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DEPARTMENT OF THE INTERIOR, CANADA
DOMINION WATER POWER AND RECLAMATION SERVICE

REPORT

Re

CONSTRUCTION OF SEWAGE DISPOSAL PLANT

At

THE KAMLOOPS INDUSTRIAL SCHOOL

By

E.H.Tredcroft.

C.E.Webb, Esq.,
Dist. Chief Engineer,
Dom.Water Power & Reclam.Service,
Dept. of the Interior,
Vancouver, B.C.

Vancouver, B.C.,
Jan. 20, 1926.

Indian Affairs (RG 10 Volume 6450, file 882-9, part 2)

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REPORT

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Construction of Sewage Disposal Plant

at

The Kamloops Industrial School,

Kamloops, B.C.

Prepared for the
Department of Indian Affairs,

by E.H. Tredcroft
Division Engineer,

Dom. Water Power & Reclamation Service,

Kamloops, B.C.

January 20, 1926.

Sir:-

I have the honour to inform you that in accordance with instructions received from your office construction of a sewage disposal plant for the Kamloops Industrial School was undertaken by this office, and that the sewage plant has been duly completed, the following being my report thereon:-

INTRODUCTION -

The new Kamloops Industrial School, which is being built in three sections, is at the present time only partially completed, the east wing and centre portion having been finished, while the west wing has yet to be constructed. When finished, this institution will be capable of housing 250 persons.

SEWAGE SYSTEM -

GENERAL DESCRIPTION-

The sewage system was designed to take care

of a flow of

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of a flow of sewage amounting to 10,000 U. S. gallons per day, or 40 U. S. gallons per capita per diem; this amount being equal to the average daily consumption of water per head in institutions of this kind. It is what is known as the septic tank sub-surface irrigation system, and consists of a reinforced concrete septic tank connected by means of a sewer pipe with two disposal beds composed of 4" diameter open-jointed land tile, laid 3'6" below the surface of the ground. The original intention was to lay this land tile at a depth of 18" only below the surface to provide better aeration of the soil, but the nature of the ground was found after excavation had been commenced to be such that a greater depth was considered necessary.

SEPTIC TANK -

The septic tank, which is constructed of reinforced concrete, is situated at a depth of 3 feet below the surface of the ground to avoid danger of freezing. It is divided by a wall into two compartments, one called a settling chamber, which is the septic part of the tank, and the other called a siphon chamber, in which the effluent is collected and intermittently discharged to the disposal beds.

The settling chamber is of the following dimensions: 15' x 7' x 9'6" deep, and is connected by means of a 3 foot overflow weir with the siphon chamber having the following dimensions: 15' x 7' x 6'6" deep. This siphon chamber is equipped with an automatic siphon which discharges when the effluent in the chamber reaches a depth of 3'6"; and therefore discharges four times a day under normal load.

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The settling chamber has a capacity of 5,900 U. S. gallons, equal to 13 hours flow, and the detention period is therefore 13 hours, with a rate of flow through the chamber of 6" per hour.

Drains have been provided in each chamber to permit of the tank being emptied and cleaned when required.

Vent pipes, manholes, ladders, overflow pipe, etc., have been provided and arranged as shown on the accompanying plan.

SEWER PIPES-

The sewage is carried from the school by means of four 4" diameter vitrified sewer pipes to the main inspection chamber which is situated 85 feet from the school. From this point it is transferred by means of one 8" diameter sewer pipe to the septic tank. On each of the two outside sewer lines additional concrete inspection chambers have been installed, close to the school building, to provide against a possible stoppage in the pipes at this point. (See accompanying plan).

INSPECTION CHAMBER -

The main inspection chamber is of reinforced concrete and so placed that it is equi-distant between the school and septic tank. All pipes entering this chamber are laid on straight lines and even grades to allow of easy cleaning should the pipes at any time become clogged.

DISCHARGE PIPE-

The discharge pipe from the septic tank to the disposal beds is 6" diameter vitrified sewer pipe,

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210 feet in length, laid to a grade of .005 and is straight and free from bends. It is called upon to discharge approximately 2500 U. S. gallons every four hours and is large enough to ensure the effluent reaching the farthest part of the disposal beds, thus avoiding oversaturation of the ground at any place.

DISPOSAL BEDS-

The disposal beds, which are two in number, consist of 4" diameter land tile laid to conform with the contours of the ground on a grade of .003 and 3'6" below the surface of the ground.

The east bed consists of 2,000 lineal feet of land tile, while the west bed comprises 1,500 lineal feet. (See accompanying plan.) These two amounts in all make a total length of 3,500 lineal feet, which amount is less than it was originally proposed, the reason being that the excellent nature of the ground which was encountered at a depth of 3'6" made it unnecessary to install the full amount,

CONSTRUCTION-

Construction of the above plant was carried out by contract under the supervision of this office, the contractors for the plant being The Kamloops Plumbing and Heating Company of Kamloops, B. C., and the time occupied in completing the work amounted in all to a total of 77 working days.

COST-

The total cost of the above project amounted to $3,313.28, whereas the original estimate called for an expenditure of $3,700.00

REMARKS-

The above work was carried out during the months of

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months of October, November and December, 1924, and has at this date been in constant use for a period of 12 months, during which time it has apparently given every satisfaction.

Your obedient servant,

E.H. Tredcroft (sgd)

Division Engineer.

C.E.Webb, Esq.,
District Chief Engineer,
Dom.Water Power & Reclam.Service,
119 Pender St.West,
Vancouver, B.C.

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SOUTH THOMPSON RIVER

PLAN OF SEWAGE DISPOSAL SYSTEM
KAMLOOPS INDIAN SCHOOL
KAMLOOPS B.C.

Scale 1 in = 40'

Disposal Beds
4 Sq. Open Jointed Tiles Type

Prepared For Department of Indian Affairs
by
Department of Interior
Dominion Water Power Branch
Prepared by E.H. Trevecraft
Approved by [illegible]
District Chief Eng

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