

REPORT ON WATER SUPPLY AND FIRE-FIGHTING APPLIANCES OF VICTORIA, B.C.

An exhaustive report on the water supply and fire fighting appliances of the city of Victoria and district has been prepared by Mr. H. R. Page, secretary-treasurer of the Vancouver Island Fire Underwriters' Association.

The report expresses the opinion that a conflagration hazard exists in Victoria owing to the narrowness of the streets in some instances, and the congested condition of a number of the mercantile blocks, which are solidly built up and lack lanes or other modes of access to the rear of the buildings.

The report considers there is no conflagration hazard in Oak Bay, but the abandoned shacks at Wharf Street, Esquimalt, are a danger.

The fire losses, the report says, have been rather severe during the past few years, the losses paid by insurance companies being as follows:—

1909	\$ 74,435 00
1910	582,975 00
1911	128,377 00
1912 (to end of October)	128,584 00

Total \$914,471 00

or roughly calculated, slightly more than 60 per cent. of premiums received during the same period.

The Victoria city council decided to refer the report to the fire wardens, fire chief and water commissioner.

The mayor remarked that they would search in vain for any reference to the reduction of premiums. They had doubled in the last 18 years, steadily advancing from time to time as the city improved the fire brigade equipment.

The following findings of the report contain the observations of Mr. Page on the application of the city's apparatus to cope with an emergency:—

"The consumption has outgrown both the supply and capacities of the supply mains and pumps; at the present moment, with the Beaver Lake and North Dairy pumping stations in operation to the limit of their output, which equals approximately $4\frac{1}{2}$ million gallons per 24 hours, there is a gradual drop of the water stored in Smith's Hill reservoir.

"This during a season when the consumption is probably at its minimum, promises a serious condition of affairs during the coming summer unless some provision is immediately made for increasing the supply.

"Further, the supply mains mentioned in this report are single lines, and have been laid for a period of 20 years or more, also the pumping units are not in duplicate, and should the larger pump at the North Dairy station, which has been steadily in commission for the past year, become inoperative through any cause, the city, or a large portion of it, would be without water for domestic purposes.

"The attention of the civic authorities has been drawn to these matters at different times during the past three years, and beyond repairing of the reservoir no material improvements have been made towards insuring an adequate domestic supply.

"It is proposed, and the work is at present under way, to bring water from Sooke Lake, some 27 miles distant; but this work, at the present rate of progress, will not be completed before 1914. It therefore becomes necessary to make some temporary provision, the two most feasible propositions being to lay a new supply main from Elk Lake to Smith's Hill reservoir and install additional pumping machinery at the North Dairy station, or connect the 36-inch main now laid on Gorge road with the Esquimalt Water Works Company's main. Should the latter course, which would appear the most simple, be adopted, the actual work of connection could be completed within two months, but under their charter the Esquimalt Water Works Company are privileged to demand 15 months' notice

before such connection can be made, and also that a minimum of 500,000 gallons of water per day, at the rate of 6c per thousand gallons, be accepted for a period of not less than five years. Taking it for granted that the period of notice be waived by the company, and that the joint trouble in their supply main has been remedied, and considering that the head is sufficient to supply Smith's Hill reservoir without recourse to pumping, and the quality of the water unquestionably superior to that of Elk Lake, the latter proposition should be preferable.

"A large percentage of 4-inch pipe has been laid in James Bay district, and the section between Hillside, Tolmie, Victoria and Sidney Railway and Cook Street being particularly bad in this respect.

"The hydrants in some dwelling sections are widely scattered, while in the outlying business area the distances between hydrants runs as high as 500 feet. In such blocks intervening hydrants should be installed.

"When taking pressure tests, a number of hydrants were found in poor condition, three within the business area being entirely out of commission. A thorough inspection is recommended of all hydrants and also that all faulty ones be replaced by an approved pattern of hydrant having a steamer connection, and also that where the main permits, the branch connections be not less than 6-inch.

"Service mains running parallel on Wharf, Government, Douglas and Blanchard Streets would be materially assisted if cross connected, say, at Discovery, Cormorant and View Streets, also more gate valves should be provided; under present conditions a break in any one of these pipes during fire service would cause serious delay owing to the distance apart of the salt water hydrants in an easterly and westerly direction.

"As before stated, the salt water mains, when not in commission, are kept filled with fresh water and connected to the domestic system. In order not to waste the 65,000 gallons required to fill the system after service, the high pressure pumps are not started until a second alarm is sent in. As the steamers frequently connect to the high pressure hydrants for suction, there would appear to be a possibility of serious consequences in the event of a fire getting out of hand during the interval between releasing the steamer and changing the hose lines to the salt water hydrants. However, this is a matter that will be remedied when the scarcity of fresh water ceases to be a factor for consideration.

"The wires carrying the current from the British Columbia Electric sub-station to the salt water pumping plant should be in duplicate and underground in conduit, and kept live at all times, thus doing away with the manual agency at the sub-station. These wires should also enter the pump room direct, without passing through workshop and room in which the distributing tower is located.

"At time of inspection the North Dairy pumping station was practically without fire protection, one fifty-foot length of hose without a nozzle being the only equipment on hand. The two adjacent fire plugs should have hose and nozzles permanently attached.

"This department has kept pace with the growth of the city, the equipment being fully modern and organization good. The strength of the brigade has doubled in the past three years.

"The headquarters station is located in a poor class of building, originally constructed for a market. This constitutes a serious hazard to the alarm system, the central station of which is located at this building. Should a new fire hall not be contemplated within reasonable time, it would be as well to have the alarm equipment housed in a separate fireproof building.

"The city by-law re electric wiring is incomplete and elastic, the system of inspection inefficient; on the whole, however, the new work is comparatively good, but a large amount of old wiring should be condemned.