Road	91.32	237.12	6941.61	1935.44	69.87	168184
Outlying Roads	294.56	1053.83	1317.08	518.26	172.12	142.15
Street cleaning	2599.33	2366.01	2256.16	1937.02	2409.02	3095.83
Tarvia repairs	453.29	775.62	453.66	346.33	782.82	488.61
City Road Patrol	1143.78	921.09	750.61	723.09	715.92	632.88
Quarry			1892.10		209.85	6990.20

These labour items may be somewhat better understood by the following explanations:-

Snow Control:-

Snowploughing roads and streets.....	\$ 344.46
Shovelling and hauling snow off streets.....	2204.73
Scarifying sidewalks.....	17.52
Doak Road.....	10.38
Draining streets.....	507.16
Saint John Road.....	69.22
Maryland Hill.....	102.40
Thawing catch basins.....	114.56
Removing snow and ice from catch basins.....	138.42
Shovelling snow at Hospital.....	6.00
Forest Hill.....	3.60
Poorhouse Hill.....	14.88
Cutting and hauling ice from streets.....	316.44
General Expenses.....	<u>124.00</u>
Total.....	\$3973.77

Streets:-

Summary of labour costs:-

Spreading gravel on streets.....	529.58
Repairs on streets.....	191.34
Painting traffic lines and posts on streets.....	86.91
Construction of Beaverbrook Street.....	1988.86
General expenses.....	<u>111.86</u>
Total.....	\$2908.55

Beaverbrook Street:-

Construction was started on Beaverbrook Street September 14, 1935 and completed on October 29, 1935. This job consisted of building a new street from Regent Street just south of the C. P. R. track in an easterly direction and parallel to Brunswick Street for a distance of two blocks or to intersect with Jubilee Street. In these costs appear also the construction of one block on Jubilee Street from Beaverbrook Street to Albert Street and one block on Saint John Street Extension from Beaverbrook to Albert Street. This layout consisted of entirely new streets and some heavy grading was necessary. The work was not altogether completed as far as grading is concerned on account of lack of material and it was necessary to lower the grade on Beaverbrook Street in two places. However, I hope that during the next year we will have enough available material to bring this street up to its proper grade.

The total labour and material costs for this construction was \$4766.50, although only \$3766.50 appears in this year's costs as \$1000.00 was paid last year to Mr. Sypher for right-of-way.

Of this year's material cost of \$1777.64, \$638.00 was for the purchase of right-of-way and was made up as follows:

Jeremiah Coyle	\$75.00
Hugh O'Leary	1.00
Mrs. Annie Fletcher	2.00
Mrs. Minnie Charters	75.00
Richard and Edward Coyle	85.00
Hugh O'Leary	100.00
Joseph Myshrall	300.00

Water and sewerage was laid on Beaverbrook Street but the costs of this construction are not included in the above but will later appear under their proper headings of Water and Sewerage.

#### Surface Sewers:

##### Summary of labour costs:-

Cleaning and repairing catch basins.....	\$146.35
Flushing surface sewers.....	51.45
Repairs to surface sewers at Valley Motors.....	12.75
Repairs to surface sewer on Charlotte St.....	9.10
Drafting sewer plans.....	9.25
General expenses.....	<u>9.15</u>
Total	\$238.05

#### Stone Crusher:

The crusher was started on May 9th and continued to crush stone until September 3rd. During this time some 10925 tons of stone were crushed at a labour cost of 32¢ per ton. This cost included loading in carts from pile, hauling and dumping on crusher platform, all crushing costs and loading on trucks or piling in stock pile.

The unit cost for both labour and material was 37¢ per ton.  
*On Oct 30<sup>th</sup> 1935 No uncrushed Stone in Yard JDM*

On November 30, 1935 there was in our stone yard 300 tons of crushed and screened stone and no uncrushed stone.

#### Saint John Road:-

##### Summary of labour costs:

Spreading gravel.....	\$229.56
Horse-drawn road patrol.....	77.40
Cutting bushes.....	96.00
Painting poles.....	5.61
Survey work.....	69.85
General expenses.....	<u>19.14</u>
Total	\$497.56

### Doak and Wilsey Roads:-

Of the \$296.30 spent in labour, \$195.10 was used on the Doak Road and \$101.20 on the Wilsey Road. The money was principally taken up by men from that location under a City foreman cutting and burning bushes around the right-of-way along with some \$25.00 spent in horse-drawn road patrol.

### Outlying Roads:-

Money spent on outlying roads was divided as follows:-

Hanwell Road.....	\$53.60
Cross Roads.....	82.85
College Hill Road.....	<u>5.70</u>
Total.....	\$142.15

### Street Cleaning:-

This labour charge of \$3095.83 is some \$500.00 over our average charge. This is partially accounted for by the Council's desire to put to work unemployed men. With this object in view we, last fall, did much more extensive raking of leaves than formerly. Again the street cleaning item is one which I believe will gradually increase along with increased demands along this line.

### Tarvia Repairs:-

#### Summary of labour costs:

Patching paved streets.....	\$353.79
Patching sidewalks.....	72.70
Seal coating streets.....	<u>62.12</u>
Total.....	\$488.61

The cost this year is slightly below average. However I believe all the necessary work was done and that our paved streets are in good condition.

The following table shows the Bituminous material used in 1935:-

	<u>Heavy tar or asphalt</u>	<u>Light tar or asphalt</u>	<u>K.P.</u>	<u>Asphalt Emulsion</u>
Gallons in stock Spring of 1935	44	0	0	132
Gallons purchased 1935	0	0	0	66154
Available for season 1935	44	0	0	66286
Stock on hand fall of 1935	44	0	0	480
Used in season of 1935	0	0	0	65806

Quarry:-

Quarrying operations were carried on by the City from December 1st, 1934 to February 16th 1935 and from October 30th, 1935 to November 30th, 1935. Work continued after this latter date but as labour and material expended during December 1935 was not paid for until January 1936 the costs do not appear in this report.

In the first period of time some 8052 tons of trap rock were quarried at the City quarry and at LeBaron Grasse's quarry and hauled in to the City yard, and in the second period an additional 7299 tons of rock were quarried and landed at the City Yard. The unit price for labour and material for this first lot of 8052 tons was \$1.01 and the unit price of labour and material for the second lot of 7299 tons of rock was 80¢. These above costs do not include overhead or profit.

In addition to the abovementioned rock, LeBaron Grass hauled during July and August 2340 tons from his own quarry and landed it in the City yard at a price to the City of \$1.00 per ton.

TABLE SHOWING COMPARATIVE COSTS OF ROADS AND STREETS

YEARS 1927 to 1935:-

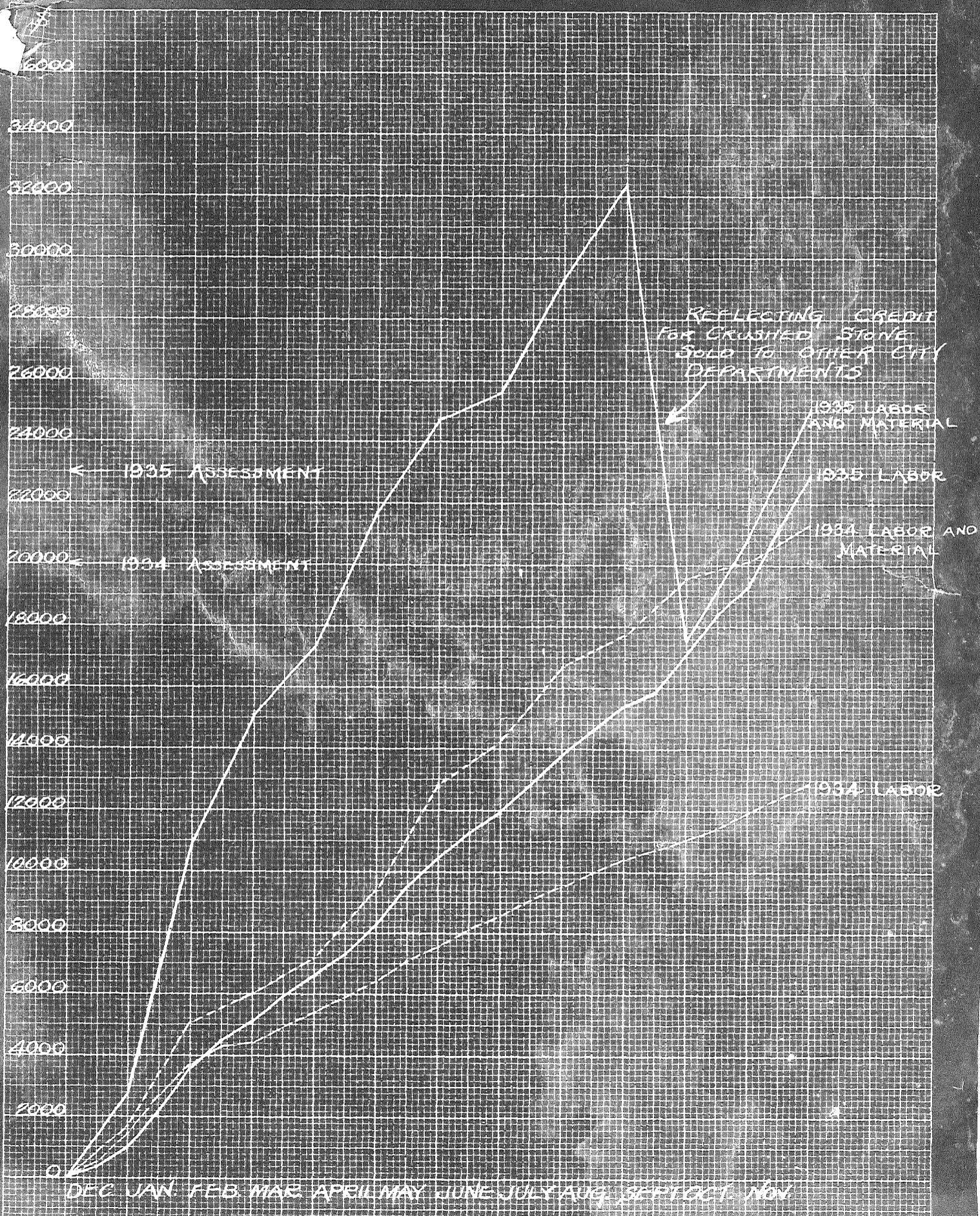
Year	Expenditure for Labour	Gross Expenditure Labour and Materials	Credit	Net Costs Labor and Material	Appropriation
1927	15,692.00			25,245.00	26,000.00
1928	17,122.45			26,058.70	26,000.00
1929	14,490.47			26,682.98	31,000.00
1930	16,533.53			34,556.33	32,500.00
1931	26,024.54	50,849.60	15,511.97	35,337.63	31,000.00
1932	25,430.96	39,101.62	4,822.19	34,279.43	25,000.00
1933	10,607.99	19,161.38	533.28	18,829.10	19,000.00
1934	13,332.51	23,665.94	2,311.58	21,354.36	20,000.00
1935	25,264.14	46,588.85	21,502.31	25,086.54	23,000.00
1936	18,357.05	33,238.01	11,059.77	22,178.24	23,000.00

The following plate shows graphic comparison of Roads and Streets costs for years 1934 and 1935.

May 1<sup>st</sup>/35 The following Truck Equipment was Purchased from D.E. Langlois

2 $\frac{1}{2}$ Ton Res Chassis and Cab.	1420
+ - 166" Wheelbase (Extra Charge)	75
1 Wood Hydraulic Hoist	365
Installation of Hoist	1860.00
Allowance on Chassis, Truck & - 10 -	30.00
	1890.00
	275.00
	\$ 1615.00

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### PAVING CAPITAL ACCOUNT

Gross Expenditure.....\$47788.17  
Credits..... 20897.34  
City's net Expenditure.....\$26890.83

The Capital Account expenditure is divided under three headings as follows:

	Total Expenditure	Credits	Actual Cost
Needham Street	3406.29		3406.29
St. John Road	43686.18	20897.34	22788.84
Queen Street	<u>695.70</u>		<u>695.70</u>
	<b>47788.17</b>	<b>20897.34</b>	<b>26890.83</b>

#### Needham Street:-

The pavement was laid on Needham Street from York Street to Regent Street amounted to 3228 sq. yds. of pavement. 600 ft. of 4 foot sidewalk was also laid on this job at a cost of \$324.14, leaving a cost of pavement only of \$3081.15. This shows a unit cost per square yard of completed pavement of 95 $\frac{1}{2}$ . This job shows 21% of the total costs to have been used for labour. The type of pavement constructed was a 2 inch wearing course made by the penetration method and using 1.54 gals. of Colas per sq. yard as a binder. Colas was applied in two applications of about 3/4 gal. each and had the surface blotted with sand. Before the wearing course could be laid it was necessary to remove about four inches of the old road to get the proper elevation of pavement below the already completed sidewalk. However, enough good material remained in the old road to allow it to be consolidated into a solid base.

The above total costs include beside the actual laying of wearing course, the excavation, grading and consolidation of base course, and the construction of some 125 feet of 8 inch terra cotta surface sewer having four catch basins.

#### Saint John Road:-

This pavement was laid from Alexandria Street east along the Saint John Road a distance of 2.29 miles to the main road of the Experimental Farm. The pavement consists of a 3 inch wearing course no less than 20 feet wide with curves widened up to 24 feet. Wearing course was made from first class trap rock crushed and screened. The rock used was 1" x 2" stone.

Colas was used as a binder. The average consumption being 1.926 gals. per sq. yd. However in places this varied from 1.83 gals. to 2.16 gals. per sq. yd. The Colas was applied in two and sometimes three applications, with a final

*Not enough Colas, Need about ~~2~~ <sup>2</sup>/<sub>3</sub> Gal per Yd. sq.  
gallon per yard sq. yd. 11-11-11  
bottom road with aggregate lined. D.M. 4th April 1936.*

Very light seal coat of about 1/6 gal. per yard. The wearing course was practically all laid in two 10 ft. sections as it was necessary to keep the road open for traffic. Three inch wooden forms were used. Beneath the wearingcourse was laid a macadam base course of varying thicknesses and no less than 24 ft. wide. This base course was laid and consolidated and allowed to have at least two weeks traffic before it was followed by the wearing course. The base course was all constructed of good crushed trap rock, most of which would be two inch or over. Besides the construction of wearing course and base course we had a considerable amount of regrading. Some 1400 cu. yds. of rip rap and 1000 cu. yds. of rock filled side ditch. This rock filled side ditch had at the bottom a six inch tile and we had in all some 4680 lineal feet of this tiled side ditch. Most of the culverts on this road had formerly been constructed of terra cotta pipe. Upon examination this pipe was found to be mostly cracked and in some cases had failed entirely under the last few years traffic. Terra cotta was all removed and where possible the culverts were lowered. Corrugated iron pipe was used in place of the old terra cotta.

Upon completion of the wearing course a 5 ft. gravel shoulder was laid on both sides the road. The total cost of this piece of work was \$43686.18 made up of \$12031.43 labour cost and \$31654.75 material cost. This shows labour to be  $27\frac{1}{2}\%$  of the total cost. This construction was primarily started as an unemployment relief job and hand labour was used wherever possible. The total cost per square yard of finished pavement, including all work before mentioned, is \$1.59. The cost per mile of finished pavement \$19077.00. Of this cost the government refunded to the City as per their agreement with them \$20613.19.

\$43,686.18

#### Queen Street:-

Paving Capital Account on Queen Street this year consisted only in the construction of 940 feet (lineal) of curb and gutter along the south side of the street between Westmorland and Smythe Streets.

The total cost was \$695.70, made up of \$483.50 labour costs and \$212.20 material cost, showing a labour cost of  $69\frac{1}{2}\%$  and a unit cost per lineal foot of 74¢.

These costs like all the costs in this report do not include overhead or profit.

Note - One Three Wheel Tandem Wagon Stearns. Roller with asphalt 24" Rear wheels and asphalt front wheel purchased from Corner and Dymon for \$1700.00.

PUBLIC WORKS

Gross Expenditure.....	\$4425.84
Credits.....	<u>2776.96</u>
Net Expenditure.....	<u>\$1648.88</u>

1935 Appropriation.....	\$3000.00
Net Expenditure.....	<u>1648.88</u>
1935 under expenditure.....	<u>\$1351.12</u>

The above credits are made up as follows:-

Wood cut during the winter of 1934-35 on College land and hauled to the City yard by the Public Works Department. The total cost of this wood landed in the City Yard including labour, small tools, etc. and stumpage was \$4.00 a cord of 138 cu. ft. The total cords cut and hauled this season were 792 but 100 cords were last year billed to the Municipal Home Department by the Public Works Department leaving 692 cords to be billed this year at \$4.00.....\$2768.00

Work done for and charged to private citizens by the Public Works Department such as cutting trees on private property..... 8.96 \$2776.96

The above Gross Expenditure is made up as follows:-

Labour.....	2906.24
Material and Workmen's Compensation.....	<u>1519.60</u> <u>\$4425.84</u>

The Labour account is divided as follows:-

Dump.....	\$ 827.15
Curbing Smythe Street.....	165.55
Back drain.....	139.72
Unforeseen account.....	324.95
Trees.....	116.25
Wood lot.....	<u>1332.62</u> <u>\$2906.24</u>

Dump:

The City dump was in the fall of 1935 changed from its old location on the river bank at the end of Westmorland Street to a new location on the Fraser property at Victoria Mills. A lease of land from the Fraser Company for dumping purposes was acquired at a nominal rent by the City with the understanding that dumping would be carried on to the satisfaction of the Fraser Company. This new location makes a haul on the average of about a mile longer than the average haul to the old Westmorland Street dump. As most of the hauling is now done by trucks this is not as great a hardship as it may at first appear. There is no doubt that this new location will add to the appearance and sanitary condition of the City.

A new dumping bye-law was passed by the City Council forcing the citizens to use this new dump location and prohibiting private dumps being opened up at unsightly places.

Smythe Street Curbing:

Due to the construction of the surface sewer in the summer of 1934 some 440 lineal feet of curbing was destroyed. This could not be replaced at the time on account of probable settlement of the new sewer ditch. This year this curbing was replaced and the cost charged to Public Works Account.

Back Drain:

Practically all the expense this year was due to cutting ice from culverts and brook bed during the month of February and March. In the summer \$8.40 was spent in cutting weeds from bed of brook.

Unforeseen Account:-

This account consists of miscellaneous jobs done during the year which do not seem to fall under any particular appropriation.

The labour costs were divided as follows:

Painting various objects such as poles, rocks, etc., at different locations in the City.....	\$31.58
Building bridge over ditch at River Bank.....	3.46
Bushing river roads at River bank.....	5.42
Construction of snow birthday cake re the celebration of the 150th birthday of the City of Fredericton.....	22.72
Constructing baseball ground at Trotting Park.....	99.85
Spraying for mosquitos.....	6.50
Ploughing and seeding side of road in front of Hermitage.....	15.00
Repair to reservoir of Golf Club.....	11.20
Repairs to play grounds, Queens Square.....	30.60
Work done for Board of Trade, re moving offices.....	13.20
Race Track.....	14.34
Work on Exhibition grounds.....	14.82
Preparation of site for monument on Smythe Street....	42.25
Repairs to Langmain house.....	3.30
General Expense.....	<u>10.71</u> \$324.95

Trees:-

This expense was incurred entirely by cutting and trimming trees on the City streets. Much more could have been done along these lines but this year we only did what seemed absolutely necessary.

No tree planting was done by the City but the Local Improvement Society planted about 40 trees, some 30 elms procured from the Sussex nurseries and 10 maples taken from the woods near the College. These trees were mostly planted on the Woodstock Road to fill up spaces there. I believe the Local Improvement Society or the City should carry on a more extensive tree planting operation this coming spring. The Local Improvement Society transplanted some 150 small elms at the nurseries on University Avenue but these will not be fit for City use for a number of years. Mr. John Veness who is in charge of the forestry work at the construction camps on the nearby artillery range informs me that he has set out a nursery of elms and maples which will be available to the City in a year or two. However it would seem to me that the City should for the next few years import nursery stock and fill up some of the many vacant spaces in the City and also set out trees on some of the recently constructed streets in the City.

TABLE SHOWING COMPARATIVE YEARLY COSTS OF PUBLIC WORKS

Year	Expenditure for Labour	Gross Expenditure Labour and Materials	Credits	Net Costs Labour and Material	Appropriation
1927	1,204.90			2,520.00	4,000.00
1928	2,470.39			3,156.87	3,000.00
1929	1,685.59	2,606.00		2,626.00	5,000.00
1930	2,279.82	3,379.09	237.90	3,159.19	5,000.00
1931	1,574.17	1,982.91	61.95	1,920.96	2,500.00
1932	3,797.65	4,992.98	322.35	4,670.63	2,500.00
1933	3,948.39	5,394.06	474.89	4,919.17	4,500.00
1934	3,734.85	4,929.00	1,302.36	3,626.64	4,000.00
1935	2,906.24	4,425.84	2,776.96	1,648.88	3,000.00

The following plate shows graphically a comparison of 1934 and 1935 public works costs.

NO. 334 - 2 IN. 10 X 10 TO THE HALF INCH.  
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4000 1934 ASSESSMENT

3500

3000 1935 ASSESSMENT

2500

2000

1500

1000

900

800

700

600

500

400

300

200

100

0

1934 LABOR  
AND MATERIAL  
ALSO LABOR

1935 LABOR

1935 LABOR  
AND MATERIAL

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

PUBLIC WORKS COSTS 1934 AND 1935

#### CEMENT WALKS

Gross Expenditure.....	\$384.66
Appropriation.....	Nil
Overexpenditure.....	\$384.66

Gross Expenditure was divided into Labour \$289.97 and material \$74.69. Under this expenditure 430 lineal feet of sidewalk was laid on the north side of Grey Street from Winslow Street westward to join up with a piece already laid in that block. Beside this piece of new sidewalk \$101.90 was spent in labour in repairs to previously laid concrete walks. Many of the concrete blocks have been raised an inch or more by roots of trees, making them dangerous as this unevenness caused people to catch their toe and stumble. A few of these blocks had to be taken out and relaid but most of them were repaired by chipping off the elevated edges.

#### STREET LIGHTS

Our street light system consists of some  $16\frac{1}{2}$  miles of pole line and some 351 lamps. This system is divided into four circuits. Each circuit is controlled by constant current transformer of 15 K.W. capacity. These transformers along with the main switchboard are housed in a transformer room in the old street lighting building on Carleton Street.

The circuits are made up as follows:

##### Lower Front Circuit:-

16 - 600 C.P. lamps at .372 K.W. demand.....	5.952 K.W.
53 - 250 C.P. lamps at .155 K.W. demand.....	<u>8.215 K.W.</u>
	14.167 K.W.

##### Lower Rear Circuit:-

70 - 250 C.P. lamps at .155 K.W. demand.....	10.850 K.W.
34 - 100 C.P. lamps at .0716 K.W. demand.....	<u>2.434 K.W.</u>
	13.284 K.W.

##### Upper Front Circuit:-

93 - 250 C.P. lamps at .155 K.W. demand.....	14.415 K.W.
--	-------------

##### Upper Rear Circuit:-

85 - 250 C.P. lamps at .155 K. W. demand.....	13.175 K. W.
---	--------------

The lights are turned on in the evening and off in the morning by two time clock switches. Each time clock controls two circuits. The power for street lighting purposes is purchased from the Maritime Electric at a contract price as agreed upon in the contract between the Maritime Electric and the City made in 1927.

All maintenance of street light circuits, installing of new lamps, etc., is carried on by The Maritime Electric Company at a contract price of \$20.00 a mile which amounts to \$330.96 a year. All material such as wire, poles, pole fixtures, lamps, lamp fixtures, transformers, etc., is paid for by the City but installed by the Maritime Electric under their contract price for maintenance. Any new installations which require an enlargement of the circuit must be paid for by the City both labour and material.

Street lighting costs for 1935 are divided as follows:-

Gross Expenditure.....	\$6632.33
Credits.....	Nil
Net expenditure.....	6632.33
1935 appropriation.....	6000.00
1935 overexpenditure.....	<u>\$ 632.33</u>

This gross expenditure is made up as follows:-

Current from November 27, 1934 to November 28 <sup>th</sup> 1935, 202940 K.W.H.....	\$5341.24
Maintenance, labour as per contract with the Maritime Electric on 16.548 miles of line @ \$20.00 a mile.....	330.96
Lamps for replacement, 360 - 250 C.P. lamps at prices ranging from 1.50 to 1.42 per lamp.....	527.12
Material purchased for new installations and maintenance of lamp fixtures (including only such articles as lamp standards, lamp brackets, heads, sockets, shades, etc.).....	389.13
Material and extra labour used in line mainten- ance,.....	17.71
Miscellaneous.....	<u>26.17</u>
	<u>\$6632.33</u>

TABLE SHOWING CURRENT CHARGES FOR 1935

Date of Bill	K.W.H.	Demand in K.W.	Average No. of burning hrs. per night	Bill per month	Pays Per Bill	Burning hrs. in each bill
Nov. 27/34						
Dec. 28/34	23040	45	14 $\frac{3}{4}$	568.51	31	458.255
Dec. 28/34						
Jan. 30/35	30120	45	14 $\frac{1}{2}$	710.71	33	470.25
Jan. 30/35						
Feb. 28/35	18060	45	13	468.54	29	377
Feb. 28/35						
Mar. 30/35	11160	45	11 $\frac{1}{4}$	329.34	30	337.50
Mar. 30/35						
Apr. 30/35	16380	45	9 $\frac{1}{4}$	434.31	31	286.75
Apr. 30/35						
May 29/35	13500	45	8 $\frac{1}{4}$	376.47	29	239.25
May 29/35						
June 29/35	10920	45	7 $\frac{1}{2}$	324.54	31	232.50
June 29/35						
July 27/35	10440	45	7 $\frac{1}{2}$	314.84	28	210
July 27/35						
Aug. 27/35	10880	45	8 $\frac{3}{4}$	323.34	31	272.25
Aug. 27/35						
Sept. 30/35	17700	45	10 $\frac{1}{4}$	460.94	34	348.50
Sept. 30/35						
Oct. 28/35	18660	45	12	480.38	28	336.
Oct. 28/35						
Nov. 28/35	22080	45	14 $\frac{1}{4}$	549.32	31	441.75
202940				\$5341.24	366	4010.00

The following is a list of facts re street lights:

	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>1936</u>
Average monthly demand in K. W.....	49.57	45.9	45.6	45.0	45.0	45.0
Total K.W.H. consumed by street lights.....	189840	175980	180780	188640	202940	207240
Number of nights streets lighted.....	366	364	367	365	366	365
Total hours light burnt,,	3879	3852	3893	3864	4010	3979
Total cost for year for demand and energy.....	5,196.52	4,824.99	4,912.89	5,053.79	5,341.24	5,303.9
Average cost for year for demand and energy per K.W.Hh.....	2.74¢	2.72¢	2.72¢	2.67¢	2.63¢	2.62¢
Average cost per burning hour for energy alone...	\$.99	\$.925	\$.94	\$.98	\$1.00	1.05
Total cost per year for street lighting, all charges included.....	6,672.23	6,532.51	6,425.87	6,065.28	6,632.33	6,957.72

The total per capita charge for street lighting for  
1935, (assuming population of 9000 persons) equals  $\frac{6632.33}{9000} = 73.6¢$

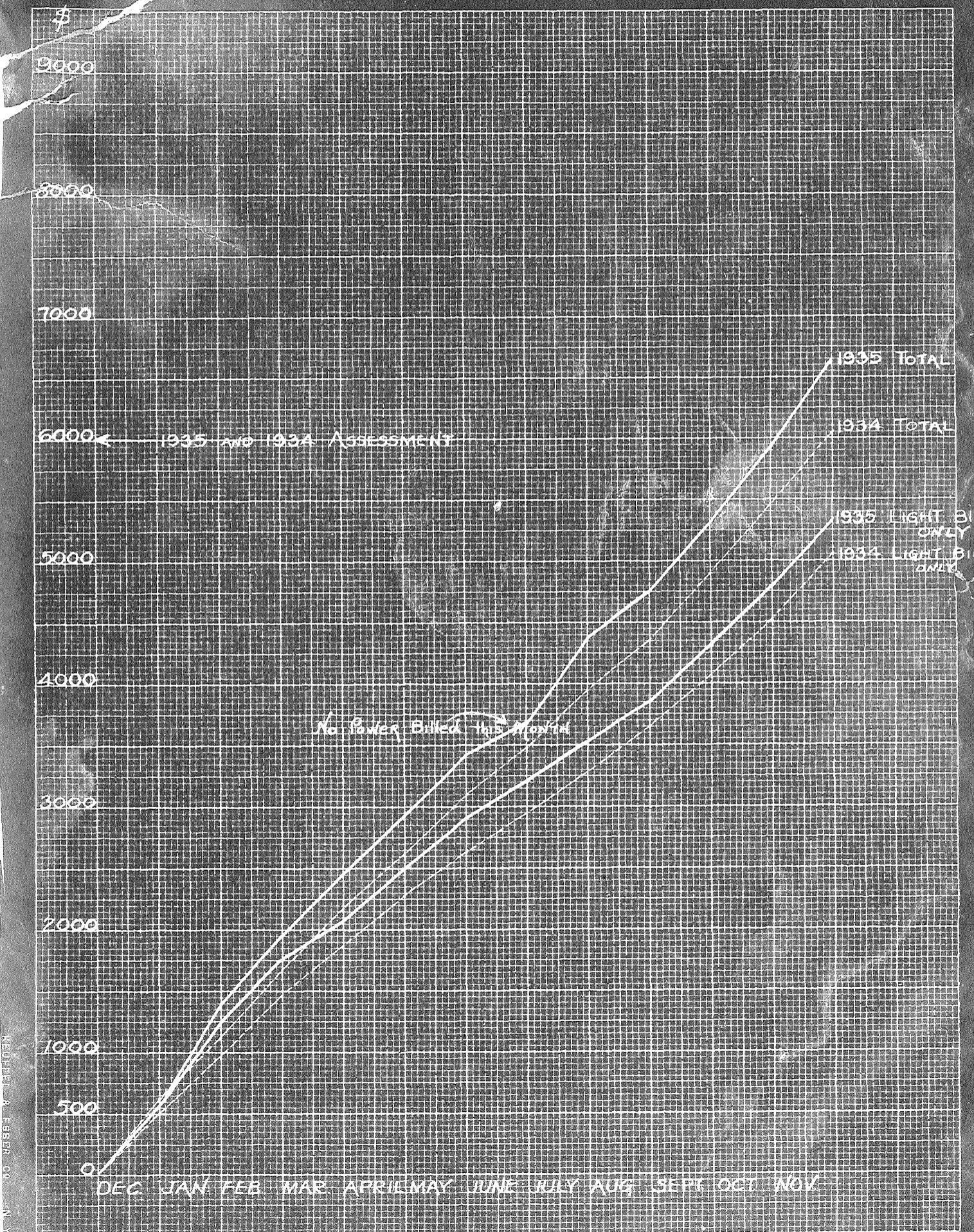
$$\frac{6957.72}{9000} = 77.3¢$$

TABLE SHOWING COMPARATIVE YEARLY COSTS IN  
STREET LIGHTING

Year	Total Yearly Cost	Yearly Appropriation
1927	\$8,088.41	\$8,000.00
1928	7,323.41	7,000.00
1929	7,434.72	7,000.00
1930	7,115.40	7,000.00
1931	6,672.23	10,000.00
1932	6,532.51	6,000.00
1933	6,425.87	6,000.00
1934	6,065.28	6,000.00
1935	6,632.33	6,000.00

A graphic comparison of 1934 and 1935 street light  
expenditure and power cost is shown on following plate:

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STREET LIGHT COSTS 1934 AND 1935

### BATHING BEACH

A municipal bathing beach was maintained near the water works at the end of Smythe Street with Mr. Charles Williams as caretaker in charge from June 7th to September 7th at a total cost to the City of \$246.09. \$239.71 of this amount was for wages. \$6.38 was spent for first aid equipment.

### MUNICIPAL HOME ACCOUNT

Under this heading \$2926.51 appears on my books. This is only that part of the Municipal Home expenditure which passed through my department. It is made up as follows:

Labour.....	\$1032.91
Material charges.....	2893.60
Gross Expenditure.....	<u>\$3926.51</u>

This labour was used in sawing, splitting and delivering wood to persons on relief and to persons under the care of the Poor Commissioner together with some maintenance and repairs done to the City Poor House.

From the first of December 1934 to the first of December 1935 my department delivered 751 loads of wood of 1 cord each on receipt of orders from Mr. Armstrong or the City Poor Commissioner.

The material cost of \$2893.60 is made up as follows:

692 cords of wood cut on College land by the Public Works Department and delivered to the Municipal Home Department at the City Yard and City Poor House @ \$4.00 a cord, all charges paid.....	\$2768.00
Coal supplied to the City Poor House by the water department.....	96.00
Coal supplied to the City Poor House by the Roads and Streets Department.....	4.60
Proportion of City Engineer's car allowance allotted to Municipal Home account.....	<u>25.00</u>
	\$2893.60

### SEWERAGE DOMESTIC

Gross Expenditure.....	\$3207.91
Credits.....	<u>1080.82</u>
Net Expenditure.....	\$2127.09

The credit of \$1080.82 is made up of work done on domestic sewers for private citizens and has been billed to those persons.

Gross expenditure is made up as follows:

Labour.....	\$1512.16
Material charge.....	<u>1695.75</u>
	\$3207.91

One new sewer extension was made this year on Beaverbrook Street. An 8 inch terra cotta sewer was laid from the end of the sewer then in place on Beaverbrook Street to the eastern end of the street a distance of some 935 feet. Total cost of this sewerage extension was \$929.48 being made up of \$334.65 labour charges and \$594.83 material charges. The ground through which this sewer was laid was mostly clay and boulders, probably as difficult a piece of sewer construction as far as the digging is concerned as would be found in the City. On the 935 feet 5 manholes were constructed. The cost per lineal foot all charges included was \$1.00.

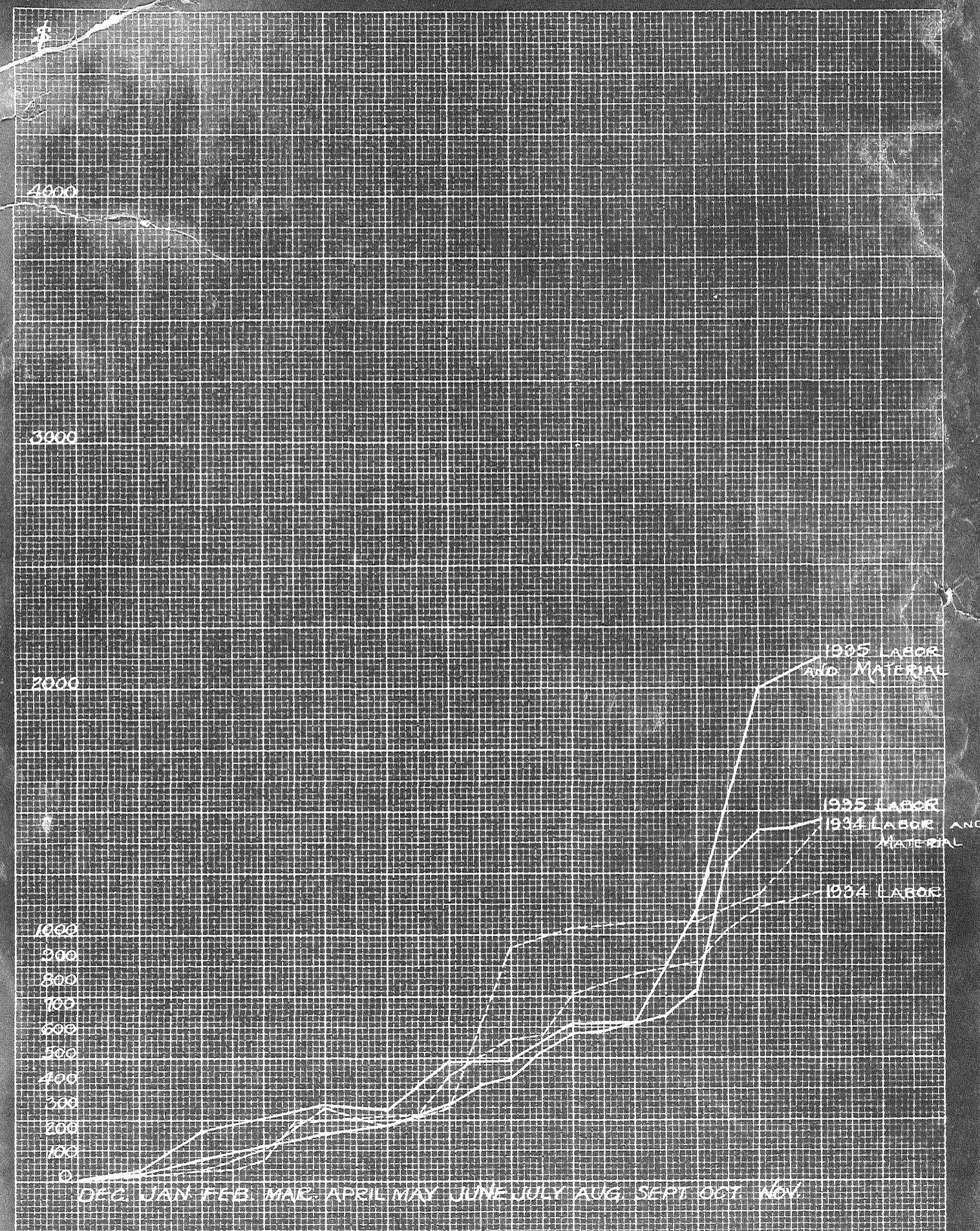
Twenty-nine new customers were connected to the City's sewerage system this year. 17 old services had to be dug up and replaced on account of growth of roots in the pipe.

The entire domestic sewerage system was flushed out twice during the year at an average labour cost of \$72.00 per flush.

From January 6, 1935 to March 27, 1935 we had a number of freeze-ups in our domestic sewerage system. The main sewer on Argyle Street between Westmorland and Northumberland Street had to be thawed out three times and the main sewer on Alexandria Street between Winslow Street and Waterloo Row had to be thawed once. Seven domestic sewers were found frozen and had to be thawed.

A graphic comparison of Domestic Sewer costs for 1934 and 1935 is shown on the following plate.

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SEWERAGE DOMESTIC COSTS 1934 AND 1935

## WATER

The expenditure in this Department is divided into two headings, viz., Water Ordinary and Water Pumping Station.

### Water Ordinary:-

This account takes in all expenditure for water outside the pumping station and pumping station grounds.

Expenditure under this heading is made up as follows:-

Gross Expenditure.....	\$11270.06
Credits.....	398.42
Net Expenditure.....	<u>\$10871.64</u>

The credits are made up of work done for and material sold to private parties when installing a water service over ground other than city property.

The gross expenditure is made up as follows:

City payrolls for hydrants.....	\$409.43
City payrolls for <del>material</del> Meters.....	1070.16
City payrolls on distribution system.....	3893.24
Total payrolls.....	<u>5372.83</u>
Material and other charges.....	<u>5897.23</u>
	\$11270.06

We have in the City 1051 meters in service and 499 services on flat rate.

Labour costs this year per meter for reading, repairing, testing, etc. is \$1.02.

All meters are read 4 times a year but bills are only sent out twice a year. The intermediate reading on which no bills are sent out is taken to check up on any abnormal consumptions which may be taking place and which will run up a large bill on a customer.

We have about thirty customers whose meters are read once a month although they also are billed only twice a year. These are customers who ordinarily have large consumptions and where a stopped meter or a meter which turned over without being noticed would mean considerable loss in revenue to the City.

Altogether we found 51 meters stopped when taking our meter readings.

Meters in service in 1934.....	1057
Services metered for first time in 1935.....	2
Total.....	<u>1059</u>
Meters taken off services 1935.....	8
Meters in service October 1935.....	1051

Of the 8 meters taken off service in 1935 two services were placed on flat rate as the meters could not be protected from frost in the winter.

The other six services were discontinued.

New meters purchased during the year -- none.

Meters in store room Jan. 1st 1936:

5/8 meters repaired and satisfactory for service.....	0
5/8 meters that can be repaired and made fit for service.....	8
New 5/8 inch meters.....	4
New $\frac{3}{4}$ inch meters.....	0
New 1 inch meters.....	0
1 $\frac{1}{2}$ inch meter fit for service.....	1

DISTRIBUTION SYSTEM

New water services put in this year.....14  
Water services discontinued this year..... 6  
Old water services dug up and repaired or relaid this year.....38  
Services which froze and had to be thawed .....47

Five frozen services which had been giving us trouble every winter were this summer dug up and lowered where possible. Where we were unable to lower the services we insulated them against frost.

Last March some 20 ft. of 3 inch water main on Northumberland Street between Brunswick and George Street froze and burst. This was repaired and at the same time lowered.

The 3 inch main on Carleton Street between George and Charlotte Street froze and burst at the intersection of George Street. We had no pipe to make replacements at the time so we dug up the break and after cutting out the spit pipe plugged both ends with wooden plugs. In August this piece of main was dug up, lowered and replaced by a 6 inch pipe.

A six inch main was laid on Dundonald Street from York Street west a distance of some 420 feet. This new 6 inch main took the place of the one inch main formerly laid at this location. The one inch main had become crowded with customers and was no longer giving satisfactory service.

A six inch main was laid on Beaverbrook Street from Regent Street east a distance of 1185 ft. This installation had 5 gates and two hydrants one of which had a gate on the hydrant lead. One T was set in the main at the junction of Saint John Street Extension.

Although this work was done in a very dry fall we

found the digging as difficult as any I have before experienced in Fredericton on account of the clay and bouldery nature of the soil.

We gave the pipe a six foot bury in all places.

The costs in this job were:

Labour.....	\$ 552.92
Material.....	1738.04
Total cost.....	<u>\$2290.76</u>

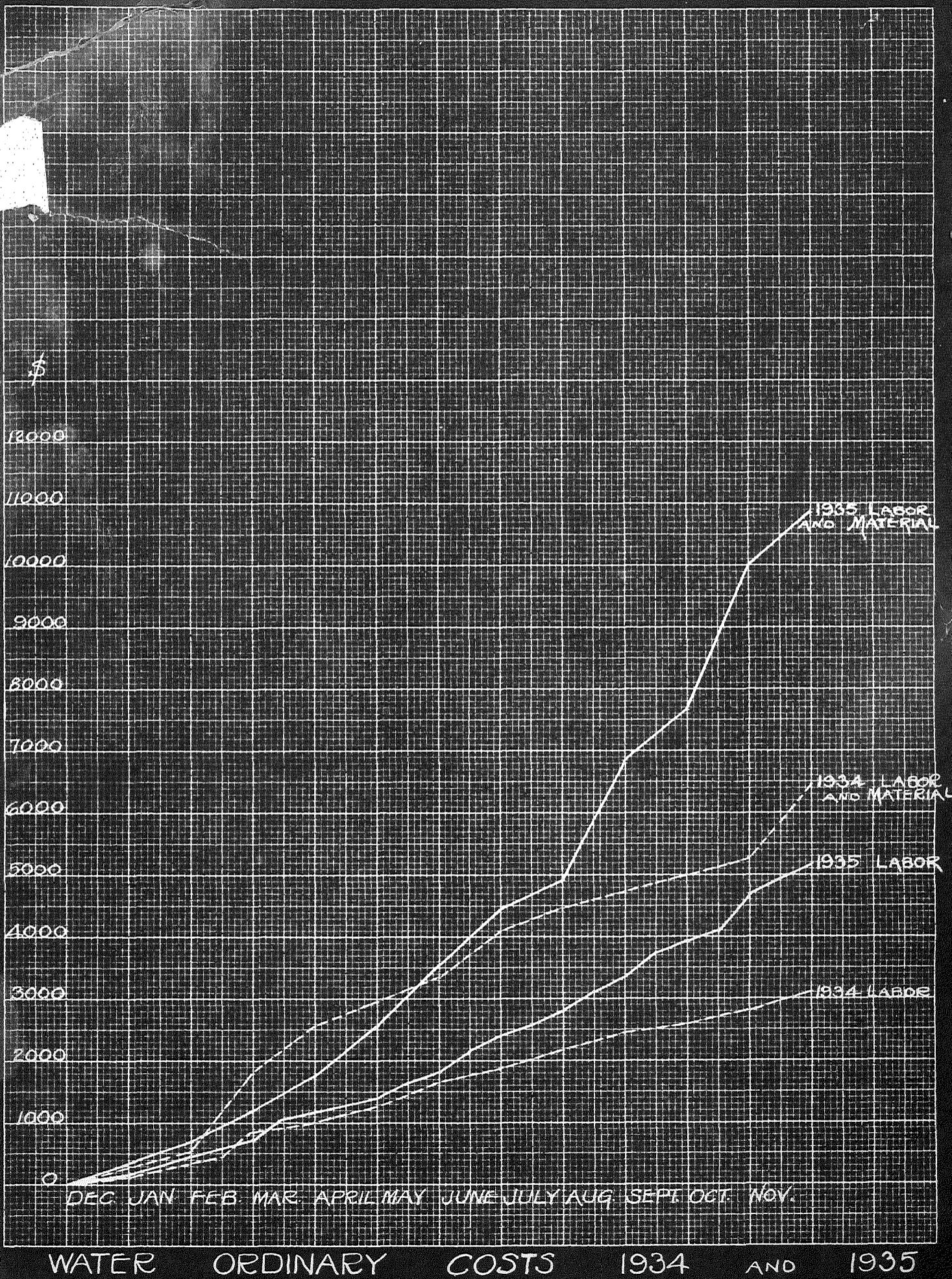
These include all costs pertaining to the installation and show a unit cost of \$1.94 per lineal foot of pipe laid.

TABLE SHOWING COMPARATIVE YEARLY COSTS  
WATER ORDINARY

Year	Labour	Material	Gross Expenditure	Credits	Net Expenditure
1929	3,236.77	2,203.13	5,439.90		5,439.90
1930	3,647.97	2,313.18	5,961.15		5,961.51
1931	3,836.33	4,376.87	8,213.20	279.65	7,933.55
1932	2,666.30	1,854.06	4,520.36	122.47	4,397.89
1933	2,333.25	1,604.17	3,937.42	30.27	3,907.15
1934	3,247.51	4,112.34	7,359.85	891.23	6,468.62
1935	5,372.83	5,897.23	11,270.06	398.42	10,871.64

A graphic comparison of expenditures on water ordinary for years 1934 and 1935 is shown on the following plate.

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### WATER PUMPING STATION

The water pumping station under plant superintendent and chief engineer, John Malloy, has been kept in a very satisfactory condition.

During the year the crib pier in the river was cleaned out and had some minor repairs made to it.

The deep water well was cleaned out in the fall and the foot valves of the West motor low lift pump was taken off and cleaned up.

Our low lift and service motor driven pumps were each readjusted as to rings and brushes after one month of service.

The coagulation basin was emptied and washed three times during the year.

Some changes were made to our air blower installation which was put in a better and safer condition.

The valves of the operating table for the filters were overhauled and repacked.

The filter room was painted and had the operating tables themselves cleaned up.

New heating coils were made and installed in the chemical room.

A new water column feed line and blowdown connection was installed on the West boiler.

Both boilers were inspected by the boiler inspector and reported O.K.

A Ten-Test ceiling was built over the entire boiler room. This ceiling had an excellent effect in keeping the boiler room warmer and less draughty.

The pumping station grounds were as usual kept in good condition by the pumping station operators. Part of the lawn was top-dressed and reseeded.

The chemical treatment of the water which consists of lime treatment and an alum treatment to aid the filter operation was carried on as usual this year under the supervision of Dr. H. H. Hagerman, city analyst. This service is, of course, performed by the regular water works operators under the direct supervision of John Malloy, chief engineer and plant superintendent.

Following is Dr. Hagerman's report for the year 1935:

Fredericton Water Supply - Year 1935

Total count of bacteria per c.c., Agar, two days.

1935  
Date of  
Samples

Raw Water      Effluent      Tap Water      Per cent  
                    Removal

Dec. 31 /34	450	1	3	99.8
Jan. 13	3000	5	2	99.8
" 21	1000	5	7	99.5
Feb. 14	1100	1	2	99.9
" 19	1400	1	3	99.9
Mar. 10	2200	1	3	99.9
" 25	4500	3	0	99.9
Apr. 15	10000	3	-	99.9
" 24	5000	5	11	99.9
May 10	2500	1	-	99.9
" 17	1400	1	3	99.9
" 27	1300	0	1	100.0
June 5	800	1	2	99.8
" 20	1100	1	5	99.9
July 13	600	2	4	99.7
" 26	250	0	-	100.0
Aug. 8	180	1	-	99.5
" 23	350	1	-	99.8
Sept. 11	1400	1	2	99.9
" 20	1500	0	-	100.0
" 24	1500	1	1	99.9
Oct. 16	2000	0	-	100.0
" 21	2500	4	2	99.8
Nov. 13	5000	12	5	99.7
" 21	3500	6	2	99.8
" 26	2500	7	4	99.7
Dec. 15	3000	1	2	99.9
" 31	1500	2	-	99.8
Totals	61530	67	64	
Averages	2197	2.4	3.2	

Average per cent Removal equals 99.89 or practically 99.9

The treatment of water at the filtration plant was carried on during the year 1935 along the same lines as in previous years. Alum and Hypo were used together during the major part of the year with Hypo alone in conjunction with filtration during the winter months when the water was free from turbidity and objectionable color. The results shown above for the year are very similar to our experiences in past years and indicate that the treatment of water at the plant has resulted in a very large and satisfactory removal of bacterial impurities.

Fredericton, N.B.,  
January 31 1936

(sgd) H. H. Hagerman

Water works costs this year including all costs of labour and material used at water pumping station and water pumping station grounds were as follows:

Gross Expenditure.....	\$16251.61
Credits.....	3803.51
Net Expenditure.....	<u>\$12488.10</u>

This credit of \$3802.51 is made up in the following manner:

69.3 tons of coal charged to the Pumping Station and sold to other city departments....	\$328.51
Water charged to sewerage domestic for flushing domestic sewers.....	65.00
Fire Department for hydrant rental 150 hydrants @ \$20.00.....	3000.00
Water for City Hall Building.....	50.00
Water for Municipal Home.....	25.00
Water for City yard.....	10.00
Water for old street light building Carleton Street.....	25.00
Water used by roads and streets department to sprinkle streets and flush sewers.....	250.00
Water used in Wilmot Park.....	50.00
	<u>\$3803.51</u>

Gross expenditure is divided as follows:

City payrolls for salaries of Engineers at pumping station.....	5184.68
Work done by other city employees in and around pumping station.....	<u>316.11</u>
Total City Payrolls.....	<u>5500.79</u>
Material and Workmen's Compensation charges.....	10750.82
Gross Expenditure.....	<u>\$16251.61</u>

The material cost of \$10750.82 is itemized as follows:

Item # 1	Light and power supplied by Maritime Electric Co. 294863 K.W.H. ....	6622.54
Item # 2	Transformer charges.....	151.92
Item # 3	Line, 6684 lbs. average price \$2.43 f.o.b. Fredericton.....	162.29
Item # 4	Alum, 67200 lbs. average price \$1.16½ f.o.b. Fredericton, all costs included.....	782.88
Item # 5	Coal, 299 tons (69.3 tons of preceeding amount sold to other City Departments).....	1318.99
Item # 6	Fuel Oil, none.....	-----
Item # 7	Engine Oil, 46 gal. Renown.....	22.25
Item # 8	Motor Oil, 20 gal.....	21.60
Item # 9	Gasoline, 100 gal.....	27.50
Item #10	Maintenance and repairs of the buildings and machinery.....	151.39
Item #11	New installations.....	176.43
Item #12	Supplies, packing, rags, etc.....	29.51
Item #13	Stationery, forms, charts, etc.....	12.82
Item #14	Workmen's Compensation Board.....	174.02

Item #15	Dr. Hagerman's salary.....	881.25
Item #16	Hoisting chemicals.....	86.00
Item #17	Miscellaneous, telephone, etc.....	<u>59.43</u>
		<u>\$10750.82</u>

**COMPARISON OF WATER PUMPED AND COSTS FOR LAST  
TEN YEARS**

Year	I.G. Water Pumped	Yearly Gross Expenditure at Pumping Station	Pumping Station Costs per 1000 gal.	Total Yearly Water Costs (Net Expen- diture of Water Ordin- ary and Gross Expenditure of Water Pump Station	Total yearly cost per 1000 gal.
					\$
1926	206,076,526	\$ 18,040.65	9.10 cents	24,635.62	13.0 cents
1927	198,168,000	18,245.05	9.46 "	26,122.73	13.5 "
1928	192,890,000	17,722.44	9.00 "	32,142.34	16.4 "
1929	195,590,000	16,791.22	8.21 "	22,752.37	11.1 "
1930	204,405,000	16,425.55	8.8 "	24,359.10	13.0 "
1931	187,164,000	16,915.58	9.9 "	21,313.47	12.5 "
1932	171,032,000	16,483.67	9.5 "	20,390.82	11.6 "
1933	175,050,000	15,999.50	7.9 "	22,468.12	11.1 "
1934	197,641,000	16,251.61	8.1 "	27,123.25	13.6 "
	193,450,000	17,169.21	8.8 ..	24,825.91	12.8 ..

To deliver 1000 Imperial gallons of water to the City mains took this year 1.49 K.W.H.

All these proceeding costs include all water costs of operation, maintenance, and new installations, but do not include the costs of billing and collecting water bills or any other overhead charges included in City government costs nor do they include bond payments or sinking fund charges.

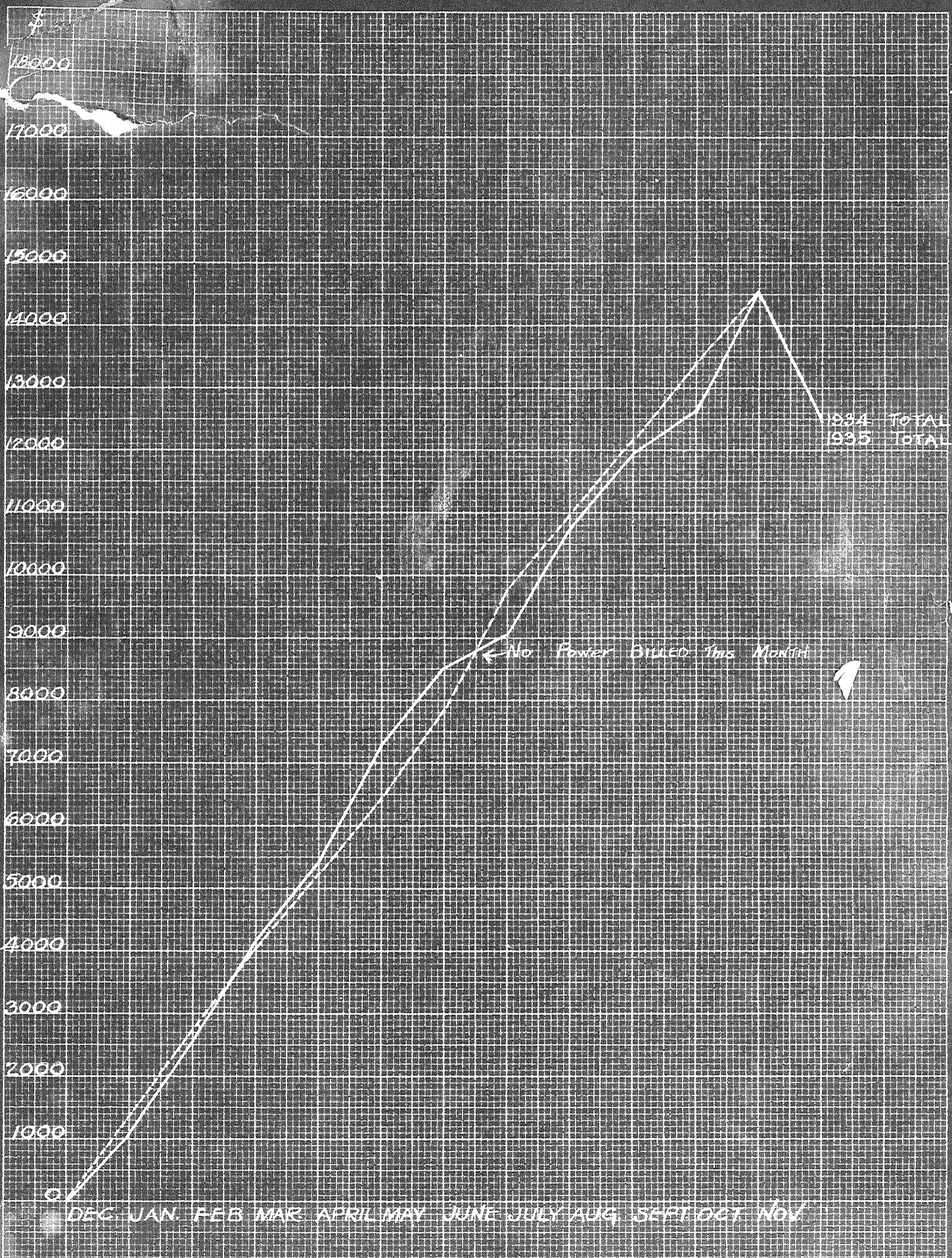
Table compiled from Daily Pumping Station on Ober's  
Year 1935, showing water pumped and material  
and machinery used in pumping.

Month of Year	Hours of Pumping	Gals. Water Pumped	Oil Lbs.	Coal Lbs.	K.W.H.	Mari- time	Oil Eng.	Gas Eng.	Fuel and Lubricants	Low Hrs. run	Lift Pump Hrs. run	Service Pumps	#1 Motor			#2 Motor			Gas		
													#1 Motor	#2 Motor	Gas Used	#1 Motor	#2 Motor	Gas Used	#1 Motor	#2 Motor	Gas Used
Dec. 1935	14,590,000	52,850	24013	744	744	744	744	744	26705	21642	672	740	640"	33	3	5324	743	3'10"	?		
Jan.	16,167,000	53,870	274	744	744	744	744	744	22049	27271	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
Feb.	16,000,000	53,900	274	744	744	744	744	744	24711	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
March	18,280,000	37,850	274	744	744	744	744	744	22739	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
April	15,540,000	25,750	274	744	744	744	744	744	22798	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
May	16,075,000	17,850	274	744	744	744	744	744	29800	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
June	16,025,000	4,200	274	744	744	744	744	744	25660	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
July	17,640,000	6,250	274	744	744	744	744	744	23686	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
Aug.	18,375,000	14,050	274	744	744	744	744	744	23789	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
Sept.	17,395,000	22,550	274	744	744	744	744	744	294863	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
Oct.	16,650,000	22,550	274	744	744	744	744	744	294863	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
Nov.	14,804,000	22,550	274	744	744	744	744	744	294863	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
Dec.	19,641,000	289,120	274	744	744	744	744	744	294863	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		
Total	197,641,000	8760	744	744	744	744	744	744	294863	744	720	741	672	10 min.	720	14'45"	11½	1'55"	1'55"		

~ 80 ~

The following chart gives a graphic comparison  
of Water Pumping Station costs for the year 1934 and 1935.

No. 334 - 2 TN, 10 X 10 TO THE HALF INCH.  
PRINTED IN U. S. A.



WATER PUMPING STATION COSTS 1934 AND 1935

## CITY HALL

I am not here attempting to give an explanation of the entire City Hall accounts. Most of these accounts do not pass through my books. I would like to mention that the eastern chimney of the City Hall building was this year torn down to the building line and rebuilt at a total cost of \$116.23 made up of \$84.88 labour cost and \$31.35 material cost.

Another item charged to City Hall account was the purchase and installation of new truck scales. One #11543-24 Fairbanks type S motor truck scale, 20 ton capacity to build with 24 x 90 platform complete with type registering beam, short iron pillar outfit, scale #21487; one set structural steel frame work fabricated complete with bolts and nuts. Supervision of installation included in price. This above outfit was purchased from the Fairbanks-Morse for \$1099.80 f.o.b. Fredericton. The scales were received here and installed by our own City labour, under the supervision of a Fairbanks-Morse man.

The old concrete scale pit had to be destroyed as it was not large enough to contain the new scales. A New scale pit was built on the same location. At the same time necessary repairs were made to the scale house. The total cost of this installation was \$1464.19, made up of \$219.79 labour, purchase price of scale \$1099.80 and other material charges of \$144.60.

The scales were in place and ready for operation October 28th, 1936. During the time our scales were out of commission the C. P. R. permitted us to use their truck scales at the old C.P.R. freight sheds for City weighing.

In December 1934 the cellar under the City Hall building was repainted, a new lighting system installed and deal tables made to make a suitable inside market, the total cost being \$234.48 made up of \$104.76 labour charges and \$129.72 material charges.

At the conclusion of this report I am inserting the following table:-

TABLE SHOWING  
PRINCIPAL PURCHASES OF MATERIAL USED BY DEPARTMENTS HERE BEFORE MENTIONED

Material	Amount Purchased 1935	Average price F.O.B.Fredericton	Amount in stock
4" Soil Pipe	120 Feet	50¢	0
5" T.C.Pipe	1175 Feet	28¢	145 Feet
6" T.C.Pipe	24 Feet	34¢	0
7" T.C.Pipe	2388 Feet	39.5¢	335 Feet
12" T.C.Pipe	0		0
15" T.C.Pipe	0		0
20" T.C.Pipe	0		0
24" T.C.Pipe	0		0
30" Corrugated Iron Pipe	0		0
24" Corrugated Iron Pipe	28 Feet & 2 couplings	\$3.43	
18" Corrugated Iron Pipe	30 Feet & 4 couplings	\$2.05	
15" Corrugated Iron Pipe	204 Feet & 10 couplings	\$1.76	
12" Corrugated Iron Pipe	76 Feet & 4 couplings	\$1.44	
24" Concrete Pipe	5 Feet	\$1.50	
Tile	4410 Feet of 6"	7½¢	0
Portland Cement	1029 Bags	72½¢ to 80¢ per bag	
Dynamite	114½ Cases	\$23.75 to \$25. per case	0
Brick	8450	\$16.00 per 1000	0
Stone (Field stone (Trap Rock	1353½ cu.yds.	60¢ per cu.yd. delivered	0
Gravel (River (Pit	15351.93 tons	\$1.00 per ton	300 tons
	3001 cu. yds.	.46¢ per cu. yd.	0
	289½ cu. yds.	\$1.00 to \$1.35 per cu. yd. delivered on job	
Calcium Chloride	0		0
7" Road Machine Blades	24	\$6.04	11 1/2
Lime	6684#	\$2.43 f.o.b. F'ton	2½ bbls. (875 lbs)
Alum	67200# = 33 1/6 tons	\$1.16½ per 100 lbs.	3.4 tons (136 bars)
Coal Colas	13 cars = 618.60 tons ( 64354 Gallons ( 1800 Gallons	\$4.25 per ton 12¢ per gallon 22¢ per gallon	540 gals
Tubing Copper			
5/8"	3000 Feet	\$11.50 per 100 ft.	0
2"	0		
6" Pipe	80912 lbs.	\$60.00 per ton	14 joints of 12 ft. lengths
1" Galvanized Pipe	0		
Lumber	15005 Feet	\$22.00 to \$32.00 per 1000 ft.	
Lead	1683#	\$6.75 per 100 lbs.	
Truck	<u>Ran 2 1/2 ton with Hydraulic Hoist See page 10.</u>		
Steam Roller	<u>Waterous 12 ton — See page 12.</u>		

All of which is respectfully submitted.

City Engineer.

## DOMESTIC SEWERS

from  
December 1st 1934, to November 30th, 1935.

## Installation of New Sewer Services

Name	Address
Nason, Ernest	369 St. John Street
Armouries Bldg.	Carleton Street
Hanwell, William	Northumberland St.
McKenzie, Guy	Woodstock Rd.
Rossborough, Gordon	Woodstock Rd.
Good, Frank	Victoria St.
Chase,	Woodstock Rd.
Shanks, Gordon	Albert St.
Ward, Earl	Northumberland St.
Shannon, John	Northumberland St.
Partington, John	Albert Street
Clewley, Harold	Albert Street
Caretakers House, (Rural Cemetery)	Woodstock Rd.
Coyle, William	Albert St.
Gorman, Mrs. A.	Woodstock Rd.
Bonner, Alfred	Victoria St.
Kelly, Gordon	Albert St.
McKenzie, Allan	Woodstock Rd.
Bridges, Dr.	Scully St.
Bailey, Mrs. L.	Aberdeen St.
Kierstaed, L.	Woodstock Rd.
Dawkins, Herbert	Albert St.
Mersereau, Don	Jubilee St.
Jones, Mrs. B.	Jubilee St.
Ryan's, (New House)	Charlotte St.
Ryan's, (New House)	University Ave.
Leary, H.	Beaverbrook St.
McMinniman, Howard	Argyle St.
Fletcher, Frank	Albert St.

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## Domestic Sewers, Dug Out, (Repaired) and Services Relaid.

Nason, I. J.	572 Regent St.	Dug Out
Imp. Oil Co.	Regent St.	" "
Wood's,	439 Charlotte St.	" "
McGready,	King St.	Relaid
Farrell,	175 St. John St.	Relaid
Westabrooks,	278 Charlotte St.	Relaid
Poorhouse,	York St.	Relaid
Kilburn, John	152 Brunswick St.	Dug Out
Kilburn, George	80 Northumberland St.	" "
Ladds,	158 Aberdeen St.	" "
Gelder, (Opposite Hospital)	Brunswick St.	" "
Walker	180 Smythe St.	" "
Belding,	180 Saunders St.	" "
Parliament Bldg.	St. John St.	Relaid
R. C. M. P. Bldg.	Woodstock Rd.	Relaid
Morrison, L	Brunswick St.	Relaid
Devers,	York St.	Dug Out

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## WATER SERVICES

Installation of New Water Services from Dec. 1st 1934 to Nov. 30, 1935

<u>Name</u>	<u>Address</u>	
Nason, Ernest ✓	369 St. John St.	Copper
Armouries, ✓	Carleton St.	Lead
Water extension from Scully to St. John St. a distance of 45' .....		1" Iron
Brophy, Stephen ✓	Dundonald St. Laid to Street Line	
Partington, John ✓	Albert St.	Copper
Glewley, Harold ✓	Albert St.	Copper
Kelly, Gordon ✓	Albert St.	Copper
Bridges, Dr. ✓	Scully St.	Copper
Bailey, Miss L. ✓	Aberdeen St.	Copper
Installation of Water Main on Dundonald Street 6"		
Jones, Mrs. R. ✓	Jubilee St.	Copper
Ryan, ( New House ✓	Charlotte St.	Copper
Water Main on Beaverbrook Street 6"		
Ryan, ( New House ✓	University Ave.	Copper
O'Leary, H. ✓	Beaverbrook St.	Copper
Crutchlow, ✓	Beaverbrook St. Laid to Street Line	
Fletcher, Frank ✓	Albert St.	Copper

WATER SERVICES

Water Services Relaid from Dec. 1st 1934 to Nov. 30th, 1935.

Name	Address	Lead	Relaid
Ferrall's,	York St.	Lead	Relaid
Donovan,	185 North'land St.		Repaired
Bougherty, Chas.	Smythe St.	Copper	Relaid
Balloch, Mrs.	Shore St.	Copper	Relaid
Water Trough,	Campbell St.	Copper	Relaid
Jennings,	126 Bruns. St.	Copper, Lowered & Relaid	
Palmers,	138 " "	" "	
Vandine,	142 " "	Copper	Relaid
Poorhouse,	York St.	2" Iron	Relaid
Winters, R. B.	273 Bruns. St.	Copper	Relaid
Boone,	332 Bruns. St.	Copper	Relaid
Foster, Elwood	727 Aberdeen St.	Copper	Relaid
Simmons,	362 Dundonald St.	Copper	Relaid
Wetmore,	731 Bruns. St.	Copper	Relaid
Phillips,	Cor. Regent & George St.		Lowered
Wright, Dr.	492 George St.		Lowered
Vradenburgh,	270 Carleton St.	Copper	Relaid
Vradenburgh,	223 Carleton St.	Copper	Relaid
Parker, Chas.	King St.	Copper	Relaid
Shute,	St. John St.		Relaid
Dochan, Earl	Regent St.	Copper	Relaid
Creed,	551 Charlotte St.	Copper	Relaid
Phillips,	224 George St.	Copper	Relaid
Gerow, Miss	278 West'land St.	Copper	Relaid
Ward, Misses	262 York St.	Copper	Relaid
Kitchen,	255 West'land St.	Copper	Relaid
Morrison,	Bruns. St.	Copper	Relaid
McGoldrick,	170 Regent St.	Copper	Relaid
Royal Bank of Canada	Carleton St.		Relaid
Gremins,	302 Saunders St.		Relaid
Ladds,	Aberdeen St		Relaid
White,	661 George St.		Relaid
Hagerman, H. H.	123 Charlotte St.		Relaid
Phillips,	Smythe St.		Relaid

WATER SERVICES

Water Services Relaid from Dec. 1st 1934, to Nov. 30th, 1935.

Name	Address	
Steeves, Dr.	17 Lansdowne St.	Relaid
Steples,	205 Bruns. St.	Relaid
McLellan, R.	Carleton St.	Relaid
Mott,	447 Brunswick St.	Relaid
Artic Rink,	Carleton St.	2" Iron

## THAWING DOMESTIC SEWERS

1935,

<u>Date</u>	<u>Name</u>	<u>Address</u>	<u>Amt.</u>
Jan. 6/35		Argyle Street ♂	\$ 15.72
Jan. 15	Atherton's,	Campbell Street	4.68
Feb. 5		Argyle & Campbell St. ♀	6.92
Feb. 8	Service Station,	Regent Street	4.68
Feb. 10		Argyle Street ♀	8.16
Feb. 15	Service Station,	Regent Street,	4.80
Feb. 23	Wood's,	439 Charlotte St.	10.48
Feb. 27	Darlington,	Campbell Street,	3.18
March 2 " 2	Darlington, Hawthorn's,	Campbell Street, Queen Street,	6.18
March 11	McGinn's, Ed.	Queen Street,	2.06
March 12	Charters,	Argyle Street ♀	4.44
March 20	Atherton's,	Campbell Street,	2.72
March 26	Main Sewer, on Alexandra Street		7.42
March 27	Main Sewer on Alexandra Street,		5.74
Total	.....		\$ 87.18

## THAWING WATER SERVICES

1935

by

MARITIME ELECTRIC CO.

Jan. 24/35	Phillips, House	Cor. Regent and George St.
" "	Donohue's,	Cor. George and Carleton St.
Jan. 28	Phillips, House	Cor. Regent and George St.
Feb. 2	Patterson,	Regent Street
" 3	Phillips, House Patterson,	Cor. Regent and George St. Regent Street
Feb. 4	Dougherty, C. L.	Smythe Street
" "	Modern Dry Cleaners	York Street
Feb. 6	VanWart, Asa Darlington, Geo. Fraser, Earl Clark's, Blacksmith Shop	Westmorland St. 578 George St. Cor. George and North'land St. York Street City Yard
Feb. 9	Darlington, George Fisher, Vernon	578 George Street Alexandra Street
Feb. 11	Chestnut, Mrs. Fred Hancock, Wm. Jennings, Maxon's, Fraser, Earl Donovan,	York Street North'land St. Brunswick Street " " Cor. George and North'land St. 185 North'land St.
Feb. 13	VanWart, Asa Jennings, Fraser,	West'land St. Brunswick St. Cor. George and North'land St.
	Bonohue's, Deviers,	Cor. George and Carleton St. York Street
Feb. 14	O'Hara, Savage, Dr. Wright,	181 North'land St. 182 " " " George Street
Feb. 16	Wilby's Store	Regent St.
Feb. 18	Gunters, Donohue's, Ross,	828 Brunswick St. Cor. George and Carleton St. " York and Charlotte St.
Feb. 19 " 20	Donovan, Ross,	North'land St. Charlotte St.
Mar. 2	Gunter's,	Brunswick St.
Mar. 4 " 4	Royal Stores, Charter's.	York Street Woodstock Road
Mar. 6	Cooper, Cedric	Northumberland St.