

FREDERICTON WATER SUPPLY.

Reports Submitted to City Council

BY PROF. JACK AND DR. MASON.

Some Very Important Recommendations Made.

INTAKE SHOULD BE REMOVED FURTHER UP THE RIVER.

Cost of Suggested Improvements Will be in Excess of \$78,000.

The following report of Prof. Jack, City Engineer, on the water supply of Fredericton, was read at last night's meeting of the city council:

To the Chairman and Members of the Water Committee of the City of Fredericton:

Gentlemen:—In presenting to you my final report on the investigation of our city water supply, it may be well to summarize first the conclusions arrived at in my previous report, (see page 17.)

First—According to official statistics there is a larger death rate in Fredericton from typhoid than there should be, but it has not reached alarming proportions so far.

Second—There is danger of pollution of the present water supply due to discharge of sewers in vicinity rafting operations, etc., when combined with eddies, currents, winds, and tides as existing.

Third—This danger will greatly increase as that portion of the city above Smythe street becomes built up.

Fourth—The danger will be alarming if a sewerage system is introduced, unless the greatest care be exercised in the disposal of that sewerage.

Fifth—The milk supply, the ice supply and polluted wells are also sources from which typhoid may come while filthy surroundings and unsanitary conditions cause the patient to be more susceptible to the typhoid germs.

Sixth—I discussed four methods by which the present supply could be improved:

(1). The construction of a rough stone breakwater so placed as to prevent any eddies with possible sewerage contamination reaching the crib.

(2). The mechanical filtration of the water at the present pumping station.

(3). The construction of a reservoir on the hill back of the city.

(4). The removal of the present crib well and pumping station to a point further up the river.

The first method I stated was not advisable as it was not adequate, (see former report).

The third method I stated to be prohibitory due to excessive cost.

In regard to the second and fourth methods, I stated that it would be unwise to put in a filter plant at present site and also the great future danger from sewers, etc., if we could procure a good quality of water by the removal of the intake.

I also stated that a decision as to the best method to be adopted could not be made until I had received a report from Dr. Mason.

I received Dr. Mason's report about January 10th, and submit his report and also the results of analysis made by him as an appendix to my report.

YOU MAY HAVE KIDNEY TROUBLE.

If your back aches and you suffer from dragging pains it is an evidence of diseased kidneys. Get Ferrozone at once and take it regularly. Ferrozone makes kidney sufferers feel better at once. "I was bothered a great deal with my kidneys last year," writes S. G. Denton of Everett, "but got quick relief from Ferrozone. My trouble manifested itself by pain in the back, dull heavy feeling and constant headache. I quite recovered after using a few boxes of Ferrozone, which has given me more strength and better health than I ever had before. I can recommend Ferrozone as

Dr. Mason in his report corroborates what I have already said in my December report as to the danger of pollution at the present place of intake, and he recommends that the intake be removed upstream to a point a little below Camp Kaskiseboob, or about 1 1/4 miles above present intake. Not only does he recommend the removal of the intake but he also recommends the mechanical filtration of the water obtained from this point.

Referring to my report for December you will note on page 16 that the localities from which samples were taken for analysis by Dr. Mason. Since that time in accordance with Dr. Mason's request, I sent two additional samples taken December 3rd through the ice, one at the intake and the other at Camp Kaskiseboob.

Of the two samples taken at the intake you will note that Dr. Mason found the bacilli coli communis in one but not in the other sample taken at the different time. The same applies to the two samples taken at Kaskiseboob. He also found the bacilli coli communis from samples taken opposite Bodkin's, opposite Dow's camp, at Lunt's ferry, three miles below Woodstock, and just above the intake for the Woodstock water supply. He did not find the bacilli coli communis present in the sample taken from the Keswick river.

I have already discussed the chemical analysis and the same applies very closely to the chemical analysis of Dr. Mason.

In regard to the bacterial analysis, I have already stated on pages 22 of my last report, that the presence of bacillus coli communis probably indicates the presence of sewerage, because this bacillus is present in the intestines and excreta of man. However the mere presence of the bacilli coli communis does not prove absolutely that there is pollution by sewerage. It does, though indicate the probability of pollution and we must then seek from what source this bacilli may come.

For this reason then bacilli coli communis found near the intake and in the proximity of sewers from the city, still further prove the presence of danger.

For this reason then, and also because the supply from the present source will very soon become badly contaminated, I fully agree with Dr. Mason's recommendation to remove the intake about 1 1/4 miles above its present locality. I also think he is justified in his further recommendation to introduce a filtering plant because the results of the analysis does not show as pure a supply of water in the river as I had hoped to obtain.

However to obtain the best judgment of the character of the river water itself the analysis both bacteriological and chemical should extend over a whole year at least, the samples being taken each month and at different places.

I consider it better to get as pure a supply of water as possible and filter it if necessary, than to filter a supply which is in very much greater danger of pollution (due to the character of the surroundings) and which in time is bound to become grossly polluted.

In regard to the filter, I have already spoken of the two main kinds of mechanical filters in my December report pages 18 and 19. The gravity filters seem to give the best results and are the most highly endorsed by experts on mechanical filtration.

In the general form of a plant of this kind the water is first pumped by a low service pump to subsidence tanks where the coagulant (either alum or ferrous sulphate) is introduced. The water then flows out of the top of the subsidence tank and falls in the filter tank. Under the filter tank is the clear water well, which receives the filtered water. The filtered water is then pumped from the clear water well to the mains.

The estimate attached will give you an approximate idea of the cost of undertaking this work. I may say that this estimate is only approximate, but it will be sufficient to guide you in determining whether you wish to undertake the whole work or only part of it.

Personally I would recommend that you remove the intake to a point 1 1/4 miles above its present location in any event, and if you feel that the expense is too great to put in a filter plant at once, I would recommend that you make provision for having one put in at some future date.

I may say that if you are able to save only one life per year, you will save in the cash value of a life, in the doctor's bills, nurse's bills and the loss of work of a patient far more money invested in removing the intake and providing a filter plant.

I remain gentlemen,

Your obedient servant,
E. BRYDONE-JACK,
City Engineer.

Fredericton, Feb. 7, 1905.

COST OF IMPROVEMENTS.

Approximate estimate of cost of removing intake and providing filter plant for city of Fredericton, to accompany report of February 7th, 1905.

ESTIMATE OF REMOVING INTAKE.

Digging trench, calking joints, lead and hemp for same and refilling for 20 in. pipe or 2-12 in. pipes, 10,000 lin. ft. at 60c.	\$ 6,000.00
New pumping station placing engines, boilers, crib well, etc.	15,000.00
10,000 lin. feet, 20 in. cast iron pipe, \$36 per ton	27,400.00
000 lin. feet, 12 in. cast iron pipe	27,400.00
5 per cent. for sundries...	2,420.00
Total for removal.....	\$50,820.00

ESTIMATES FOR FILTER PLANT.

Annex to pumping station for filter plant with clear water well, etc.	\$ 6,000.00
Filtering plant consisting of subsidence tanks and two units 15 ft. diameter, each unit filtering 500,000 gal. daily	9,000.00
Low service pump	10,000.00
5 per cent. for sundries,	750.00
Total for filter plant....	\$25,750.00
Total cost for removal of intake and for filter plant	76,570.00

PAINFUL RHEUMATISM.

How it is Caused by Bad Blood, and Why Cured by Dr. Williams' Pink Pills.

Not many years ago doctors thought rheumatism was only a local pain caused by cold or wet in ageing joints and muscles. Now they know that rheumatism is caused by the blood becoming tainted with uric acid from disordered liver and kidneys. This acid eats into the vital organs. It destroys their vitality, contracts the muscles, stiffens the joints and irritates the nerves. Then cold and wet make every bone groan with aching rheumatism. You blame the weather, but the real cause is acid in the blood. The stiffness spreads and the pains grow worse each year until you are a helpless cripple, tortured day and night. Perhaps the disease may spread to the heart—and that means sudden death. You must not neglect rheumatism—but you can't cure it with liniments, plasters or hot cloths. They cannot possibly touch the blood. The only sure scientific cure is Dr. Williams' Pink Pills, because they actually make new blood. They sweep out the painful acid, loosen the joints and muscles, brace up the nerves and strengthen the liver and kidneys for their work in casting out impurities. This is proved by the thousands of suffering rheumatics who have been made well and strong by Dr. Williams' Pink Pills. Mr. T. H. Smith, of Caledonia, Ont., is one of these many witnesses. He says: "For a number of years I was badly troubled with rheumatism, and was so crippled up I could scarcely do any work. I tried a number of medicines, but they did not help me. I saw Dr. Williams' Pink Pills advertised as a cure for rheumatism and decided to try them. Before the third box was gone I found myself much better. I continued to use the pills throughout the winter and they have completely cured me. I got so I could work on the coldest day without a coat and not feel a twinge of the trouble. I think every rheumatic sufferer should promptly take Dr. Williams' Pink Pills."

Dr. Williams' Pink Pills cure men and women who are crippled with lumbago, rheumatism, sciatica, paralysis and even locomotor ataxia, because they actually make new, rich, red blood. This new blood sweeps the painful, poisonous impurities out of the system and puts the whole body into a healthy state. Nothing but good rich blood can do that—and nothing can give you healing blood except Dr. Williams' Pink Pills. If the blood is bad the nerves are bad, for the nerves feed on the blood. That is the cause of sleeplessness, nervousness, hysteria, St. Vitus dance, neuralgia and loss of vitality in men and women. Dr. Williams' Pink Pills faithfully used cure these diseases and other blood disorders, such as anaemia, biliousness, indigestion, heart troubles, backache, kidney trouble and decline. But you must get the genuine pills. "The 'something else just as good' medicine which some dealers try to persuade their customers to take never cured anything nor anyone. See that the full name, 'Dr. Williams' Pink Pills for Pale People,' is on the wrapper around every box. If in doubt write direct to the Dr. Williams' Medicine Co., Brockville, Ont., and the pills will be mailed at 50c. a box or six boxes for \$2.50.

Monkey Brand Soap cleans kitchen utensils, steel, iron and tinware, knives and forks, and all kinds of cutlery.

THE FIRE RECORD.

Full Text of the Annual Report of Chief Engineer.

READ AT THE MONTHLY MEETING OF THE CITY COUNCIL.

A Total of 53 Alarms Last Year and the Loss was Less Than \$3,000.

To His Worship the Mayor and Aldermen of the city of Fredericton.

Gentlemen:—It again becomes my duty to submit to you for your information, the annual report of the Fire Department for the year ending 31st December, 1904.

As will be seen the Department has responded to 53 alarms during the year, none of which, with perhaps one exception were of a serious or threatening nature. There has been nothing but praise, both from the press and citizens, for the promptness in which the alarms have been answered and the way in which the fires have been managed.

The insurance losses for the year have amounted to only \$2,763, which ought to be a sufficient reply to the Underwriters why the insurance rates should be lessened instead of being increased.

In my report last year I referred to certain changes in the Department that I considered necessary which would simplify matters and would not in any way interfere with the efficiency of the department, but on the contrary make it more efficient and more satisfactory to those members of the department who promptly respond to the call of duty. I was requested to withdraw my communication until this year and now intend to bring the matter before the Fire Committee of the next Board.

The hose, some 3,500 feet is in a satisfactory condition, and during the year has not shown any sign of weakness. This shows that this important part of the department has been carefully and well looked after.

To show the power of the Water Works and the efficiency of the Fire Department, without any previous notice the engineers of the Water Works or the members of the department, His Worship Mayor Palmer caused a general alarm to be rung in from box 21 opposite the City Hall and in a short space of time three streams were playing on the building. Shortly after an alarm was sent in from box 34 where another line was run out opposite the Post Office, and on an alarm from box 44 another line was run out from the hydrant near the Court House. With the five streams going at the same time, the last one easily threw a stream over the Queen Hotel. The object was for the purpose of showing that it was possible to fight fires in different parts of the city at the same time with a plentiful supply of water and of sufficient force.

The new fire alarm, as the citizens well know who live in the vicinity, has been placed on the Electric Light Station on Carleton street, where there is a plentiful supply of steam, night and day, to operate it. It is a powerful whistle and answers the purpose well for alarming the firemen and those who reside in the lower or back part of the city.

In connection with my duties as Fire Inspector, I beg to report that I visited regularly those places I considered dangerous, and where fires, under certain conditions, might possibly occur, and gave such instructions as I considered necessary which were made in all cases safe from sparks or other causes. Where there has been accumulations of waste paper, &c., in rear of business places, I have had them removed and carted to the dump.

The following are the "calls" answered by the department and the insurance paid during the year: roof of residence of Rev. F. C. Hartley. Damage slight.

JANUARY.

4th—Box 28, 2 p. m., burning chimney.
7th—Box 35, 2 a. m., Blue shanty.
20th—Box 28, 3.40 p. m., curtain fire at residence of William Hawkins.
24th—Box 53, 3.10 p. m., fire at residence of W. E. Smith, Church street. Damage to building, \$178, and to library and furniture, \$200. Insured.

FEBRUARY.

5th—Box 37, 10 p. m., burning chimney.
24th—Box 46, 1 p. m., fire at Charlotte street school house. Damage \$30. Insured.

MARCH.

2nd—Box 38, 1 a. m., fire at Blue shanty. Building destroyed.

13th—Box 23, 3.15 p. m., fire on 13th—Box 46, 5 p. m., burning chimney.
25th—7.30 a. m., still alarm from residence of James S. Beck.

APRIL.

7th—Box 38, 9.50 a. m., fire at O'Neill tenement on King street. Damage \$105. Insured.
7th—Box 27, 3.15 p. m., fire on roof of Cooper's factory. No damage.
13th—Box 38, 9 a. m., fire on roof of residence of William Lemont. Damage to building \$163 and to carpets \$33. Insured.
19th—Box 46, 3 p. m., grass fire at Queen's Square.
21st—Box 17, 3.15 p. m., fire at dwelling owned by Mayor Palmer on Queen street. Damage \$60. Insured.
21st—Box 17, 11.30 p. m., fire at John Palmer & Co's tannery on Queen street. Damage to building and stock \$514. Insured.
23rd—Box 53, 4.15 p. m., grass fire at U. N. B. grounds.

MAY.

5th—Box 23, 11 a. m., burning chimney at residence of Dr Atherton. Damage \$70. Insured.
6th—Box 28, 4.30 p. m., grass fire near C. P. R. station.
6th—Box 28, 5.15 p. m., grass fire in rear of Purdy property, Needham street.
17th—Box 25, 3.30 p. m., burning chimney.
18th—Box 44—11 a. m., fire at old parliament building owned by Mrs. Sege. Damage \$111. Insured.
20th—Still alarm from Morgan & Co's factory.
30th—Box 44, 7.30 a. m., fire on roof of residence of William Lemont. Damage \$18. Insured.

JUNE.

2nd—Box 38, 1.30 p. m., fire on roof of Dairy Depot. No damage.
19th—Box 46, 7.20 p. m., fire in barn of J. R. Howie, Jr's residence. Damage \$200. Insured.

JULY.

2nd—Box 53, 11 p. m., false alarm.
11th—Box 55, 2.00 p. m., fire on railway bridge.
23rd—Box 36, 9.10 a. m., fire on roof of ell of Thomas Feeney's residence. Damage slight.
25th—Box 46, false alarm about midnight.

AUGUST.

19th—Box 14, 4.45 p. m., fire on roof of Victoria hospital. Damage slight.
23rd—Box 24, 2 p. m., fire on roof of Orange Hall. Damage slight.

SEPTEMBER.

7th—Box 26, 10.20 a. m., fire on roof of residence of William Ferguson, Saunders street. Damage slight.
21st—Box 54, 10 p. m., for bonfire.
22nd—Box 25, 7.30 a. m., unnecessary alarm.

OCTOBER.

4th—Box 35, 5.40 p. m., unnecessary alarm.
11th—Box 38, 12.40 p. m., fire in stables occupied by H. C. Jewett on Regent street. Damage \$90. Insured.
24th—Box 55, 4 p. m., fire at residence of C. F. Randolph, corner of Waterloo Row and University Ave. Damage \$420. Insured.

NOVEMBER.

1st—Box 44, 6.20 p. m., from Departmental building. Unnecessary alarm.
8th—Box 46, 5.40 p. m., burning chimney.
10th—Box 38, 2.20 a. m., fire in stable occupied by H. C. Jewett, Regent street. Damage to barn, \$100. Insured. Three horses were rescued but two were so badly burned that they had to be shot.
17th—Box 26, 9.30 a. m., burning chimney.
25th—Box 36, 6.30 p. m., slight fire at residence of D. Campbell, Charlotte street. No damage.

DECEMBER.

2nd—Box 14, 6.25 p. m., burning chimney.
2nd—Box 24, 6.40 p. m., burning chimney.
6th—Box 28, 3 p. m., burning chimney.
12th—Box 35, 6.10 p. m., fire on roof of N. B. foundry. Damage \$22. Insured.
14th—Still alarm from residence of H. G. Veness.
16th—Still alarm from residence of Rev. J. H. MacDonald.
17th—Box 26, 9.10 p. m., burning chimney.
22nd—Box 25, 7 a. m., burning chimney.
23rd—Box 38, 7.35 p. m., fire at residence of Mrs. Nichols, King street. Damage to building \$384, and to furniture \$65. Insured.

Respectfully submitted,

ANDREW LIPSETT,
Chief Engineer F. D.
Fredericton, Feb. 7th, 1905.

In the spring and in the fall a good flesh building tonic is required whenever weakness or loss of weight is apparent. "The D & L" Emulsion will be found admirable for this purpose.