

ANNUAL REPORT OF THE ENGINEERING AND PUBLIC WORKS DEPARTMENT

1943



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January 27, 1944.

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

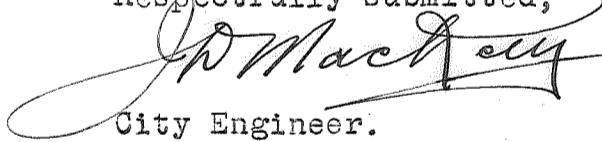
Gentlemen:

I submit herewith this report which 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 1942 to the first of December 1943.

This report is written with the purpose of reporting to the Council on the costs of the various Departments for the year. It is also written with the idea of having on file an accurate record of the different activities and costs under these Departments.

Following in the body of this report is a detailed statement of work done, comparative expenditures and unit costs under these different departments. The detailed report of any particular department can readily be found by referring to the Index on the preceding page.

Respectfully submitted,



City Engineer.

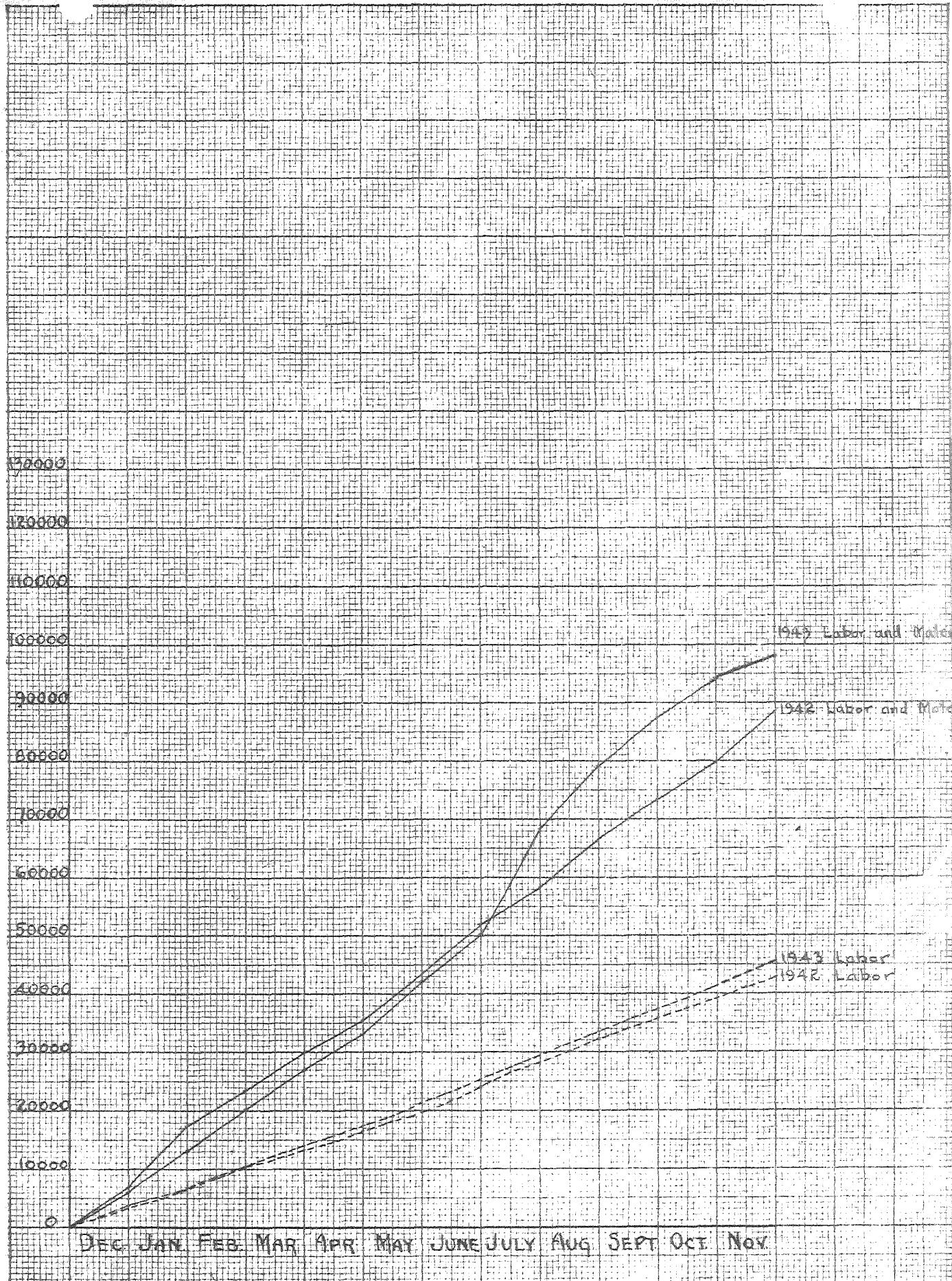
TOTAL YEARLY EXPENDITURE

The total yearly net expenditure under the direct supervision of the City Engineer this year amounted to \$97,971.58. This expenditure will be taken up in detail under the different headings in this report.

A graphic comparison of expenditure for labour and material for the year 1943 and a chart showing the distribution of the 1943 Fredericton Tax Dollar are shown here:-

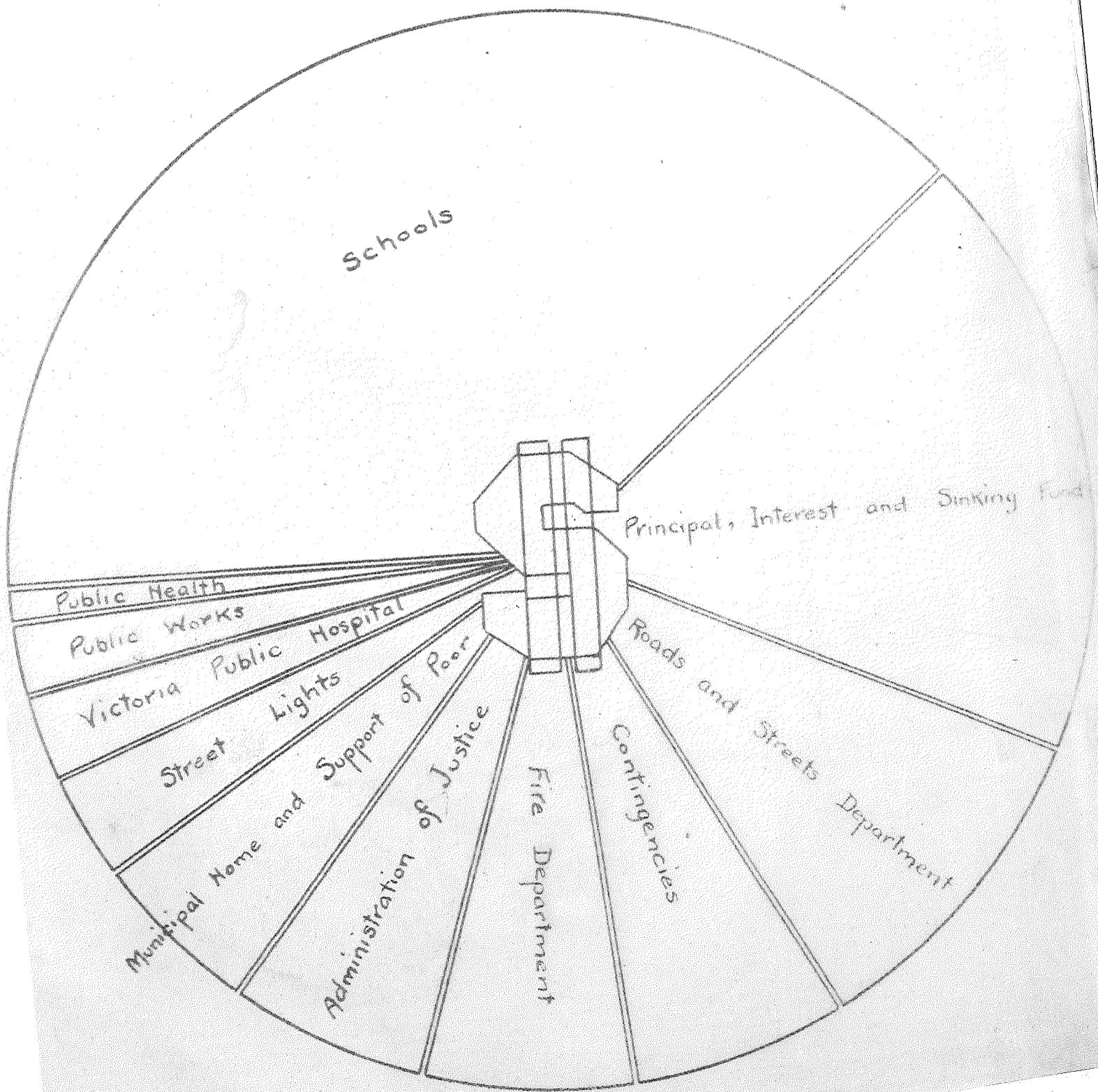
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TOTAL NET EXPENDITURE 1942 AND 1943.

DIVISION
OF
FREDERICTON TAX DOLLAR
1943
SHOWN GRAPHICALLY



ROADS AND STREETS

This year we had an appropriation for Roads and Streets of \$30,000. We over-expended this appropriation by \$372.95.

The City of Fredericton Roads and Streets System is for convenience divided into two parts, namely, the Urban District and the Outlying or Rural District.

The Urban District is roughly bounded as follows: on the North and East by the St. John River, and on the South and West by the line of Albert and Dundonald Streets.

The Outlying or Rural District would be the district within the city limits outside the above mentioned boundaries.

We have in Fredericton altogether some $44 \frac{1}{3}$ miles of roads and streets and about 32 miles of sidewalk. This sidewalk all lies within the Urban District and is pretty well covered by cement sidewalks.

Our paved and unpaved streets are divided between the Rural and Urban Districts as follows:-

Roads and Streets

| | <u>Urban</u> | <u>Outlying</u> | <u>Total</u> |
|--------|--------------|-----------------|--------------|
| Paved | 11.85 | 3.46 | 15.31 |
| Gravel | <u>5.83</u> | <u>23.21</u> | <u>29.04</u> |
| Total | 17.68 | 26.67 | 44.35 |

Roads and Streets Expenditure 1943:-

| | |
|-------------------------|------------------|
| Gross Expenditure..... | \$36,970.80 |
| Credits..... | <u>6,597.85</u> |
| Net Expenditure..... | 30,372.95 |
| 1943 Appropriation..... | <u>30,000.00</u> |
| Dr. Balance..... | \$ 372.95 |

The above Credits are made up as follows:-

| | | |
|---------|---|-----------------|
| Item 1. | Received from other City Departments for work done and material sold by Roads and Streets Department..... | \$ 300.00 |
| Item 2. | Work done for and material sold to private parties by Roads and Streets Department..... | 256.56 |
| Item 3. | Wood sold from City Forest (Odell Property) | <u>6,041.29</u> |
| | Total..... | \$ 6,597.85 |

The Gross Expenditure is divided as follows:-

| | |
|--|-------------|
| Labour..... | \$22,879.44 |
| Material Charges and Workmen's Compensation Board..... | 14,091.36 |
| | \$36,970.80 |

I have divided the labour charges of \$22,879.44 into the following items. Although these items are made up entirely of labour costs, they give a good idea of the amount and kind of work done by the Roads and Streets Department during the year.

| | |
|---|-------------|
| <u>Snowploughing sidewalks</u> | \$ 187.47 |
| <u>Snow Control</u> :- Shovelling and hauling snow, ploughing or scraping roads, cleaning gutters of ice and snow, and any other means of snow control..... | 2,686.00 |
| <u>Streets</u> :- General work of 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..... | 1,871.84 |
| <u>Surface Sewers</u> :- Cleaning, flushing and repairing surface sewers and building new surface sewers within street limits | 307.69 |
| <u>Sanding Walks</u> :- Storing sand in winter storage piles and spreading same on slippery walks..... | 321.93 |
| <u>Yard</u> :- Men working in blacksmith shop and repair work in City Yard, taking summer equipment out and storing winter equipment, etc..... | 1,194.21 |
| <u>Street Sprinkling</u> :- Water cart..... | 12.39 |
| <u>Stone Crushing</u> :- Repairs to crusher and crushing stone.... | nil |
| <u>St. John Road</u> :- All work done on the River Road from Alexandra Street to eastern city line other than work done by power maintainer and pavement maintainer..... | 47.68 |
| <u>Doak and Wilsey Roads</u> :- All work done on these roads other than work done by power maintainer..... | 95.47 |
| <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..... | 23.74 |
| <u>Outlying Roads</u> :- Hanwell Road, Cross Road lying between Brick Hill and College Hill Road and Forest Hill Road. All work done on these roads other than work done by power maintainer..... | 717.85 |
| <u>Street Cleaning</u> :- All cleaning and removal of dirt, leaves, etc. from streets..... | 7,291.88 |
| <u>Tarvia Repairs</u> :- Patching and repairing asphalt and tar pavements and sidewalks and applying seal coat of light tar or asphalt to pavements..... | 1,876.67 |
| <u>City Road Patrol</u> | 474.28 |
| <u>City Forest</u> | 5,770.34 |
| Total..... | \$22,879.44 |

Following is a table comparing labour expenditure in these items from 1938 to 1943.

TABLE COMPARING YEARLY COSTS IN ROADS AND STREETS
LABOUR ITEMS

| | <u>1938</u> | <u>1939</u> | <u>1940</u> | <u>1941</u> | <u>1942</u> | <u>1943</u> |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Snowploughing sidewalks | 366.43 | 218.74 | 195.30 | 291.24 | 136.19 | 187.47 |
| Snow Control Streets | 3,146.37 | 3,659.33 | 2,760.65 | 5,348.52 | 2,850.87 | 2,686.00 |
| Surface Sewers | 1,332.94 | 818.07 | 1,703.53 | 762.84 | 2,142.61 | 1,871.84 |
| Sanding Walks | 206.26 | 240.64 | 526.81 | 263.66 | 274.60 | 307.69 |
| Yard Gravel | 277.05 | 484.82 | 324.06 | 325.52 | 365.63 | 321.93 |
| Street Sprinkling | 1,399.56 | 2,067.65 | 1,689.70 | 1,481.46 | 1,158.84 | 1,194.21 |
| Stone Crushing | 54.07 | | | | | |
| St. John Road | 418.70 | 502.15 | 554.36 | 597.70 | 157.86 | 12.39 |
| Doak & Wilsey Roads | 61.92 | 245.19 | 152.28 | | | |
| New Maryland Road | 34.07 | 23.05 | 1.20 | 130.71 | 93.22 | 47.68 |
| Outlying Roads | 2,282.07 | 126.78 | 30.02 | 93.95 | 514.04 | 95.47 |
| Street Cleaning | 76.41 | 195.40 | 127.86 | 500.29 | 7.04 | 23.74 |
| Tarvia Repairs | 212.64 | 491.20 | 932.81 | 939.09 | 695.10 | 717.85 |
| City Road Patrol | 4,546.64 | 5,024.94 | 6,293.55 | 5,567.61 | 6,180.69 | 7,291.88 |
| Quarry | 678.43 | 2,059.88 | 940.05 | 910.09 | 1,470.40 | 1,876.67 |
| Wood lot at quarry | 507.82 | 486.73 | 634.88 | 535.19 | 545.41 | 474.28 |
| City Forest | | 37.31 | 90.30 | | | |
| Total | 15,801.78 | 16,681.88 | 17,956.36 | 22,816.69 | 22,545.62 | 22,879.44 |

Some of these above labour items may be better understood by the following explanations:

Snow Control:-

| | |
|--------------------------------------|------------|
| Snowploughing roads and streets..... | \$ 409.25 |
| Shovelling and hauling snow..... | 1,288.45 |
| Scarifying walks..... | 5.40 |
| Catch basins..... | 724.08 |
| Snow fences..... | 106.40 |
| Thawing sand..... | 9.60 |
| General Expenses..... | 121.53 |
| Cost of Living Bonus..... | 21.29 |
| Total..... | \$2,686.00 |

Snow Fences:-

In our snow fencing this year we used 4800 feet of lathmade snow fence which we had manufactured in 1939. Besides this premade fence, we also erected about 600 feet of brush fence.

Streets:-

| | |
|--|--------------|
| Repairing plant..... | \$ 497.80 |
| Repainting and setting stop signs..... | 88.95 |
| Holidays (This account covers one week holiday for all city workmen)..... | 785.35 |
| Repairing and painting benches..... | 58.80 |
| Repairing catch basins..... | 3.00 |
| Repairing culverts and small bridges..... | 27.10 |
| Unloading and spreading calcium chloride..... | 45.65 |
| Repairing gravel streets..... | 267.15 |
| General Expenses..... | 83.37 |
| Cost of Living Bonus..... | <u>14.67</u> |
| Total..... | \$1,871.74 |

Outlying Roads:-

The labour expenditure of \$717.85 is made up as follows:-

| | |
|---------------------------|-------------|
| Golf Club Road..... | \$ 44.20 |
| Brick Kiln Road..... | 217.80 |
| York Street Hill..... | 222.35 |
| Hanwell Road..... | 27.40 |
| Cross Roads..... | 38.75 |
| Forest Hill..... | 19.95 |
| O'Dell Road..... | 31.05 |
| College Hill..... | 78.75 |
| General Expenses..... | 32.16 |
| Cost of Living Bonus..... | <u>5.44</u> |
| Total..... | \$ 717.85 |

The actual road machining was done by the City Road Patrol and charged under this item. The expenditures shown above were made up of fixing ditches and culverts and graveling.

Cleaning Streets:-

The labour cost of \$7,291.88 shows an increase of \$1,111.19 over last year's labour expenditure.

Tarvia Repairs:-

The labour expenditure of \$1,876.67 is divided as follows:-

| | |
|--------------------------------------|--------------|
| Patching streets..... | \$ 931.20 |
| Tarring streets (sealing)..... | 632.50 |
| Paving between curb and sidewalk.... | 213.35 |
| General Expenses..... | 84.54 |
| Cost of Living Bonus..... | <u>14.58</u> |
| Total..... | \$1,876.67 |

The St. John Road received no seal coating this year. We were able to keep it in fairly good condition by patching as the traffic this year was much lighter than normal traffic.

All street sealing this year was done with R.C.3 Asphalt and at the locations shown by cross-hatching on the following map.

The following table shows the bituminous material used in 1943.

| | Asphalt | | | | | Bunker Oil B. |
|-------------------------------|---------|-------|-------------------|-------|-----|------------------|
| | R.C.4 | R.C.3 | M.C.- I Primer | Colas | | |
| Gals. in stock Spring 1943 | 80 | 1000 | 360 | 0 | 240 | |
| Gals. purchased 1943 | 0 | 14496 | 0 | 225 | 0 | |
| Available for Season 1943 | 80 | 15496 | 360 | 225 | 240 | |
| Stock on hand Fall 1943 | 0 | 3040 | 360 | 0 | 240 | |
| Used in season 1943 | 80 | 12456 | 0 | 225 | 0 | |

Gravel:-

This year we purchased altogether some 2671 yards of gravel and sand. During the year our contract with the Devon Lumber Company to supply gravel and sand lapsed and as they have practically gone out of the gravel business, we had to procure most of this material elsewhere.

Our purchases for the year were as follows:-

| | | |
|------------------|---|------------|
| Devon Lumber Co. | (Loaded by Devon Lumber Co. and delivered (to City @ 90¢ - \$1.75 per yd..... | 966½ |
| | (Loaded by city men and delivered to (City @ 30¢..... | 321 |
| | (Loaded by Devon Lumber Co. and delivered (by city trucks @ 45¢..... | 76½ |
| | (Loaded by government shovel and hauled (by city trucks @ .05¢..... | 132 |
| R.T. Scott Pitt | (Loaded and hauled by city trucks and (men @ 10¢ - 15¢..... | 921 |
| A. D. Neill | (Loaded and hauled by city trucks @ 15¢... (Loaded and hauled by Devon employees (@ \$1.25..... | 192 62½ |
| | Total cu. yds. gravel..... | 2671½ |

Surface Sewers:-

All surface sewers in the City were flushed and all catch basins cleaned and repaired during the summer season at a labour cost of \$307.69.

The 2 ft. surface sewer running out Northumberland Street and under the dump to the river was found to be broken due to settlement in the dump. This had to be dug up and repaired using about 67½ ft. of new 24 in. terra cotta pipe.

One new manhole was added on the surface sewer on Aberdeen Street between Regent and Carleton Streets. This sewer is not deep and quite often freezes up in the winter and this new manhole should make it easier to thaw.

City Forest:-

Under the heading and included in our regular Roads and Streets cost is a labour expenditure of \$5,770.34. This amount is divided into the following items:-

| | |
|---|------------|
| Cutting and piling cordwood and pulp in woods..... | \$2,800.55 |
| Hauling wood from woods to woodyard..... | 811.35 |
| Hauling and loading pulp..... | 76.40 |
| Sawing wood with woodcutter..... | 541.00 |
| Splitting wood in woodyard..... | 16.20 |
| Delivering wood to workmen..... | 359.05 |
| Logging (cutting and yarding logs)..... | 78.65 |
| Haying..... | 54.65 |
| Caretaker's wages (when not engaged in any other of these items)..... | 285.30 |
| Repairs to caretaker's house..... | 437.95 |
| Fire at old O'Dell residence (cleaning up, etc.).. | 91.55 |
| Miscellaneous..... | 196.95 |
| Cost of Living Bonus..... | 20.74 |
| Total..... | \$5,770.34 |

Besides this labour cost the City Forest shows a material expenditure of \$1,422.70, making a total cost against the City Forest of \$7,193.04.

These above expenditures gave us the following merchantable material:-

| | |
|---|------------|
| 593 cords of wood delivered to woodyard or consumer @ \$8.00..... | \$4,744.00 |
| 125 cords of wood piled in woods @ \$6.00..... | 750.00 |
| 99 cords of wood piled in woods (but credited last year @ \$5.00) @ \$1.00..... | 99.00 |
| 80 cords of pulpwood loaded on cars @ \$10.00..... | 800.00 |
| 2120 bd. ft. of lumber sold on yards at average price of \$17.00..... | 36.00 |
| 14000 bd. ft. of hemlock cut in City Forest by waterworks employees and used at pier at waterworks @ \$9.00 stumpage..... | 126.00 |
| 6 tons of hay delivered to City Barn @ \$12.00..... | 72.00 |
| Total..... | \$6,627.00 |

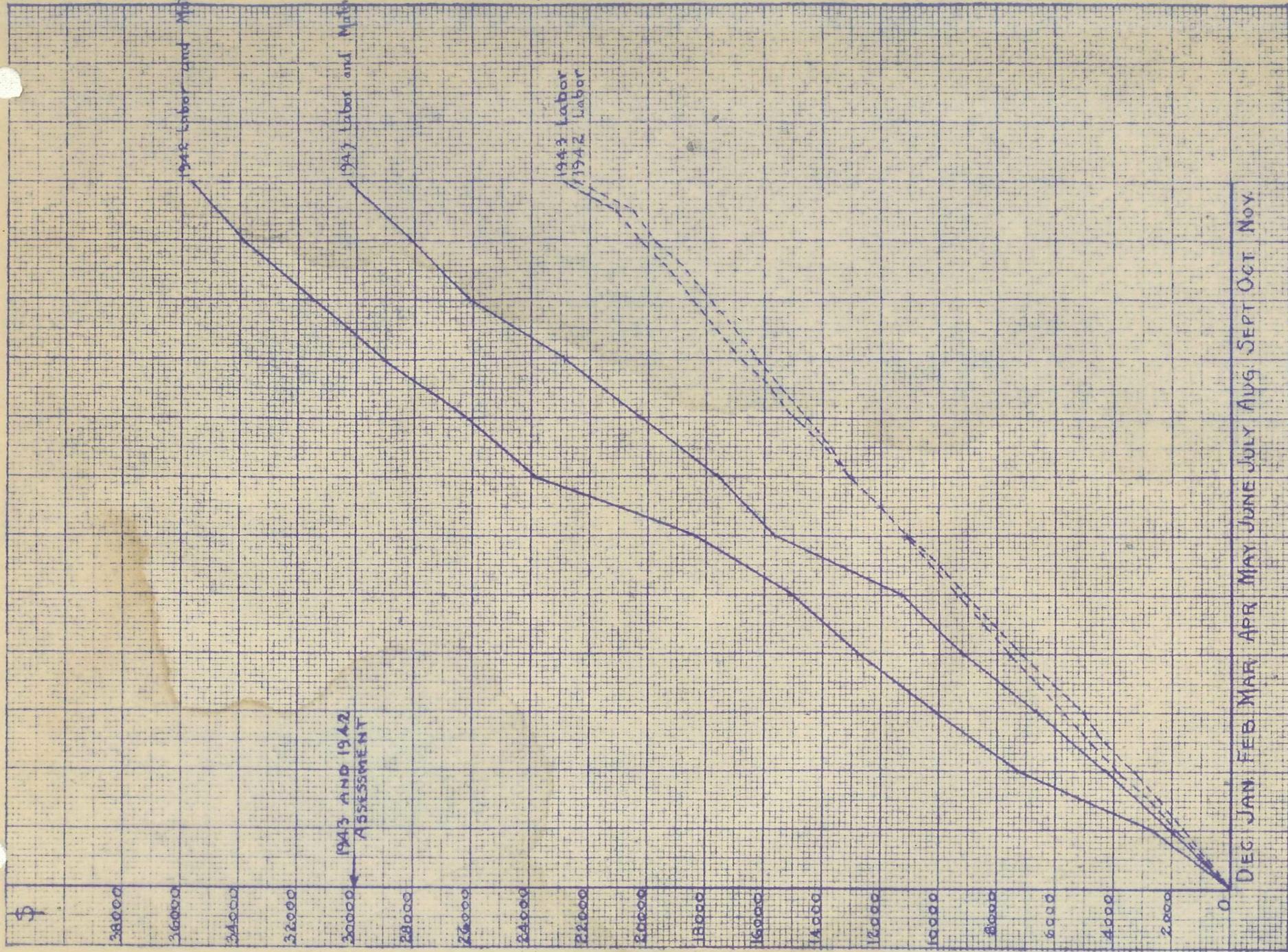
The woods work on the property during this year was planned with the help of Prof. B. H. Fleiger of the University of New Brunswick. Prof. Fleiger marked practically all the trees for cutting before they were cut by the City employees. This marking was done so that the trees which were over-mature and depreciating could be cut down and the stand left in as good condition as possible.

Following is shown a map of the Odell Property with locations showing 1941 cuts marked in red, 1942 cuts marked in green and 1943 cuts marked in blue. For a full description of this property see City Engineer's Report for the year 1941. In this report will also be found recommendations made by the Society of Forest Engineers re this property.

TABLE SHOWING COMPARATIVE COSTS OF ROADS AND STREETS

Years 1927 to 1943

| Year | Expenditure for Labour | Gross Expenditure Labour and Material | Credits | Net Costs Labour and Materials | Appro- priation |
|------|---------------------------|--|-----------|--------------------------------------|--------------------|
| 1927 | 15,692.00 | | | 24,345.00 | 26,000.00 |
| 1928 | 17,122.45 | | | 26,058.70 | 26,000.00 |
| 1929 | 14,490.47 | | | 26,682.98 | 31,000.00 |
| 1930 | 16,553.53 | | | 34,556.33 | 32,000.00 |
| 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 | 333.28 | 18,829.10 | 19,000.00 |
| 1934 | 13,332.51 | 23,665.94 | 2,311.50 | 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 |
| 1937 | 18,060.48 | 34,931.68 | 12,641.95 | 22,289.73 | 20,000.00 |
| 1938 | 15,601.78 | 24,273.83 | 781.88 | 23,491.95 | 22,000.00 |
| 1939 | 16,681.88 | 32,509.93 | 1,762.67 | 30,747.26 | 28,000.00 |
| 1940 | 17,956.36 | 33,058.59 | 2,190.50 | 30,868.09 | 28,000.00 |
| 1941 | 22,816.69 | 40,283.46 | 3,050.12 | 37,233.34 | 28,000.00 |
| 1942 | 22,545.62 | 39,215.84 | 3,416.91 | 35,798.93 | 30,000.00 |
| 1943 | 22,879.44 | 36,970.80 | 6,597.85 | 30,372.95 | 30,000.00 |



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ROADS AND STREETS COSTS 1942 AND 1943.

LOWER LINE OF THE PARISH OF KINGSTON
PROPERTY

NELSON CURRIE PROPERTY

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1941 Cuttings
1942 Cuttings
1943 Cuttings

BRICK KILN ROAD

TRUE NORTH

PUBLIC WORKS

| | |
|-------------------------|-------------|
| Gross Expenditure..... | \$ 5,890.39 |
| Credits..... | 280.43 |
| Net Expenditure..... | 5,609.96 |
| 1943 Appropriation..... | 6,500.00 |
| Cr. Balance..... | \$ 890.04 |

The Credits are made up as follows:-

| | |
|---|---------------|
| Work done for Military District No. 7..... | \$ 64.45 |
| Work done at Rural Cemetery..... | 33.38 |
| Work done at Christ Church Cathedral..... | 6.75 |
| Work done for Miss R. Sharkey (removing ice from roof)..... | 3.45 |
| Cutting trees on private property..... | 47.40 |
| Rent of house on King Street..... | 10.00 |
| Wages paid by Public Works Department for man working in Old Burial Grounds..... | <u>115.00</u> |
| Total..... | \$ 280.43 |

The Gross Expenditure of \$5,890.39 is made up as follows:-

| | |
|--|--------------------|
| Labour..... | \$ 5,063.23 |
| Material and Workmen's Compensation..... | 827.16 |
| | <u>\$ 5,890.39</u> |

The above labour item is divided as follows:-

| | |
|-------------------------|--------------------|
| Dump..... | \$ 2,064.44 |
| Back Drain..... | 13.50 |
| Trees..... | 239.07 |
| Unforeseen Account..... | <u>2,746.22</u> |
| | <u>\$ 5,063.23</u> |

Trees:-

No spraying was done on the City trees this year. The labour cost of \$239.07 was spent on cutting and pruning.

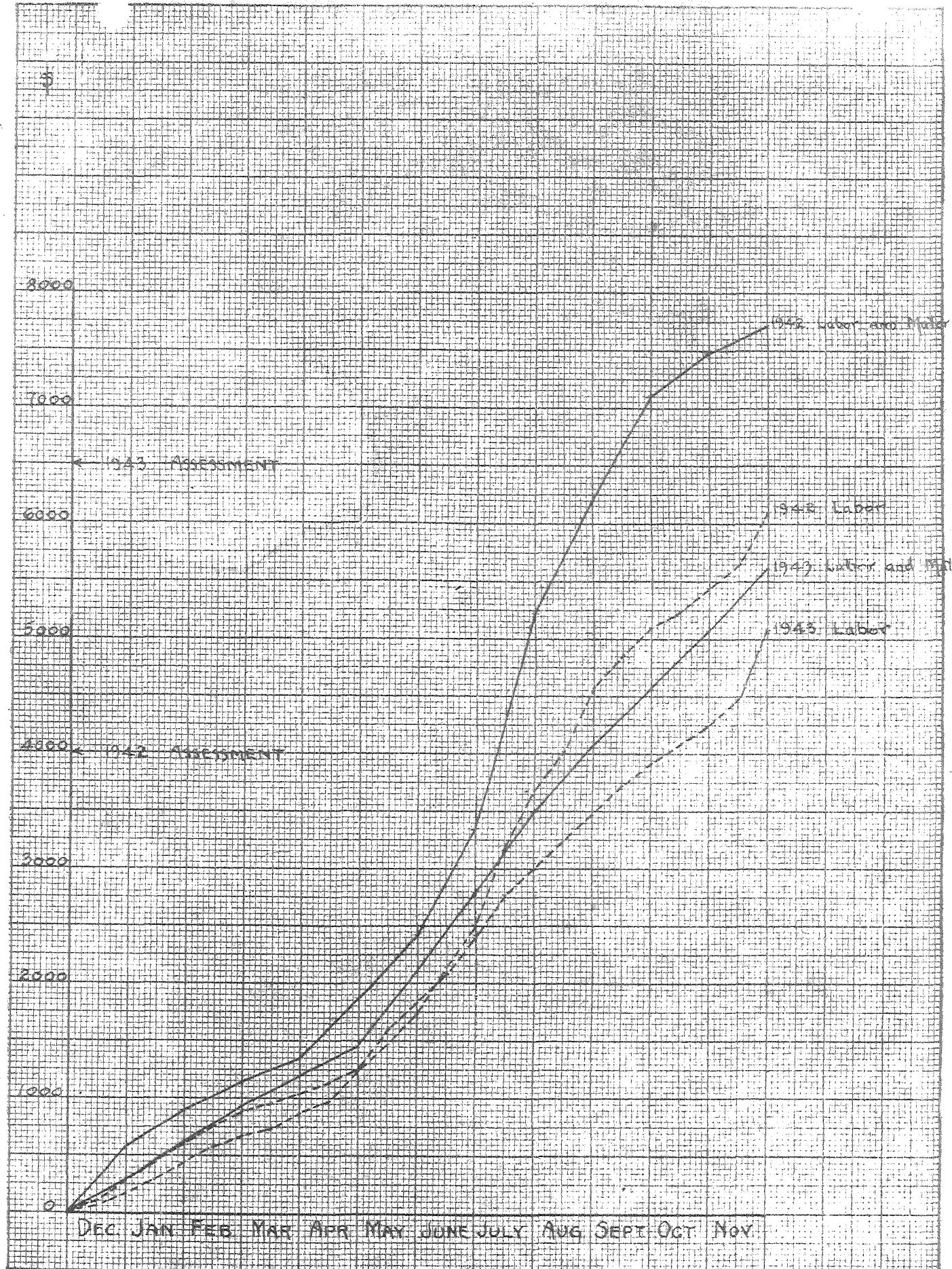
Unforeseen Account:-

The labour cost is divided as follows:-

| | |
|---|--------------|
| Queen's Square Rink..... | \$ 479.90 |
| Putting trees on river for river roads..... | 18.40 |
| Victoria Public Hospital (removing ashes)..... | 113.89 |
| Ploughing and digging graves at cemetery..... | 34.90 |
| Fredericton School Board (removing ashes)..... | 9.00 |
| Faraline Home (removing ashes)..... | 6.75 |
| Military Training Centre No. 70..... | 18.75 |
| Christ Church Memorial Hall (removing ashes)..... | 6.75 |
| Sharkey Estate (removing ice from roof)..... | 3.45 |
| A. R. P..... | 22.30 |
| Installing Red Cross Sign..... | 5.70 |
| Salvage (collection)..... | 32.95 |
| Old Cemetery (Brunswick Street)..... | 557.55 |
| Installing war loan signs..... | 11.95 |
| Greens..... | 1,033.30 |
| Repairing benches..... | 23.85 |
| Playgrounds..... | 43.95 |
| Spraying for mosquitoes..... | 3.00 |
| Repairing A. & B. Club House..... | 50.85 |
| Filling Cess Pool..... | 4.80 |
| Military Depot No. 7..... | 1.80 |
| Repairs to W.G. Clark house (King Street)..... | 40.35 |
| Grappling St. John River (Starline Wharf)..... | 30.60 |
| Removing cannon bases on river green..... | 9.20 |
| Miscellaneous..... | 29.40 |
| General Expenses..... | 124.36 |
| Cost of Living Bonus..... | <u>28.52</u> |
| Total..... | \$2,746.22 |

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PUBLIC WORKS COSTS 1942 AND 1943.

TABLE SHOWING COMPARATIVE YEARLY COSTS OF
PUBLIC WORKS, Years 1927 - 1943

| Year | Expenditure for Labour | Gross Expenditure Labor and Material | Credits | Net Costs Labor and Materials | Appropri- ation |
|------|---------------------------|---|----------|-------------------------------------|--------------------|
| 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 | 2,729.82 | 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 |
| 1936 | 2,867.38 | 4,211.33 | 2.73 | 4,208.60 | 3,000.00 |
| 1937 | 3,673.48 | 4,283.52 | 123.45 | 4,160.07 | 5,000.00 |
| 1938 | 5,135.07 | 8,631.67 | 664.00 | 7,967.67 | 4,000.00 |
| 1939 | 3,937.07 | 4,606.53 | 255.10 | 4,361.43 | 4,000.00 |
| 1940 | 5,610.71 | 6,826.22 | 1,204.89 | 5,621.33 | 4,000.00 |
| 1941 | 4,751.76 | 7,204.65 | 204.95 | 6,999.70 | 4,000.00 |
| 1942 | 6,089.55 | 8,180.32 | 455.85 | 7,724.47 | 4,000.00 |
| 1943 | 5,063.23 | 5,890.39 | 280.43 | 5,609.96 | 6,500.00 |

BATHING BEACH

This year the City maintained no civic caretaker at the bathing beach. The Playgrounds Committee had their supervisors in charge of the playgrounds take charge of the bathing beach during the afternoons. The City had a labour expenditure of \$45.31 which was incurred in cleaning up the beach and keeping the bathing houses and equipment in repair.

STREET LIGHTS

The City street lighting system at the present time consists of:-

1. A series lighting system which lights most of the City.
2. A multiple lighting system on Queen Street.
3. A multiple lighting system in C.N.R. Subway.

System No. 1, the series lighting system, consists of some 17.9 miles of line and 370 lamps. This system is divided into four circuits two of which are controlled each by a 25 K.W. constant current transformer, the other two of which are each controlled by a 15 K.W. constant current transformer. These transformers, along with the main switchboard, are housed in a transformer room in the old street lighting building on Carleton Street.

The four circuits are made up as follows:-

| Lower Front Circuit:- | Transformer Size |
|---|---------------------------------|
| 24-600 C.P. Lamps at .372 K.W. demand.... 8.928 | |
| 34-250 C.P. Lamps at .155 K.W. demand.... 5.270 | |
| 9-100 C.P. Lamps at .0716 K.W. demand... .644 | |
| | <u>14.842</u> K.W. 15 K.V. |

Lower Rear Circuit:-

| | |
|---|---------------------------------|
| 7-600 C.P. Lamps at .372 K.W. demand.... 2.604 | |
| 136-250 C.P. Lamps at .155 K.W. demand.... 21.080 | |
| | <u>23.684</u> K.W. 25 K.V. |

Upper Front Circuit:-

| | |
|---|---------------------------------|
| 19-600 C.P. Lamps at .372 K.W. demand.... 7.068 | |
| 31-250 C.P. Lamps at .155 K.W. demand.... 4.305 | |
| | <u>11.373</u> K.W. 15 K.V. |

Upper Rear Circuit:-

| | |
|---|---------------------------------|
| 3-600 C.P. Lamps at .372 K.W. demand.... 1.116 | |
| 107-250 C.P. Lamps at .155 K.W. demand.... 16.585 | |
| | <u>17.701</u> K.W. 25 K.V. |

Total Demand..... 68.100 K.W.

The new lights installed this year consisted of one 250 C.P. Lamp installed at the corner of King and Westmorland Streets and one 250 C.P. Lamp on Shore Street near Waterloo Row.

We had one large installation consisting of 15-600 C.P. lights which were placed on King Street between Westmorland and St. John Streets, taking the place of 8-250 C.P. Lamps which formerly lighted this street. These 15 new units were enclosed in novalux globes to make them non-glare and were attached to

the regular series street lighting circuits. In my opinion they give very satisfactory lighting on this street where it was badly needed.

System No. 2, the multiple lighting system on Queen Street, consists of 22 units located on Queen Street between Westmorland and St. John Streets. Each unit consists of a 500 W. 115 Volt lamp set in a novalex luminar fixture and hung on a bracket attached to the pole, these units being controlled by a control switch which is energized by our series street lighting system. This system was installed and is owned, maintained, and energized by the Maritime Electric Company, the City paying the Company \$75.00 per year for each unit.

System No. 3 consists of six multiple lights, each of 250 W. strength, located in the C. N. R. Subway. This system is also controlled by a control switch which is energized by the series street lighting system.

The power for Systems 1 and 3 is purchased from the Maritime Electric Company at a contract price as agreed upon in the contract between the Maritime Electric Company and the City made in 1927. This contract also covers the maintenance cost of \$20.00 a year per mile of pole line which is paid by the City to the Company.

All material such as wire, poles, pole fixtures, lamps, lamp fixtures, transformers, etc. is paid for by the City but installed by the Company under their contract price for maintenance. Any new installations which require an enlargement of circuits must be paid for by the City both labour and material.

The street lighting costs for the year 1943 are as follows:-

| | |
|-------------------------|-------------|
| Expenditure..... | \$11,033.89 |
| 1943 Appropriation..... | 10,000.00 |
| Dr. Balance..... | \$ 1,033.89 |

Note - Sold an old 15 K.W. Bestfoot Transformer to Maritime Electric Co. for \$1,300.00 This 3rd
This Expenditure is made up as follows:-
Not shown as a credit

| | |
|---|-----------|
| 120-600 C. P. Lamps @ \$1.68 $\frac{1}{4}$ | \$ 202.50 |
| 288-250 C. P. Lamps @ 97 $\frac{1}{2}$ ¢..... | 280.80 |
| 17-150 C. P. Lamps @ 30¢..... | 5.10 |
| 60-100 C. P. Lamps @ 52 $\frac{1}{2}$ ¢..... | 31.50 |
| Current on Subway Lighting and series fixtures from Nov. 28/42 to Nov. 29/43 (267091 K.W.Hrs.).. | 7,181.93 |
| Charges on multiple fixtures installed on Queen Street at the contract price of \$75.00 per light per year..... | 1,647.80 |
| Maintenance, labour as per contract price..... | 330.96 |
| Material purchased for new installations and maintenance of lamp fixtures (including only such articles as lamp standards, lamp brackets, heads, sockets, shades, etc.)..... | 1,141.40 |
| Material used and extra labour supplied by Maritime Electric Co. in line maintenance extension..... | 99.04 |
| Miscellaneous charges (part of City Engineer's car expenses)..... | 102.90 |
| Telephone in transformer room..... | 9.96 |

Total.....\$11,033.89

The total per capita charge for street lighting 1943,
population of 10,862 persons $\frac{11033.89}{10862} = \1.01

TABLE SHOWING CURRENT CHARGES FOR 1943
on SERIES LIGHTING

| Date of Bill | K. W. H. | Demand in K.W. | Average No. of Burning Hrs. per Night | Bill per Month |
|-----------------|----------|----------------|---------------------------------------|----------------|
| Nov. 28/42 | | | | |
| to Dec. 29/42 | 29,313 | 68.2 | 14 $\frac{1}{4}$ | \$ 728.17 |
| Dec. 29/42 | | | | |
| to Jan. 28/43 | 27,699 | 68.9 | 14 $\frac{1}{2}$ | 707.14 |
| Jan. 28/43 | | | | |
| to Feb. 26/43 | 24,516 | 66.9 | 13 | 638.68 |
| Feb. 26/43 | | | | |
| to March 30/43 | 22,687 | 68.9 | 11 $\frac{1}{4}$ | 606.09 |
| March 30/43 | | | | |
| to April 28/43 | 20,460 | 68.9 | 9 $\frac{1}{2}$ | 561.86 |
| April 28/43 | | | | |
| to May 29/43 | 16,772 | 70.9 | 8 $\frac{1}{2}$ | 492.19 |
| May 29/43 | | | | |
| to June 30/43 | 15,880 | 68.9 | 7 $\frac{1}{4}$ | 470.47 |
| June 30/43 | | | | |
| to July 29/43 | 14,390 | 58.9 | 7 $\frac{1}{2}$ | 419.29 |
| July 29/43 | | | | |
| to August 31/43 | 19,134 | 68.9 | 8 $\frac{3}{4}$ | 535.63 |
| August 31/43 | | | | |
| to Sept. 29/43 | 19,566 | 72.2 | 10 $\frac{1}{2}$ | 551.30 |
| Sept. 29/43 | | | | |
| to Oct. 28/43 | 24,387 | 72.9 | 12 | 649.45 |
| Oct. 28/43 | | | | |
| to Nov. 29/43 | 32,287 | 74.9 | 13 $\frac{1}{2}$ | 811.66 |
| | 267,091 | | | \$ 7,181.93 |

TABLE SHOWING COMPARATIVE YEARLY COSTS IN STREET LIGHTING

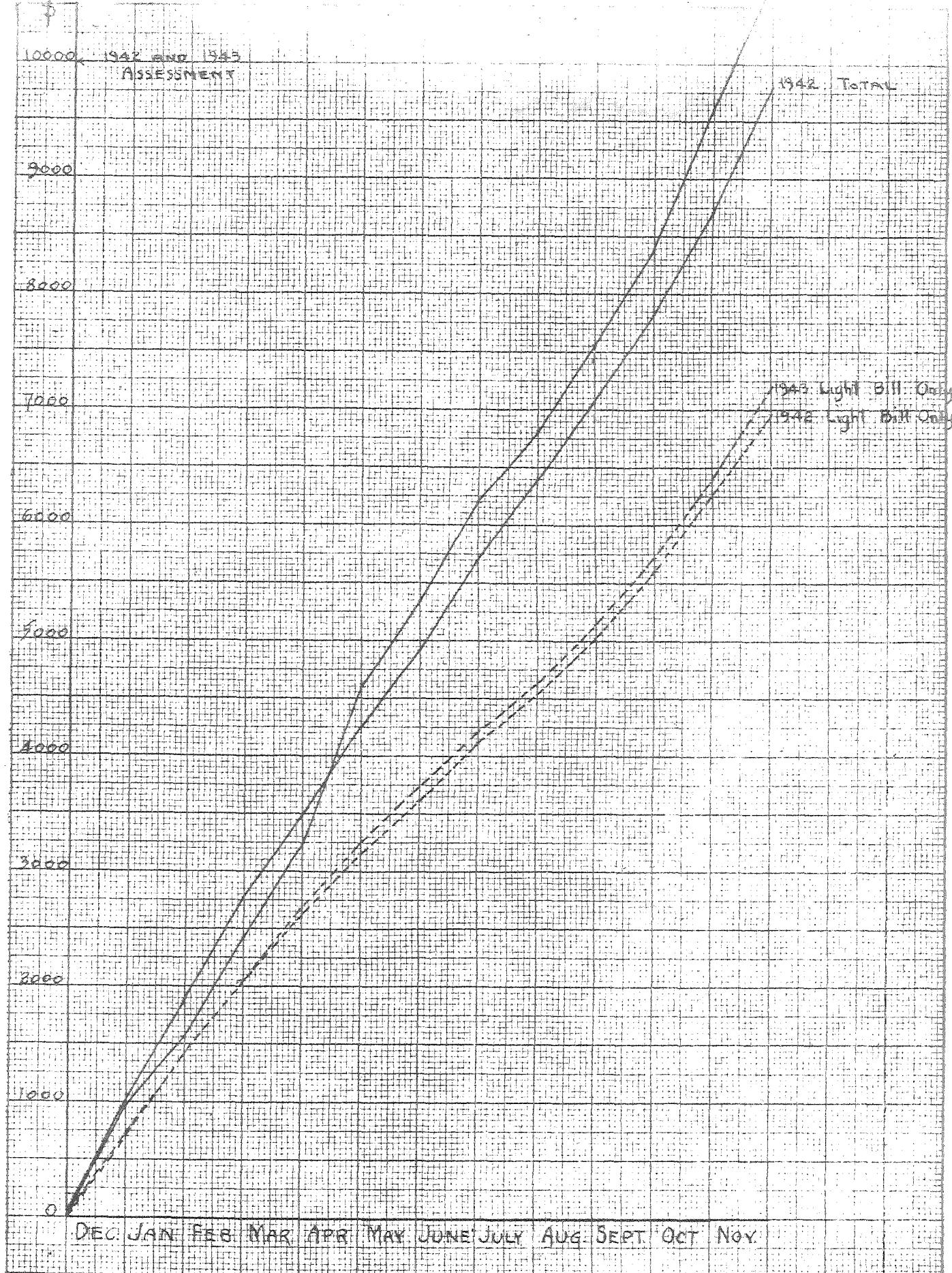
| Year | Total Yearly Cost | Yearly Appropriation |
|------|-------------------|----------------------|
| 1927 | \$ 8,088.41 | \$ 8,000.00 |
| 1928 | 7,323.41 | 7,000.00 |
| 1929 | 7,434.72 | 7,000.00 |
| 1930 | 7,115.40 | 7,000.00 |
| 1931 | 6,672.23 | 10,000.00 |
| 1932 | 6,532.51 | 6,000.00 |
| 1933 | 6,425.87 | 6,000.00 |
| 1934 | 6,165.28 | 6,000.00 |
| 1935 | 6,632.33 | 6,000.00 |
| 1936 | 6,957.72 | 7,000.00 |
| 1937 | 9,688.62 | 7,000.00 |
| 1938 | 8,314.06 | 9,000.00 |
| 1939 | 8,645.97 | 7,500.00 |
| 1940 | 8,173.25 | 7,500.00 |
| 1941 | 9,888.78 | 8,500.00 |
| 1942 | 9,803.27 | 10,000.00 |
| 1943 | 11,033.89 | 10,000.00 |

W. F. C.

A graphic comparison of 1942 and 1943 street light expenditure and power cost is shown on the following plate: The curve for power cost includes the bill for the series lighting and the lighting of the Subway only, and does not include the bill for the multiple fixtures installed on Queen Street and owned by the Maritime Electric Company.

THIS MARGIN RESERVED FOR BINDING.

IF SHEET IS READ THIS WAY (HORIZONTALLY) THIS MUST BE TORN.



STREET LIGHT COSTS 1942 AND 1943.

SEWERAGE DOMESTIC

| | |
|------------------------|---------------|
| Gross Expenditure..... | \$2,511.56 |
| Credits..... | <u>547.99</u> |
| Net Expenditure..... | \$1,963.57 |

The credit of \$547.99 is made up of work done on the domestic sewerage for private parties. This work consists of all sewerage installation and sewerage maintenance other than that done on the principal sewerage main which serves the street.

Only one small extension to the sewerage system was made this year when it was found necessary to extend the 8-inch domestic sewer on Smythe Street south 73 feet to pick up a new customer.

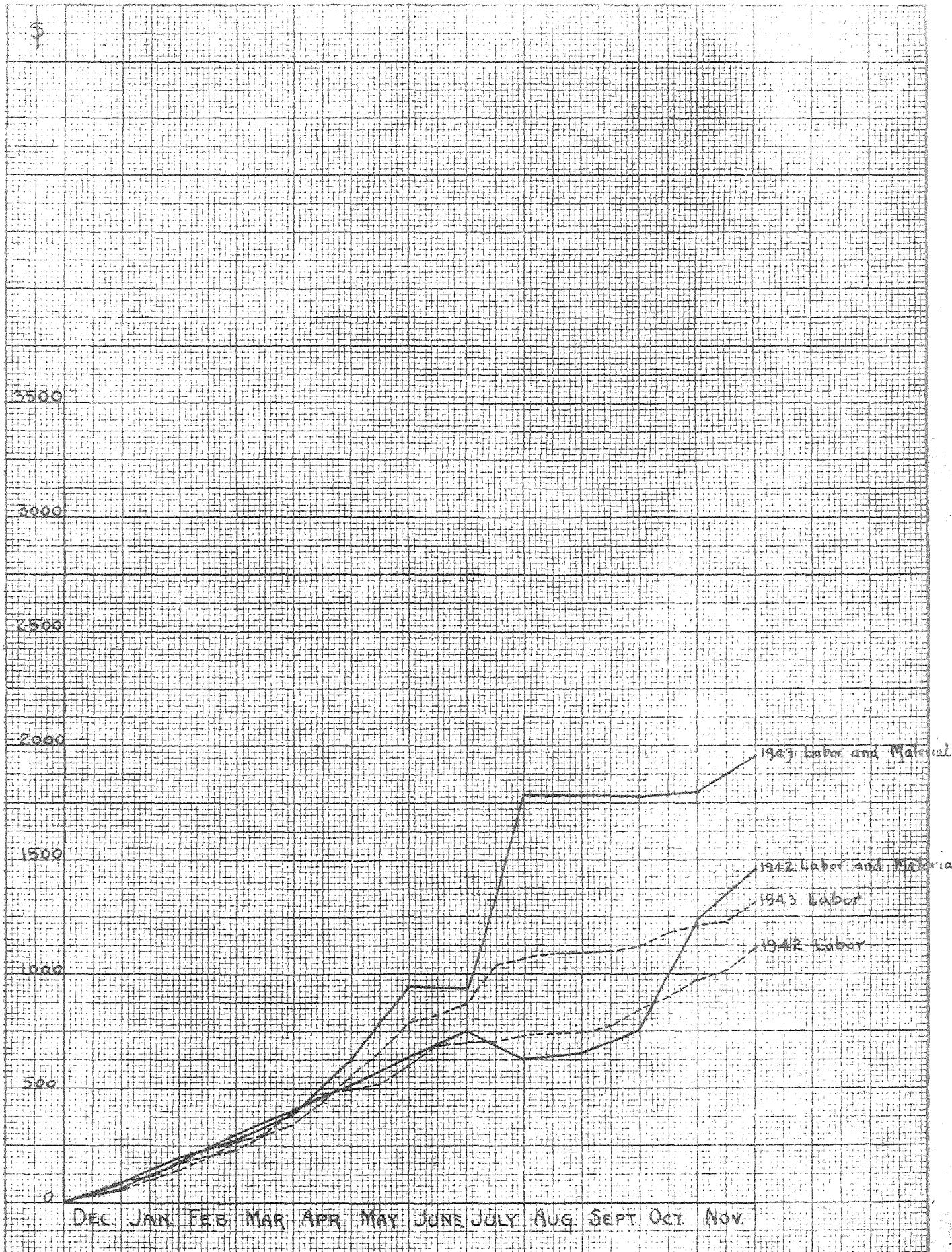
The entire domestic sewerage system was flushed out once during the summer between June 28th and July 7th at a labour cost of \$124.00.

The number of new customers connected with the City Sewerage System this year..... 6
Old sewerage connections dug out and relaid. 6

A graphic comparison for domestic sewerage costs for 1942 and 1943 is shown on the following plate:-

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IF SHEET IS READ THE OTHER WAY (HORIZONTAL) THIS MUST BE TOP



SEWERAGE DOMESTIC COSTS 1942 AND 1943.

WATER

A Few Facts Relating to the Start of the Fredericton Water Works

The first unit of the Fredericton water works was constructed in 1882-83.

Its construction was due to the public demand of the citizens of Fredericton for a better supply of water for domestic consumption and fire fighting purposes.

Previous to the construction of the water works the domestic water supply was obtained principally from shallow wells. Water for fire fighting purposes was obtained from the St. John River or from shallow storage tanks or catch basins constructed in the ground and located in the public roads generally near street corners.

No doubt the unsatisfactory condition of the city water supply had been under discussion for some time by the citizens in general, however, from a search of the minutes of the Fredericton City Council it seems that the matter was brought to a head in the year 1880 by a communication sent from the Fredericton Board of Health to the City Council. This communication brought up the matter of the introduction of a proper water supply and requested that the City Council appoint a committee to confer on the subject with a committee from the Board of Health.

The committee from the Council apparently met with the committee from the Board of Health and reported back to the Council advising that a petition be prepared and left in a public place to be signed by real estate owners who were in favour of the proposal to have a water works constructed. The City Council adopted this report. The feeling of the citizens was canvassed by this petition and later by a vote taken during the regular civic election in January 1882, but a definite decision as to the opinion of the citizens on this subject was not reached until February 1882 when a vote was taken of the citizens at the City Hall on the direct question as to whether or not the citizens wished the City Council to themselves proceed with the installation of a water works.

This vote showed a majority of all classes in favour of the City installing their own water works.

The City Council then had a Bill prepared which was presented to and passed by the Province enabling the City to construct a water works and sewerage system.

In April 1882 the City Council appointed a Water Committee of three persons to proceed with the construction of a water works. This Water Committee at once started to work. Through them was employed a Boston engineering firm to make a report and draw up plans. This report was received by the Council on July 4th, 1882 and was thoroughly discussed. The report was publicized to the citizens by having five hundred copies printed and distributed.

On July 21st, 1882 the Council again met and considered the report. It is interesting to note that this report recommended that the direct pumping system with source of supply the St. John River be used as against a gravity system for the following reasons:- (1) less expensive (2) river water superior to any nearby lake or stream (3) an unfailing source of supply (4) could obtain sufficient force for fire fighting.

At this time the City Council adopted the report and its recommendations. The Water Committee then went ahead and, keeping in close touch with the Council and having their action approved at each regular meeting of the Council, they had plans and specifications drawn up, contracts for construction awarded, and started construction.

By October 1883 the job was finished and ready to function. Everything had not been smooth sailing as some of the most difficult work such as the construction of the intake pier, intake line, and deep water pump well had to be taken over from the contractor and completed by the Water Committee under a day labour scheme.

The job when finished consisted of a pump and pump house taking water directly from the St. John River and pumping the raw untreated water into a system of supply mains to the then built-up portion of the City.

This water system has of course been added to from time to time until we have the system now in place which still takes the water from the St. John River and after treating and filtering it, pumps the pure treated water directly into the City mains.

Water Expenditure for the Year 1943

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

Water Ordinary:-

This account takes in all expenditure for water outside the pumping station and pumping station grounds. The expenditure under this heading is made up as follows:-

| | |
|------------------------|-------------|
| Gross Expenditure..... | \$20,230.35 |
| Credits..... | 5,020.06 |
| Net Expenditure..... | \$15,210.29 |

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 or when the material is to be used on parts of systems which do not belong to the City.

They also include the sum of \$4,386.71 which was a refund paid by the University of New Brunswick to the City to equalize expenditures made jointly by the University and the City in the construction of a reservoir and water extension on college property to serve college buildings.

The Gross Expenditure is made up as follows:-

| | |
|--|-------------|
| City Payroll for hydrants..... | \$ 437.09 |
| City Payroll for meters..... | 1,359.98 |
| City Payroll for Water Ordinary..... | 1,756.47 |
| City Payroll for U.N.B. Water Extension..... | 2,005.85 |
| Total Payrolls..... | 5,529.39 |
| Material and other charges..... | 14,670.96 |
| Gross Expenditure..... | \$20,230.35 |

U. N. B. Water Extension:-

This year the City entered into an agreement with the University of New Brunswick to build an extension to the City water works so as to give the University proper and adequate water for domestic consumption and fire protection. The agreement was that the University and the City would each pay one half the cost of this construction.

It was decided to install a 100,000 gal. concrete reservoir on college property at a height sufficient to give the proper pressure, and to connect this up with 6-inch water mains to our present water system pumping into this reservoir by an auxiliary pump situated near the Engineering Building on the college campus and withdrawing the water from the reservoir as needed by gravity.

This reservoir is of capacity to supply that part of the City known as English Settlement and lying between the Maryland Hill Road and the college line, and Albert Street and Green Road with water.

According to the agreement the City, helped by the engineering staff of the University, made plans and specifications and started construction on this project. Roughly, the work consisted of the construction of the reservoir, the building of a small pump house, and the laying of some 2680 feet of 6-inch cast iron water main with the necessary gates, hydrants, etc.

During last season we completed all this work with the exception of laying some 1600 feet of 6-inch water main. It had been planned to have this system in operation by the fall of 1943, but because of the shortage of labour and the very wet summer which made work difficult in the clay formation which we were going through, we found it advisable to close up the job in the late fall. However, sufficient of the construction had been completed so that the Arts Building was able to connect up with their sprinkler system which they themselves had installed during the summer, thus giving the most important building on the campus adequate fire protection.

The expenditures made by the City to date on this project are \$14,584.45. The University expended \$5,811.03, leaving some \$8,773.42 which the City expended in excess of the amount expended by the University. The University, to keep the account even, reimbursed the City for one half of this excess expenditure by sending them a cheque for \$4,386.71.

Hydrants:-

We have in the City 149 hydrants plus three hydrants which have been installed by the Military Department which makes in all 152 hydrants which must be maintained by the City crews.

The labour costs show an average cost per hydrant for labour only of \$2.87.

Meters:-

Of all our water services in the City 564 are charged under flat rate and 1173 are on meter, giving us altogether 1737 services.

The labour cost this year per meter for installing, reading, repairing, etc. is \$1.15.

Forty-seven meters were stopped this year and had to be repaired.

All meters are read twice a year and bills are sent out twice a year. We have about 73 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 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 read meters.

This year we purchased from the Neptune Meter Company the following new water meters:-

10 - 5/8 Trident Cold Water Meters with 3/4" connections, straight reading, Imperial Gallons. The Serial Nos. on these meters were 6566554 - 6566563

2 - 1" Trident Cold Water Meters with 1 $\frac{1}{4}$ " connections, straight reading, Imperial Gallons. The Serial Nos. on these meters were 6332848 - 6332849

Meters in store room January 1st, 1944:-

| | |
|--|---|
| 5/8 meters repaired and fit for service..... | 3 |
| 5/8 meters that can be repaired and made fit for service | 7 |
| New 5/8 meters..... | 2 |
| 3/4 meters fit for service..... | 0 |
| 1-in. meters that can be repaired..... | 4 |
| New 1-in. meters..... | 0 |
| New 1-in. meters with 1 $\frac{1}{4}$ " connections..... | 0 |
| Compound meters fit for service..... | 0 |
| Compound meters not fit but which can be repaired..... | 2 |
| 1 $\frac{1}{2}$ Crest Meters..... | 1 |

DISTRIBUTION SYSTEM

| | |
|---|----|
| New services installed this year..... | 6 |
| Old services relaid this year..... | 24 |
| Frozen services which had to be thawed..... | 33 |
| Services discontinued (York Hotel Stables)... | 1 |
| Water breaks repaired..... | 14 |

We had in the City on the 30th day of November 1943
1737 water services.

The Fredericton Distribution System consists of 16.71 miles of water main made up of the following sizes:-

| | |
|-------------------|------------|
| 10 inch main..... | 1.53 miles |
| 8 inch main..... | 4.21 miles |
| 6 inch main..... | 9.09 miles |
| 4 inch main..... | 1.60 miles |
| 3 inch main..... | .28 miles |

This does not include the water mains installed by the Department of National Defence at Military Training Centre No. 70, Military Depot No. 7, or the Military Hospital.

This summer the Military Authorities hooked up the 4-inch main which was formerly a dead end on Rookwood Avenue by a 6-inch connection of some 300 feet with their 6-inch main at the Training Centre thus doing away with one of our objectionable dead ends in the City grid.

The water mains were flushed out once this year.

TABLE SHOWING COMPARATIVE YEARLY COSTS
WATER ORDINARY

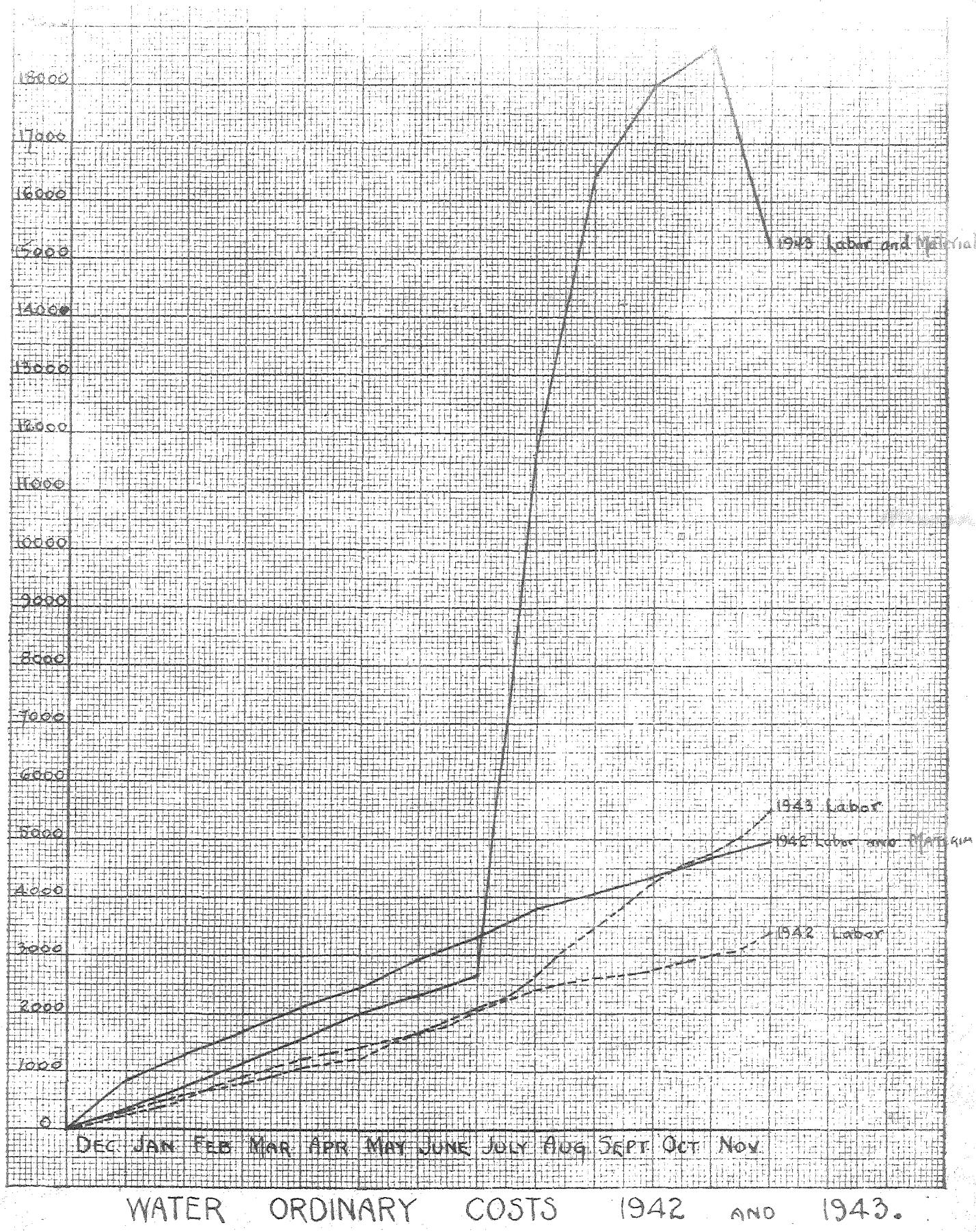
| Year | Labour | Material | Gross Expenditure | Credits | Net Expenditure |
|------|----------|-----------|-------------------|----------|-----------------|
| 1929 | 3,236.77 | 2,203.13 | 5,439.90 | | 5,539.90 |
| 1930 | 3,647.97 | 2,313.18 | 5,961.15 | | 5,961.15 |
| 1931 | 3,836.33 | 4,376.87 | 8,213.20 | 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 |
| 1936 | 4,303.14 | 3,725.91 | 8,029.05 | 392.35 | 7,636.70 |
| 1937 | 3,718.86 | 3,938.81 | 7,657.67 | 265.46 | 7,401.21 |
| 1938 | 4,797.47 | 2,254.68 | 7,052.15 | 153.11 | 6,899.04 |
| 1939 | 4,201.24 | 3,248.61 | 7,449.85 | 570.44 | 6,879.41 |
| 1940 | 4,231.75 | 2,708.22 | 6,939.97 | 808.48 | 6,131.49 |
| 1941 | 2,908.37 | 2,446.27 | 6,354.64 | 459.08 | 4,895.56 |
| 1942 | 3,407.91 | 1,989.02 | 5,396.93 | 411.44 | 4,985.49 |
| 1943 | 5,559.39 | 14,670.96 | 20,230.35 | 5,020.06 | 15,210.29 |

A graphic comparison of expenditure on water ordinary for years 1942 and 1943 is shown on the following page:-

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IF SHEET IS READ THE OTHER WAY (VERTICALLY) THIS MUST BE LEFT-HAND SIDE.



WATER PUMPING STATION

Report of Mr. E. W. Hagerman, City Analyst:-

Plate Count Table

December 1942 - May 17, 1943

Total Plate Count Bacteria per c.c. Water Agar, 48 Hrs. Room Temperature (68 F)

| Date of Test | Raw Water | Effluent | Tap Water | Per Cent Removal |
|--|---|--------------------|-----------|------------------|
| 1942 | | | | |
| Dec. 7 | 450 | 6 | 7 | 98.6 |
| " 14 | 430 | 7 | 7 | 98.4 |
| | | | | |
| Discontinued the use of Alum on Dec. 4th. Made tests for the Coliform Group, that is, Fermentation of Lactose Broth at 98 F. | | | | |
| Dec. 17 | Tap Water 123 Char. St. 1c.c. Sample Pos. | 10c.c. Sample Neg. | | |
| | Increased Lime dose to Approx. 2ppm. | | | |
| " 20 | Tap Water 123 Char. St. 1c.c. Sample Neg. | 10c.c. Sample Neg. | | |
| " 23 | Tap water 123 Char. St. 1c.c. Sample Neg. | 10c.c. Sample Neg. | | |
| " 23 | Effluent 1c.c. Sample Neg. | 10c.c. Sample Neg. | | |
| " 31 | Tap Water 123 Char. St. 1c.c. Sample Neg. | 10c.c. Sample Neg. | | |
| 1943 | | | | |
| Jan. 11 | 300 | 1 | 2 | 99.7 |
| " 21 | 280 | 1 | 3 | 99.6 |
| " 29 | 300 | 2 | 1 | 99.5 |
| Feb. 6 | 375 | 2 | 2 | 99.4 |
| " 14 | 420 | 0 | 4 | 100.0 |
| " 20 | 500 | 2 | 3 | 99.6 |
| " 27 | 600 | 3 | 1 | 99.5 |
| Mar. 7 | 675 | 2 | 3 | 99.6 |
| " 15 | 1600 | 1 | 2 | 99.9 |
| " 25 | 1000 | 5 | 4 | 99.5 |
| Apr. 3 | 760 | 2 | 0 | 99.7 |
| " 12 | 1200 | 3 | 3 | 99.7 |
| " 19 | 1400 | 4 | 2 | 99.6 |
| " 25 | 1600 | 2 | 3 | 99.9 |
| May 2 | 1100 | 4 | 6 | 99.6 |
| " 9 | 900 | 2 | 1 | 99.8 |
| " 17 | 1500 | -- | 3 | 99.9 |
| Averages for Year 1943 | 805 | 2.5 | 3 | 99.2 |

Many changes have been made in water treatment since the Filtration Plant was installed in Fredericton in 1906. To be in keeping with some of the changes it seems advisable that the Bacteriological tests on our water supply should be revised. They should be made in accordance with a recognized standard.

With this in view future reports will measure the quality of the treated water in terms of the Coliform (formerly B. Coli) content. Tests in accordance with Public Health Drinking Water Standards as given below.

Public Health Service of the United States has drawn up a Standard for drinking and culinary waters. It is the yard stick used to measure the waters used by Common Carriers in U.S.A. Most cities of Canada and U. S. measure their water quality along the lines as set out in the Standards. Their requirements as applied to Fredericton water supply are briefly listed below.

Full particulars may be obtained from United States Health Reprint No. 2440 Superintendent of Documents, Washington D.C.

- (a) A Sample consists of 5 Portions (unless otherwise stated)
- (b) Each Portion contains 10c.c. (" " " "
- (c) The Confirmed test or Completed test shall be used to show the presence of the Coli-Aerogenes Group (formerly called B Coli). The confirmatory media 2% Brilliant Green Bile shall be used in the confirmed test.
- (d) Application
 - 1. Of all the 10c.c. Portions examined per month not more than ten per cent (10%) shall show Positive.
 - 2. When less than 20 samples per month are examined, one standard sample per month may have 3 Positive Portions out of the 5 Portions making up the Sample.
 - 3. The procedure given, using standard sample composed of five portions, provides for an estimation of the Most Probable Number (M.P.N.) of coliform bacteria (per 100 c.c.) present in the sample as set forth in the following table.

| Number of Portions (total of 5) | : | Most Probable Number (M.P.N.) of Coliform Bacteria per 100 c.c. of Water |
|------------------------------------|----------|---|
| Negative | Positive | When 5 10c.c. portions are examined |
| 5 | 0 | Less than 2.2 |
| 4 | 1 | 2.2 |
| 3 | 2 | 5.1 |
| 2 | 3 | 9.2 |
| 1 | 4 | 16.0 |
| 0 | 5 | More than 16.0 |

A systematic test for the Coliform content of the Raw Water has not as yet been carried out. It is hoped that we will be able to undertake this before long.

Occasionally 1c.c. and 1/10 c.c. samples were made of the raw water. Results were Pos. in approx. 80% of the 1c.c. samples. Not enough 1/10 samples were made to form an estimate.

Plus----- Indicates Coliform Bacteria Present.
 Minus----- " " " Absent.

M.P.N.---- Indicates Most Probable Number of Coliforms present
 in 100c.c. of water.

| Date of Sample | Origin of Sample | 5-10c.c. Portions | M.P.N. Organisms per.c. c. |
|----------------|-------------------------------|-------------------|----------------------------|
| | | Plus | Minus |
| 1943 | | | |
| May 19 | Effluent | 0 | 5 |
| " 22 | " | 0 | 5 |
| " 30 | " | 0 | 5 |
| June 7 | U.N.B. Eng. | 0 | 5 |
| " 16 | Res. J. Stephens Waterloo Row | 0 | 5 |
| " 24 | Rural Cemetery Ext. | 0 | 5 |
| July 7 | Effluent | 0 | 5 |
| " 12 | 202 Saunders Street | 0 | 5 |
| " 16 | Capital Garage | 0 | 5 |
| " 21 | Effluent | 0 | 5 |
| " 25 | 150 Aberdeen Street | 0 | 5 |
| Aug. 2 | Effluent | 0 | 5 |
| " 6 | Macks Drug Store | 1 | 4 |
| " 8 | Macks Drug Store | 0 | 5 |
| " 11 | 223 Carleton Street | 0 | 5 |
| " 20 | H. C. Moore | 0 | 5 |
| " 25 | H. C. Moore | 0 | 5 |
| " 27 | Service Pump | 0 | 5 |
| Sept. 5 | 202 Saunders Street | 0 | 5 |
| " 10 | Service Pump | 0 | 5 |
| " 14 | U.N.B. Eng. Building | 0 | 5 |
| " 17 | Service Pump | 0 | 5 |
| " 20 | Tap Boiler Room Pumping Sta. | 0 | 5 |
| " 23 | Macks Drug Store | 0 | 5 |
| Oct. 2 | U.N.B. Eng. Bldg. | 5 | 0 |
| " 3 | Service Pump | 0 | 5 |
| " 7 | U.N.B. Eng. Bldg. | 5 | 0 |
| " 14 | Service Pump | 0 | 5 |
| " 18 | U.N.B. Engr. Bldg. | 2 | 3 |
| " 23 | U.N.B. Residence | 0 | 5 |
| " 28 | Service Pump | 0 | 5 |
| Nov. 2 | U.N.B. Eng. Bldg. | 0 | 5 |
| " 7 | Service Pump | 0 | 5 |
| " 12 | " " | 0 | 5 |
| " 16 | U.N.B. Eng. Bldg. | 0 | 5 |
| " 19 | Service Pump | 0 | 5 |
| " 25 | U.N.B. Forestry | 0 | 5 |
| " 29 | Service Pump | 0 | 5 |

The high results showing at the University Engineering Building in October were due to gas formers that gained entrance when the new pipes were coupled into the old system. This in spite of Presterilization of new pipes before coupling in.

This area was finally sterilized by Chloride of Lime added through the booster pump in the Engineering Building.

The tests taken at this point should not be averaged in with the rest of the City water because this section of pipe is very small and is isolated by a check valve which prevents flow from backing down into the rest of the system.

Examination of the results of tests made will show that the bacteriological quality of the water as supplied the City fulfills the requirements of the Standards.

Leaving out tests at U. N. B. as explained above:

1. In no month did the number of Positive results come to ten per cent (10%) of the total portions tested in that month.
 2. No single sample showed three out of five portions Positive in the month.
 3. The Most Probable Number of Coliform Bacteria per 100 c.c. of water was less than 2.2 in any month.
-

By the fall of 1942 it was evident that it would be necessary to increase the filtering capacity of our plant to meet a still greater demand forecast for 1943. Evidence gained from experience in the Fredericton Plant and from other plants pointed to a larger sedimentation basin. This would have taken half a season or more to build and it would have required a large amount of material and labour.

The Aqua Electric Corp. of Halifax had for several years been trying to interest us in an electric process which they claimed would hasten the flocculation process. On investigating the success of the electrode in installations in Nova Scotia, it was decided that it would tide us over the temporary high demand put on the plant by the war.

The electrodes were installed late in 1942 and they were used through the season of 1943. They increased the rate of flocculation and made it possible to run three filters simultaneously for periods up to eight hours. It was not possible to do this without the use of the electrodes for periods of more than thirty or forty minutes without losing the floc. The electrodes do not produce a water of any better quality than we have been able to produce without them. However, they do enable us to produce more water of as good quality in the same time.

To sum it up, I would say, that the electrodes have made it possible for us to produce enough extra water of previous quality to meet the demand of 1943.

As mentioned before, this apparatus will not better the quality of Fredericton water without a larger settling basin. A settling basin of from four to six times the size of our present one is the answer to the problem of getting clear sparkling water throughout the year. This has been the opinion of persons who have had the opportunity to study the plant.

While the electrodes will probably enable us to filter as much water as can be handled with our present pumps, a betterment of quality should be the next objective. The construction of an ample settling basin might well be the first on the list of Post War Projects.

Fredericton, N. B.
December 31st, 1943.

E. W. HAGERMAN

The water pumping station was as usual under the supervision of the plant superintendent and chief engineer, John Malloy.

During the year one of our 50 H. P. service motors shorted and burned out. This motor was removed and given to Mr. Harry Moore to be re-wound. However, as Mr. Moore was unable to give us any assurance as to when the job would be completed, a new 50 H. P. motor was ordered. We ran for about three months with only one service motor in condition. Our new motor arrived on the same day that Mr. Moore completed winding the old motor. We re-installed the reconditioned motor and are keeping the new motor at the waterworks as a spare. This will enable us to make a replacement immediately should one of our 50 H.P. motors be damaged.

The alum shed which we had fixed up temporarily during last year was practically rebuilt this year and is now in good condition.

The intake crib in the river was found to be in a very rotten condition above the water line. We removed the top of this pier and rebuilt it. At the same time we made some repairs to the wooden sheathing on the side of the guard pier. ~~Labour Cost \$08.10~~

The deep water pump well was drained and cleaned out once during the year.

The coagulating basin was cleaned out three times during the year.

Our water pumpage for the year has increased by some 23,000,000⁰⁰ or about 9% over that of last year. This is about 40% higher than our normal consumption of 200,000,000 gls. This is accounted for entirely, I believe, by the military installations and personnel who have been stationed in Fredericton.

This increased consumption is readily seen by glancing at the table headed "Comparison of Water Pumped and Consumed for Last Sixteen Years," on page 29.

Water Pumping Station Cost 1943:-

| | |
|------------------------|-------------|
| Gross Expenditure..... | \$26,336.50 |
| Credits..... | 3,224.25 |
| Net Expenditure..... | \$23,114.25 |

This Credit of \$3,224.25 is made up as follows:-

| | |
|---|------------|
| 3 tons of coal charged to Pumping Station and sold to other City Departments..... | \$ 16.56 |
| John Palmer Co..... | 9.69 |
| Town of Devon..... | 8.00 |
| Water charged to Sewerage Domestic for flushing domestic sewers..... | 70.00 |
| Water used in City Hall Building..... | 50.00 |
| Water used in Old Street Lighting Building on Carleton Street..... | 25.00 |
| Water used in City Yard..... | 10.00 |
| Water used in City Alms House..... | 25.00 |
| Water used in City Parks..... | 50.00 |
| To yearly rental of 148 hydrants at #20.00..... | 2,960.00 |
| | \$3,224.25 |

The Gross Expenditure is divided as follows:-

| | |
|--|-------------|
| City Payroll for salaries of engineers at Pumping Station..... | \$5,919.04 |
| Work done by other City employees in and around Pumping Station..... | 1,620.71 |
| Total City Payroll..... | 7,539.75 |
| Material and Workmen's Compensation Charge..... | 18,698.75 |
| Gross Expenditure..... | \$26,238.50 |

The material cost of \$18,698.75 is itemized as follows:-

| | |
|--|-------------|
| Item # 1 Light supplied and power supplied by the Maritime Electric Co. 367,500 K.W.H..... | \$ 8,759.41 |
| Item # 2 Transformer charges..... | 151.92 |
| Item # 3 Lime, 12,844 lbs..... | 563.50 |
| Item # 4 Alum, 89,600 lbs..... | 1,747.20 |
| Item # 5 Coal, 193.18 tons (.3 tons of preceding amount sold to other City Departments)..... | 1,066.40 |
| Item # 6 Fuel Oil..... | ----- |
| Item # 7 Engine oil, 172 gals. D.B. Oil..... | 106.40 |
| Item # 8 Motor oil, 45 gals. Polarine..... | 30.05 |
| Item # 9 Gasoline, 150 gals..... | 32.25 |
| Item 10 Maintenance and repairs of the building and machinery..... | 4,823.44 |
| Item 11 New installations..... | ----- |
| Item 12 Supplies, packing, rags, etc..... | 64.59 |
| Item 13 Stationery, forms, charts, etc..... | 23.86 |
| Item 14 Workmen's Compensation Board..... | 274.88 |
| Item 15 Mr. E. W. Hagerman's salary..... | 900.00 |
| Item 16 Hoisting chemicals..... | 116.00 |
| Item 17 Miscellaneous, telephone, etc..... | 38.91 |
| Total..... | \$18,698.75 |

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

| Year | I.G. Water pumped | Yearly Gross Expenditure at Pumping Station | Pumping Station cost per 1000 gals. | | Total Yearly Water Costs (Net Expeñer ture of and OrdinExpendi- Gross of Water Imping (using Gross station) | Total Yearly Cost per 1000 Gallons |
|------|----------------------|---|--|-------|---|--|
| | | | Expenditure | nts | | |
| 1928 | 192,890,000 | \$ 18,245.05 | 9.46 | cents | \$26,122.73 | 13.5 cts. |
| 1929 | 195,590,000 | 17,722.44 | 9.5 | cents | 32,142.34 | 16.4 cts. |
| 1930 | 204,405,000 | 16,791.22 | 9.5 | cents | 22,752.37 | 11.1 cts. |
| 1931 | 187,164,000 | 16,425.55 | 9.5 | cents | 24,559.10 | 13.0 cts. |
| 1932 | 171,032,000 | 16,915.58 | 9.5 | cents | 21,313.47 | 12.5 cts. |
| 1933 | 175,050,000 | 16,483.57 | 7.9 | cents | 22,468.12 | 11.1 cts. |
| 1934 | 202,720,000 | 15,999.50 | 8.1 | cents | 27,123.25 | 13.6 cts. |
| 1935 | 197,641,000 | 16,251.21 | 8.8 | cents | 24,325.91 | 12.6 cts. |
| 1936 | 193,450,000 | 17,186.21 | 10.5 | cents | 27,079.42 | 14.5 cts. |
| 1937 | 187,008,000 | 19,738.21 | 10.6 | cents | 26,138.53 | 14.4 cts. |
| 1938 | 181,528,000 | 19,239.49 | 10.6 | cents | 25,023.84 | 12.5 cts. |
| 1939 | 199,662,000 | 18,144.43 | 9.1 | cents | 28,634.84 | 14.0 cts. |
| 1940 | 203,975,000 | 22,503.35 | 11.3 | cents | 24,370.12 | 11.0 cts. |
| 1941 | 222,255,000 | 19,474.56 | 8.8 | cents | 28,385.58 | 11.0 cts. |
| 1942 | 257,205,000 | 23,400.09 | 9.1 | cents | 38,321.51 | 17.7 cts. |
| 1943 | 280,115,000 | 26,338.50 | 9.4 | cents | 41,548.79 | 14.0 cts. |

All these preceding costs shown under water pumping station and water ordinary do not include the costs of billing and collecting of water bills or any other overhead charges included in the City Government cost, nor do they include bond payments or Sinking Fund Charges.

The following chart gives a graphic comparison of water pumping station costs for the years 1942 and 1943.

THIS MARGIN RESERVED FOR BINDING.

IF SHEET IS READ THIS WAY (HORIZONTAL) THIS MUST BE LEFT-HAND SIDE.
IF SHEET IS READ THE OTHER WAY (VERTICALLY) THIS MUST BE TOP.

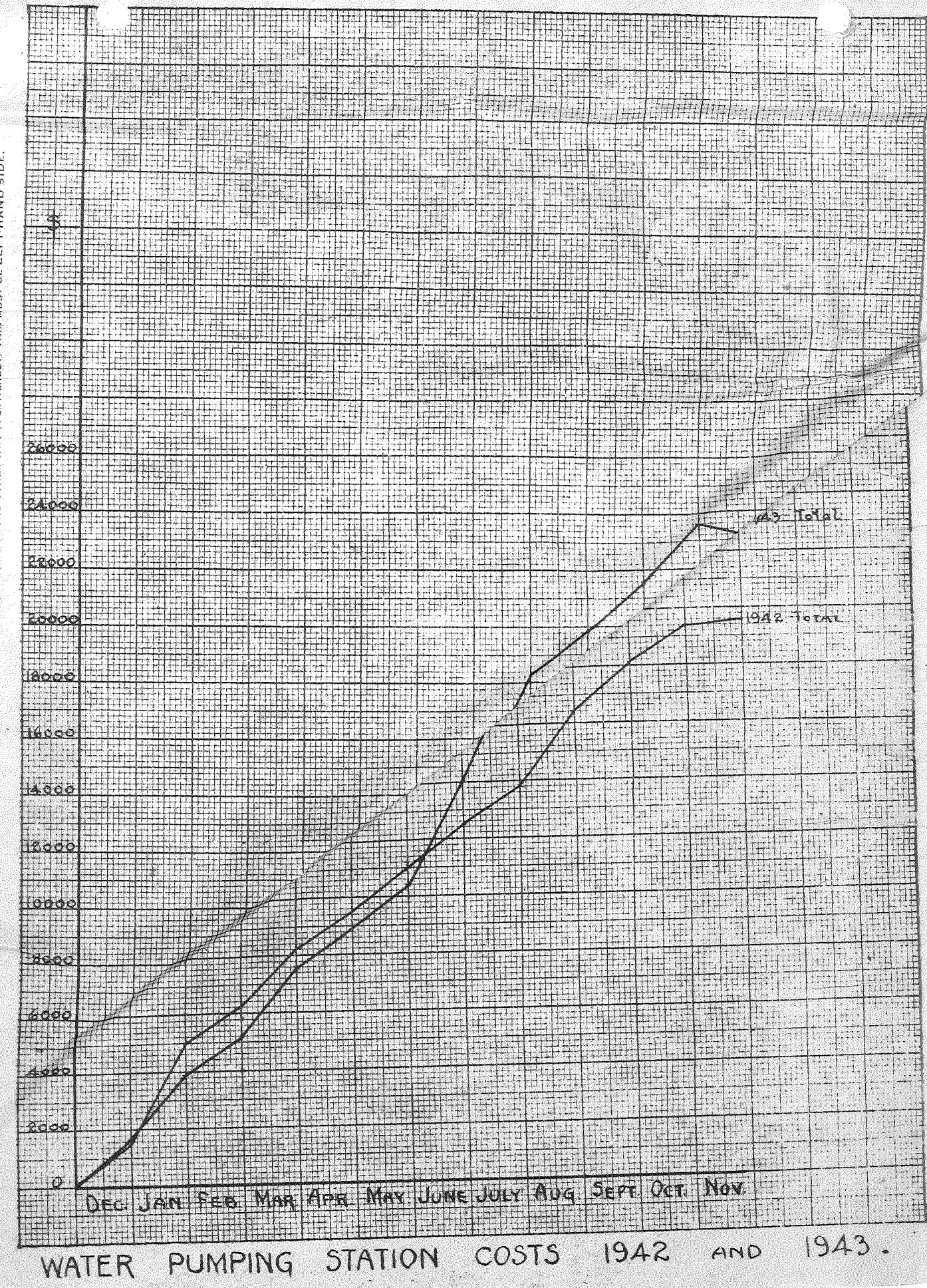


Table Compiled from Daily Pumping Station Charts
Year 1943, showing water pumped and material
and machinery used in pumping

| Total Hours Month | Month | Gallons Water Pumped | Coal Lbs. | Hrs. Power Supplied by W. H. Maritime | Low Lift Pump | | Service Pump | |
|-------------------------|-----------|----------------------------|--------------|--|----------------|----------------|----------------|----------------|
| | | | | | No. 1 Motor | No. 2 Motor | No. 1 Motor | No. 2 Motor |
| 744 | December | 21,650,000 | 54,100 | 744 | 689 | 5 min. | 744 | |
| 744 | January | 25,555,000 | 59,200 | 743½ | 720½ | | 743½ | ½ |
| 672 | February | 22,565,000 | 52,500 | | 640 | | 672 | |
| 744 | March | 24,480,000 | 54,000 | | 642½ | | 744 | |
| 720 | April | 22,965,000 | 45,000 | | 553½ | | 720 | |
| 744 | May | 23,700,000 | 30,400 | | 681½ | | 744 | |
| 720 | June | 22,975,000 | 29,400 | | 672 | | 720 | |
| 744 | July | 25,375,000 | 31,000 | | 688½ | | 742 | |
| 744 | August | 22,035,000 | 29,000 | | 651 | | 742 | |
| 720 | September | 23,580,000 | 34,500 | | 646½ | | 720 | |
| 744 | October | 22,900,000 | 28,200 | | 515½ | | 719½ | |
| 720 | November | 22,335,000 | 30,000 | | 52½ | | 633 | |
| | | | 32,600 | | 2½ | | 719½ | ½ |
| 8760 | | 280,115,000 | 368,800 | 8756 5/6 | 300 | 773 6½ | 3380 hr. 5" | 5359 2½ |

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 | Amt. Purchased in 1943 | Average price f.o.b. Factor | Amt. in Stock Dec. 1, 1943. |
|--------------------------------------|--|--|--------------------------------|
| 4" Soil pipe | 55 ft. | 55¢ per ft. | |
| 4" Terra Cotta pipe | 70 ft. | 28¢ per ft. | 400 ft. |
| 5" Terra Cotta pipe | | | |
| 6" Terra Cotta pipe | 20 ft. | 24¢ per ft. | |
| 8" Terra Cotta pipe | 1076 ft. | 45¢ - 60¢ per ft. | 892 ft. |
| 10" Terra Cotta pipe | | | |
| 12" Terra Cotta pipe | 22 ft. | 60¢ per ft. | |
| 15" Terra Cotta pipe | 32½ ft. | 90¢ per ft. | |
| 18" Terra Cotta pipe | 75 ft. | \$1.20 per ft. | |
| 20" Terra Cotta pipe | | | |
| 24" Terra Cotta pipe | 40 ft. | \$2.78 per ft. | |
| 4" Tile | 140 ft. | .08¢ per ft. | |
| Portland cement | 2352 bags | 70¢ - 75¢ per bag | |
| Brick | 7800 hard brick | \$17.28-\$21.60 per 1000 | |
| | 100 Scotch fire brick | \$11.00 per 1000 | |
| Crushed trap rock $\frac{1}{4}$ size | | | 50 cu. yd. |
| Stone dust | | | |
| Gravel (pit) | 1028 $\frac{1}{4}$ cu.yds. 397 $\frac{1}{2}$ cu.yds. 1246 cu. yds. | .90¢ - \$1.75 per cu.yd. .30¢ - 45¢ per cu. yd. 5¢ - 15¢ per cu. yd. | |
| Calcium Chloride | 40 tons | \$32.08 per ton | |
| Road Machine Blades | 18 blades | \$7.55 - \$9.60 per blade | |
| Lime | 12844 lbs. | \$4.37 per 100 lbs. | |
| Alum | 89600 lbs. (44.8 ton) | \$1.95 per 100 lbs. | 20 tons |
| Coal (run of mine Minto) | 8 cars (2175.63 ton) | \$5.52 per ton | 3 tons |
| Colas | 225 gals. | 19¢ per gal. | 360 gals. |
| Primer M.C. 1 | 0 | | |
| Asphalt (premixed pavement) | 0 | | |
| Tarvia | 0 | | |
| R.C.3 | 14496 gals. | 11.50¢ per gal. | 3040 gals. |
| R.C.4 | 0 | | |
| Bunker Oil | 0 | | 250 gals. |
| 5/8" Copper tubing | 0 | | 462 ft. |
| 3/4" Copper tubing | 0 | | 25 ft. |
| 1" Copper tubing | 0 | | 30 ft. |
| 5/8" Lead pipe | 3112 lbs. | \$11.70 per 100 lbs. and freight | 480 ft. |
| 3/4" Lead pipe | 0 | | 60 ft. |
| 1" Lead pipe | 0 | | 75 ft. |
| 10" Cast Iron pipe | 0 | | 12 ft. |
| 8" Cast Iron pipe | 0 | | 36 ft. |
| 6" Cast Iron pipe | 0 | | 120 ft. |
| 4" Cast Iron pipe | 0 | | |
| Amount of material for U.N.B. | | See James S. Neill prices and quotations | |
| Water Extension | 700 $\frac{1}{4}$ ft. | \$38.00 - \$55.00 per 1000 ft. | |
| Lumber | 4031 lbs. | \$8.50 per 100 lbs. | |
| Lead | | | |
| 1" x 1 $\frac{1}{4}$ " Trident Cold | 2 | \$30.45 and freight | |
| Water Meter | | | |
| 5/8" x 3/4" Trident Cold | 10 | \$14.34 each and freight | |
| Water Meter | | | |

| Material | Amt. Purchased in 1943 | Average Price f.o.b. F'ton | Amt. in Stock Dec. 1, 1943 |
|--|---------------------------|---|-------------------------------|
| 3/4" Galvanized pipe | 335 ft. | 10.23¢ - 12.75¢ per ft. | |
| 1" Galvanized pipe | 81 ft. 4 in. | 16.15¢ per ft. | |
| 1 1/4" Galvanized pipe | 13 ft. | 19.50¢ per ft. | |
| 1 - Only Impeller and Shaft complete with 2 pump bearings and water seal rings, oil rings, and collars and set screws for both ends, also 6 extra hollow set screws for collars and wrenches to fit set screws | 1 | \$449.33 | |
| 1 - Only flexible coupling complete to fit pump shaft and motor shaft all for 6" fig. 300 N.E. Pump, Serial #133659, Motor # 14274, 50 H.P., 3 Phase, 60 Cycle, 1800 R.P.M., 2200 Volt | 1 | \$ 55.44 | |
| Catch basins (frame and cover) | 2 | \$25.92 and freight | |
| | 1 | \$ 7.00 | |
| Manhole (frame and cover) | 2 | \$24.84 and freight | |
| 1 Worthington Triple Mower with tractor hitch | 1 | \$750.00 | |
| 1 pr. horses | 2 | \$325.00 and \$75.00 trade in value for old team | |
| S.A.E. lubricating oil | 2 bbls. - 90 gals. | \$ 48.05 per bbl. | |
| (Portage) fine filter sand | 60 bags - 3 ton | \$ 40.43 per ton | |
| 1 - Belt pulley drive for tractor | 1 | \$125.00 | |
| 1 - roll tapax cushion | 1 | \$ 37.40 | |
| 1 - 60 H.P., type HS motor, form C1, 50 deg. C rise, 2200 volt, 3 phase, 60 cycle, 1760 R.P.M. frame H-504-S, Serial No. 338404 | 1 | \$620.40 | |
| 1 - No. 2 Dominion Gearflex coupling | 1 | \$ 38.50 | |
| 1 - Fitting coupling and pressing on shaft by Canadian Westing- house Co. Ltd. | | \$ 24.95 | |

Installation of New Sewers
and
Maintenance of old Sewers
1943

Date

- April 8-17/43 Repairing Sewer break U.N.B. and building manhole on main Sewer University Avenue
- April 28-May 1/43 New Domestic Sewer Gorge Chapman 301 Woodstock Road
- May 3/43 New Domestic Sewer Allan O.Sewell 523 Needham Street
- May 3-6/43 Repairing Sewer from Wash Stand Sandy's Service Station Northumberland Street
- May 10-11/43 Repairing Sewer John Savage 266-268 Brunswick Street
- May 17-18/43 Repairing Sewer Mrs Alice M.Elliott 706 Brunswick Street
- May 20-21 New Domestic Sewer Charles Hazzett 723 Beaverbrook Street
- May 22-June 2/43 New Domestic Sewer National Defence Hospital Woodstock Road
- July 9-12/43 Constructing Manhole foot College Hill on University Avenue
- Oct 5-6/43 New Domestic Sewer Farmers-operative Dairy 488 King Street
- Oct 6/43 Extension Smythe Street Sewer (Main)
- Oct 11-12/43 New Domestic Sewer J.H.Graham Smythe Street
- Oct 16-17/43 Repaired Sewer George Bishop 239 King Street

Installation of New Water Services
and
Maintenance and Repairs to Old Services
1943

| | | |
|---------------|--|----------------------|
| Feb 4/43 | Cora McSorley 582 George Street | Repaired |
| Feb 18-19 | Hydrant Church and Brunswick Street | Repaired |
| Feb 20-24 | Hydrant King and York Streets | Repaired |
| March 10 | George Blank 252 Argyle Street | Repaired |
| Mar. 16-19 | Donald McAdam 779 King Street | Repaired |
| May 3 | Allan O.Sewell 523 Needham Street | New Service |
| May 5-8 | Hay's Service Station 150 Smythe St. | Relaid |
| May 8-12 | C.Hedley Forbes 347 George Street | Relaid |
| May 13-14 | Fred Logue 354 George Street | Relaid |
| May 14-15 | Herbert Leslie 187-189 Brunswick Street | Relaid |
| May 20-21 | Charles Hazlett 723 Beaverbrook St. | New Service |
| May 22-June 2 | National Defence Hospital Woodstock Road | New Service |
| June 3 | Water Gate Maryland Hill | Repaired |
| June 4 | Chief Justice J.H.Barry 751 Brunswick St | Relaid |
| June 5-6 | John E.Page 348 King Street | Relaid |
| June 7 | H.G.Kitchem 129 Westmorland Street | Relaid |
| June 8 | John T.Jennings 614 George Street | Relaid |
| June 9 | Methodist Church Carleton Street | Relaid |
| June 10 | Austin Coyle 531 York Street | Relaid |
| June 12-14 | Murray Patterson 255 Regent Street | Relaid |
| June 15 | T.Moran 255 Smythe Street | Repaired |
| June 16 | Arthur Betts 315 Queen Street | Relaid |
| June 17 | Mrs W.P.Keenan 892 George Street | Relaid |
| June 18 | Clair Glass 434 Charlotte Street | Repaired |
| June 19 | Walter Kitchen 55 Westmorland St. | Relaid |
| June 21 | National Defence #7 Woodstock Road | New Main |
| June 22-23 | W.G.Quinn 378-386 Saunders Street | Relaid |
| July 7/43 | Hydrant Queen St opposite Farrlaine Home | Repaired |
| July 8 | Hydrant Westmorland & George St | Repaired |
| July 12 | William Barber 575 Brunswick St | Repaired |
| July 15-24 | National Defence #7 Depot Wilmot Park | Extension Water Main |
| July 28-29 | H.G.Kitchen 145 Regent St | Repaired |

Installation of New Water Services
and
Maintenance and Repairs to old Services
1943

| | | |
|------------|--|-------------|
| July 28-29 | U.N.B. Water Extension Reservoir | New |
| Aug | U.N.B. Water Extension Reservoir | New |
| Aug 9-10 | Ethel Gorman 206 O'Dell Avenue | Relaid |
| Oct 6 | Water Extension Smythe Street | |
| Oct 11-12 | J.H. Graham Smythe Street Extension | New Service |
| Oct 12-13 | Hon O.S. Crockett 830 George Street | Relaid |
| Oct 14-15 | C.Clowes Patterson 230-232 King Street | Relaid |
| Oct 19-20 | James E. Saunders 239 Aberdeen Street | Relaid |
| Oct 21-23 | T.W. Davidson 268 Regent Street | Relaid |
| Nov 4-5 | Joseph Owens 877 Charlotte Street | Repaired |
| Nov 12-13 | Valley Motor 81 Westmorland Street | Relaid |
| Nov 21-23 | H.H. Lawson 880 Charlotte Street | Relaid |
| Nov 21-23 | Frank Waddelow 868 Charlotte Street | Relaid |
| Nov 23-24 | Annie Bishop 328 King Street | Relaid |
| Nov 25 | City Yard | Repaired |

Stopped Meters.....October 1943

717 Union Street Alexander Murray
154 Regent Street Mrs H.A.Watson
241 Regent Street Mrs W.P.Keenan
322 Regent Street Mrs A.McDougall
338 York Street E.G.Hoyt
448 Queen Street Adam L. Raines(Woolworth Building)
31 Allen Street Charles A.Jewett
160 King Street Ethel Gorman
293 King Street Valley Motor Co.

340 King Street Simon Levine
404 King Street Estey and Curtiss
81 Westmorland Street Valley Motor Co.
101-103 George Street David J.Evans
373 King Street City Dairy
Phoenix Square R.Chestnut and Son(Apt)

Stopped Water Meters.....April Reading 1943

Training Centre.....Hut #33 Quartermasters Stores

Military Depot.....Hut #12 Guard House

Hut #23 H - Hut

Hut #13 Recreation Hut

Hut #26 Hospital Hut

237 Brunswick Street.....Mrs E. Vanwartt

128 George Street.....Mrs R.B. Vandine

434 George Street.....J.H. Calder Estate

313 George Street.....Sam Minue

347 George Street.....Mrs E. Forbes

497 Charlotte Street.....Mrs D.W. Ross

877 Charlotte Street.....Mr Joseph Owens

678 Union Street.....Mrs Rowe

321 Saunders Street.....Miss Areta Gerow

402 Needham Street.....Wilmot Mooers

280 Aberdeen Street.....Mrs Annie Rowan

555 Aberdeen Street.....Mrs H.G. Winters

303 Queen Street.....F.L. Cooper

649 Queen Street.....Irving Oil Co. Ltd

629 King Street.....Roy Ramey

328 Smythe Street.....E.E. Cameron

277 Northumberland Street.....M.Ashfield

221 Regent Street.....Mrs F.C. Creighton

81 York Street.....Merville Fletcher

155 Westmorland Street.....Windsor Hall

278 Waterloo Row.....Dr. Tothill

73 Carleton Street.....Joseph Wilby

University of New Brunswick Engineering Building

Argyle St. John Palmer Co. Meter #4

Queen Street.....Post Office August

Queen Street.....Queen Hotel "

University Avenue.....Beaverbrook Building "
(Large Meter)