

pipe (grade .01) a distance of 200 feet to the septic tank.

INSPECTION CHAMBER-

The inspection chamber will be of reinforced concrete and so placed that all pipes entering this chamber will be laid on straight lines and even grades to allow of easy cleaning should they at any time become clogged.

DISCHARGE PIPE-

The discharge pipe from the septic tank to the Fraser River will be 4" diameter vitrified sewer pipe, 100 feet in length, laid to a grade of .01 and will be straight and free from bends.

It will be called upon to discharge approximately 1,500 U.S. gallons every four hours.

SLUDGE REMOVAL-

The septic tank should be cleaned approximately once every twelve months and this operation can easily be performed by means of the removable wooden covering provided for in the design and which runs the full length of the settling chamber. (See accompanying plan)

COST-

The total cost of constructing the above sewage disposal plant will amount to \$5,010.00, and no further expenditure for either operation or maintenance should be required other than a charge of approximately \$5.00

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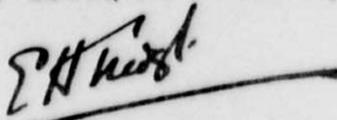
POOR-COPY

imately \$5.00 per year for cleaning of  
the septic tank.

REMARKS:-

In view of the above consider-  
ations and after a thorough examination  
of conditions, I would respectfully re-  
commend that a sewage disposal plant be  
installed at the new Lytton Industrial  
School as outlined in this report.

Your obedient servant,



E. H. Tredercroft,  
Division Engineer.

C. E. Webb, Esq.,  
District Chief Engineer,  
Water Power and Reclamation Service,  
739 Hastings Street West,  
Vancouver, B. C.

EHT/H

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APPENDIX "A"

DETAILED ESTIMATE OF COST.

Excavation and Backfilling

Septic tank	140 cu.yds.	
Inspection chamber	12 cu.yds.	
Pipe lines	<u>250</u> cu.yds.	
Total	402 cu.yds. @ 80¢	\$ 322.00

Reinforced Concrete Septic Tank

35 cu.yds. @ \$35.00	1,155.00
----------------------	----------

Reinforced Concrete Inspection Chamber

6 cu.yds. @ \$35.00	198.00
---------------------	--------

Material and Fittings

Including sewer pipe, cast iron pipe, valves, siphon, ladders, miscellaneous fittings, etc.	480.00
---	--------

Labour

Laying sewer pipe, installing fittings, etc.	160.00
--	--------

Freight and Cartage

90.00

Tools

100.00

Supervision

250.00

Extras

275.00

TOTAL

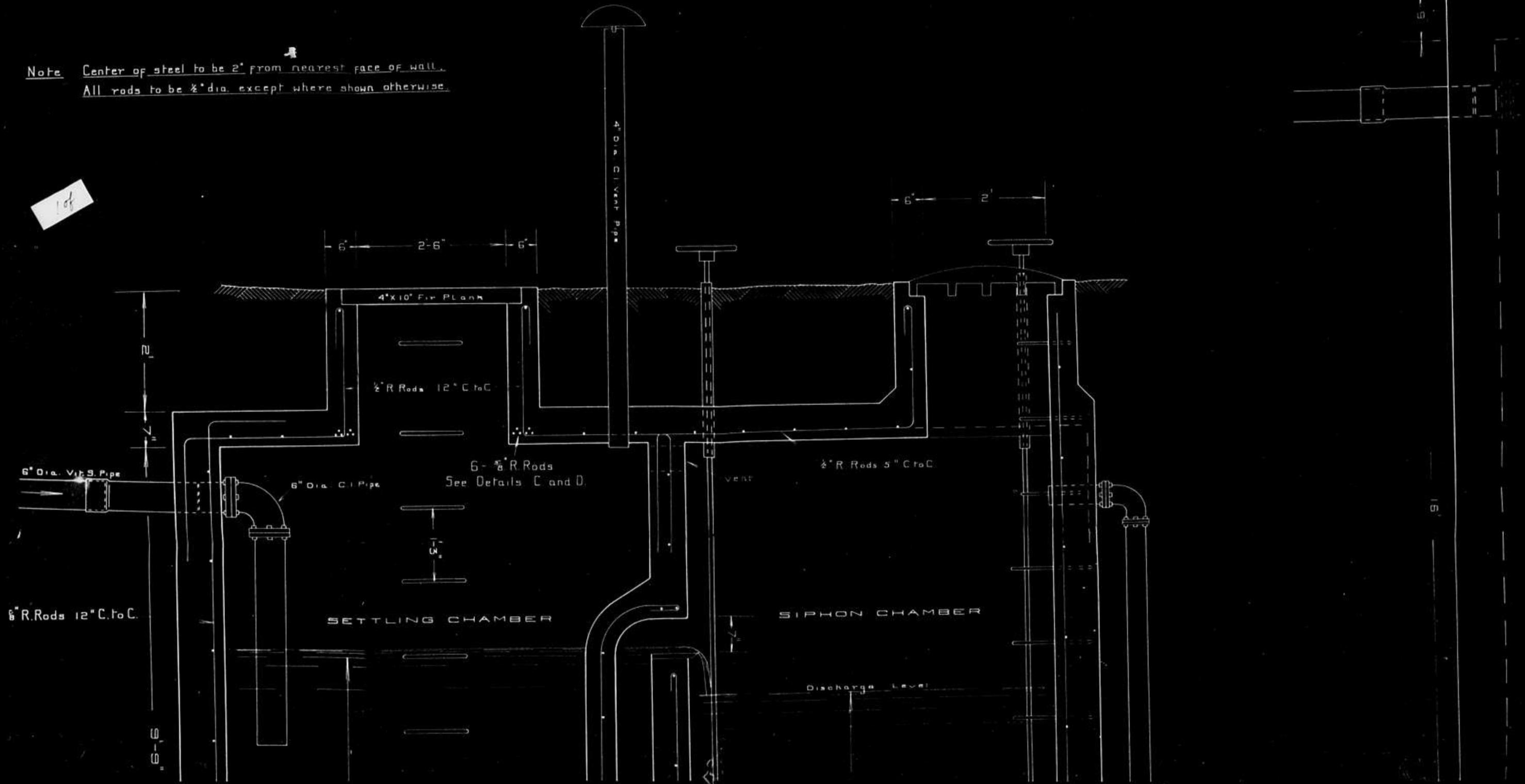
\$5,010.00

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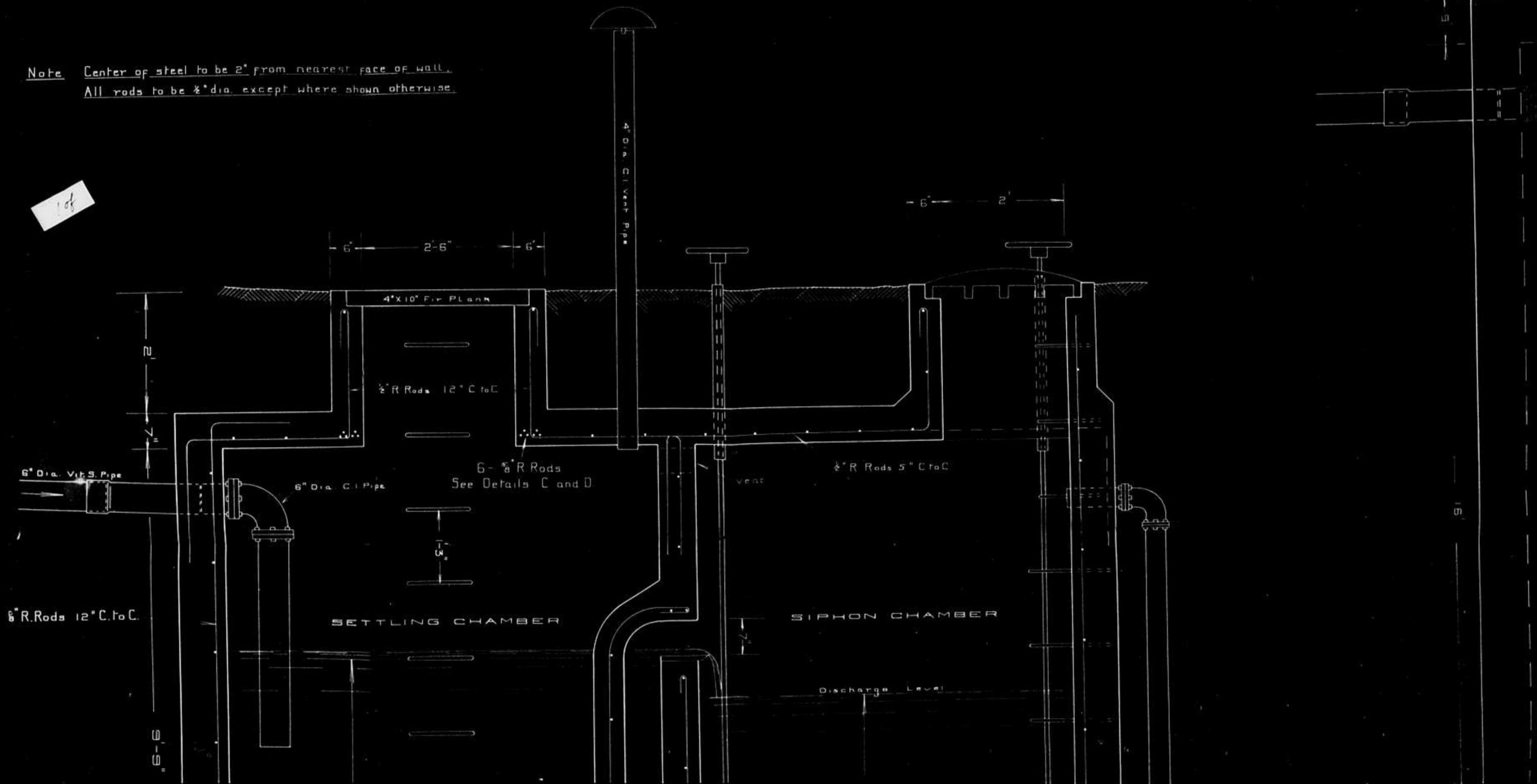
POOR COPY

Note Center of steel to be 2" from nearest face of wall.  
 All rods to be 1/2" dia. except where shown otherwise.

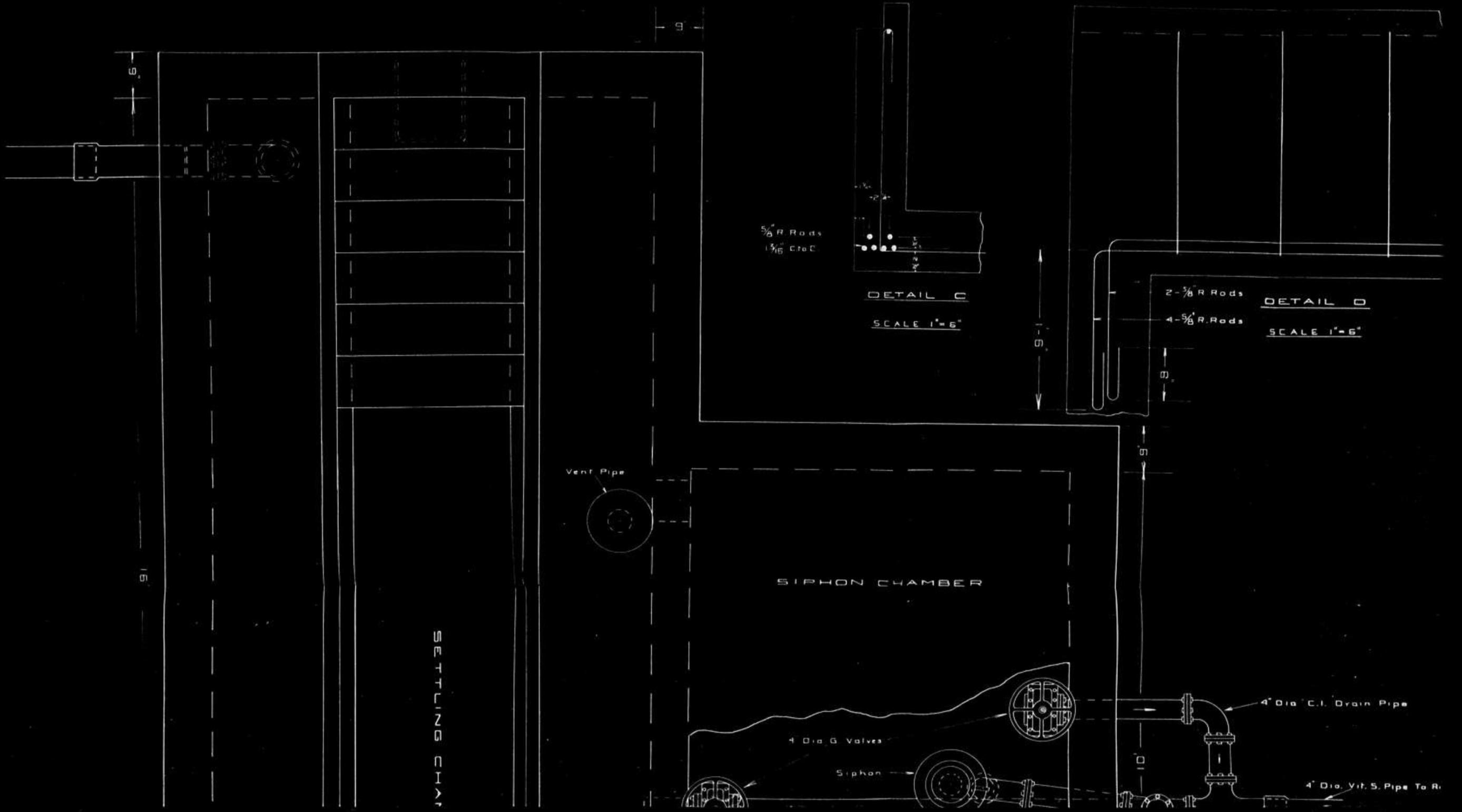


1 of

Note Center of steel to be 2" from nearest face of wall.  
 All rods to be 1/2" dia. except where shown otherwise.



2 of



SETTLING CHAMBER

SIPHON CHAMBER

DETAIL C

SCALE 1"=6"

DETAIL D

SCALE 1"=6"

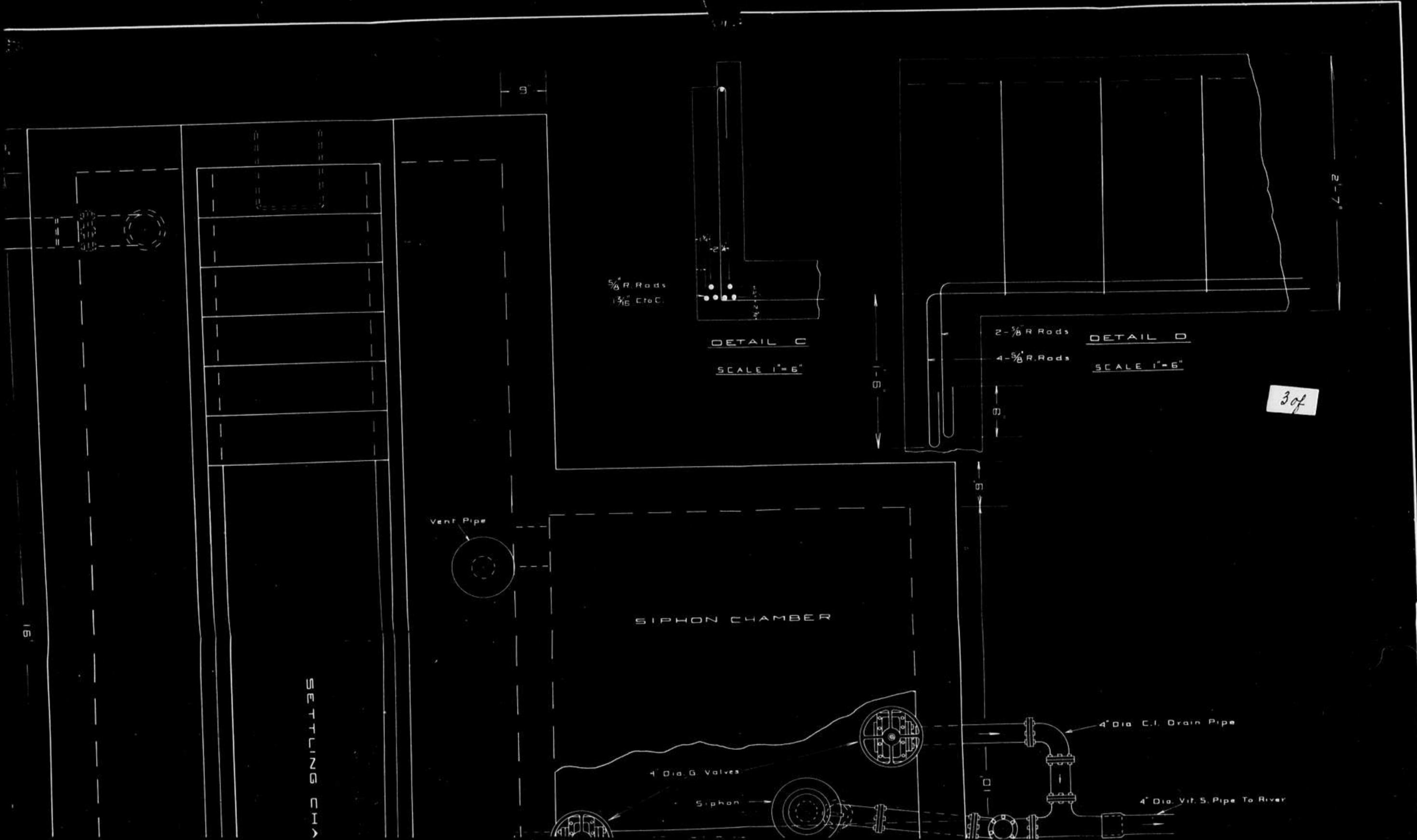
Vent Pipe

4 Dia. G. Valves

Siphon

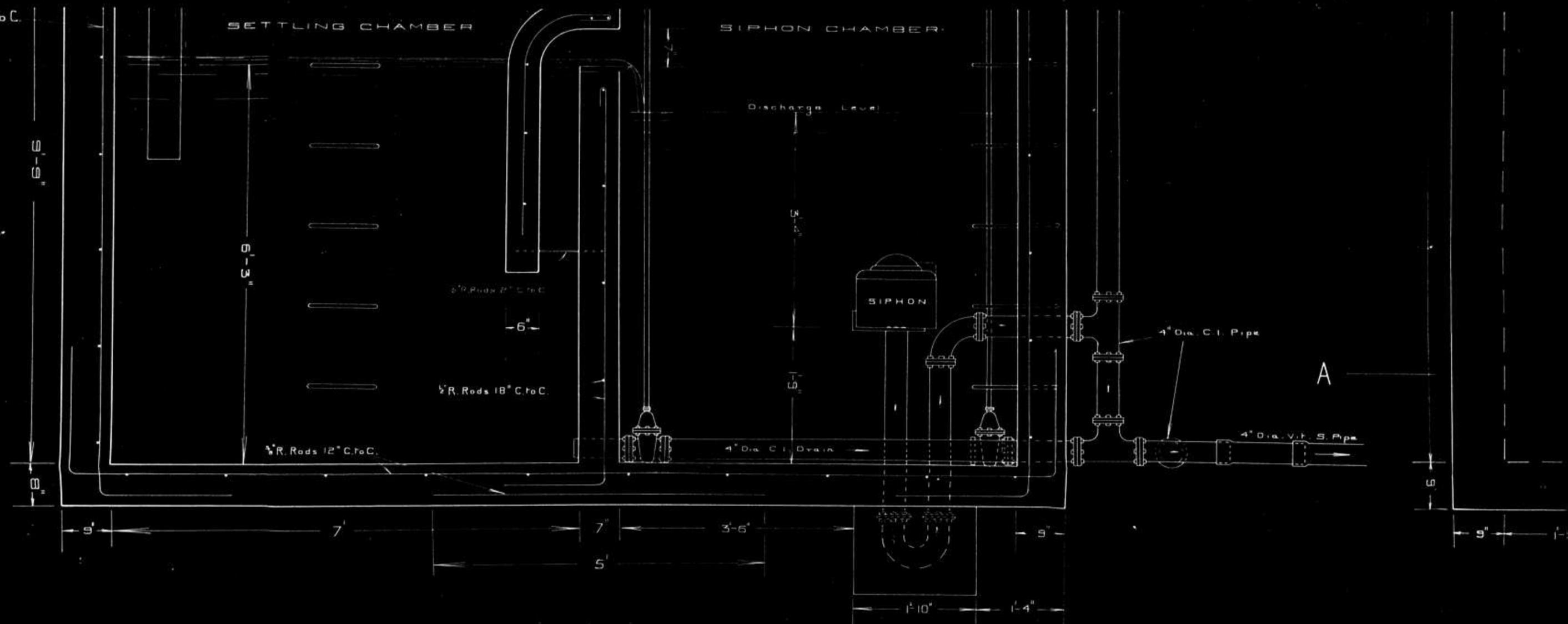
4" Dia. C.I. Drain Pipe

4" Dia. Vit. 5. Pipe To R.



5/8" R.Rods 12" C.to C.

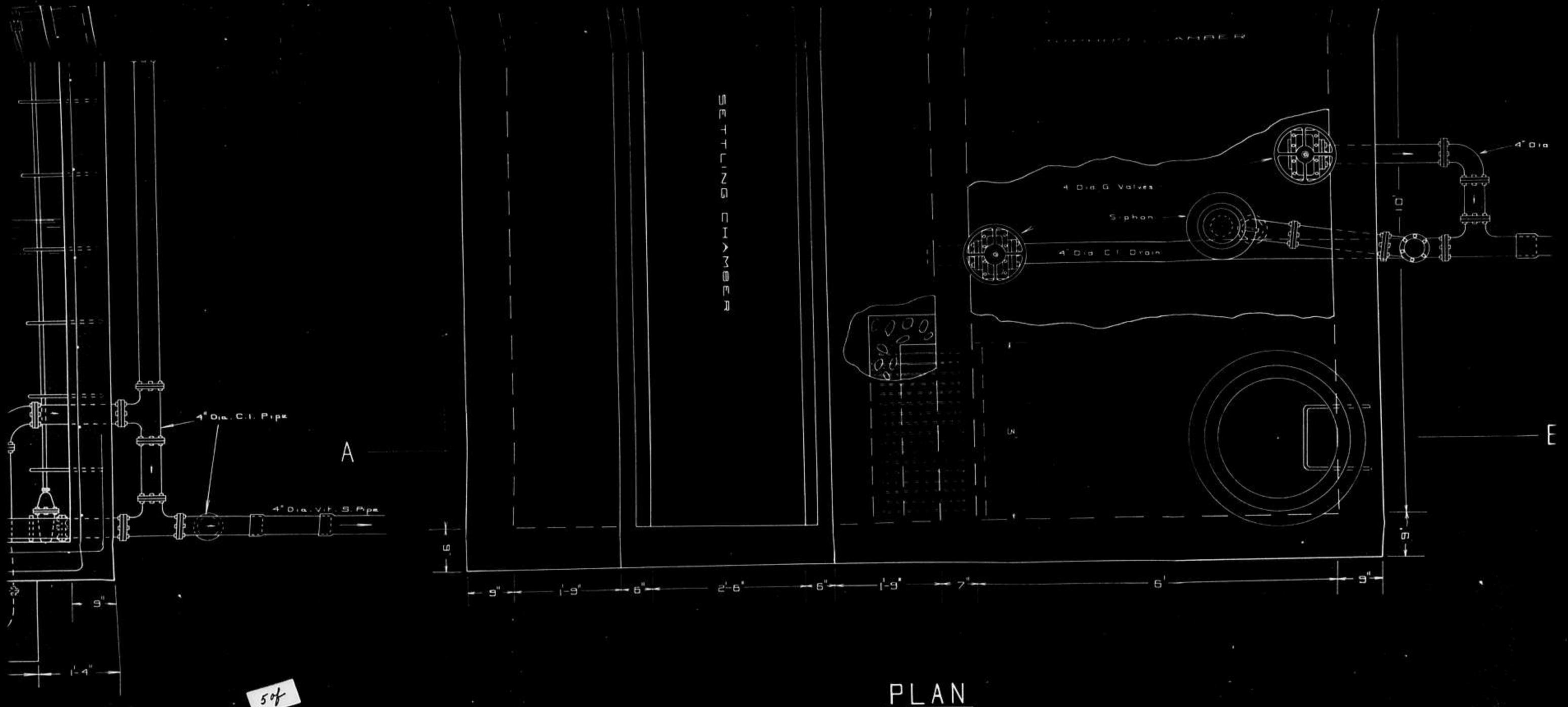
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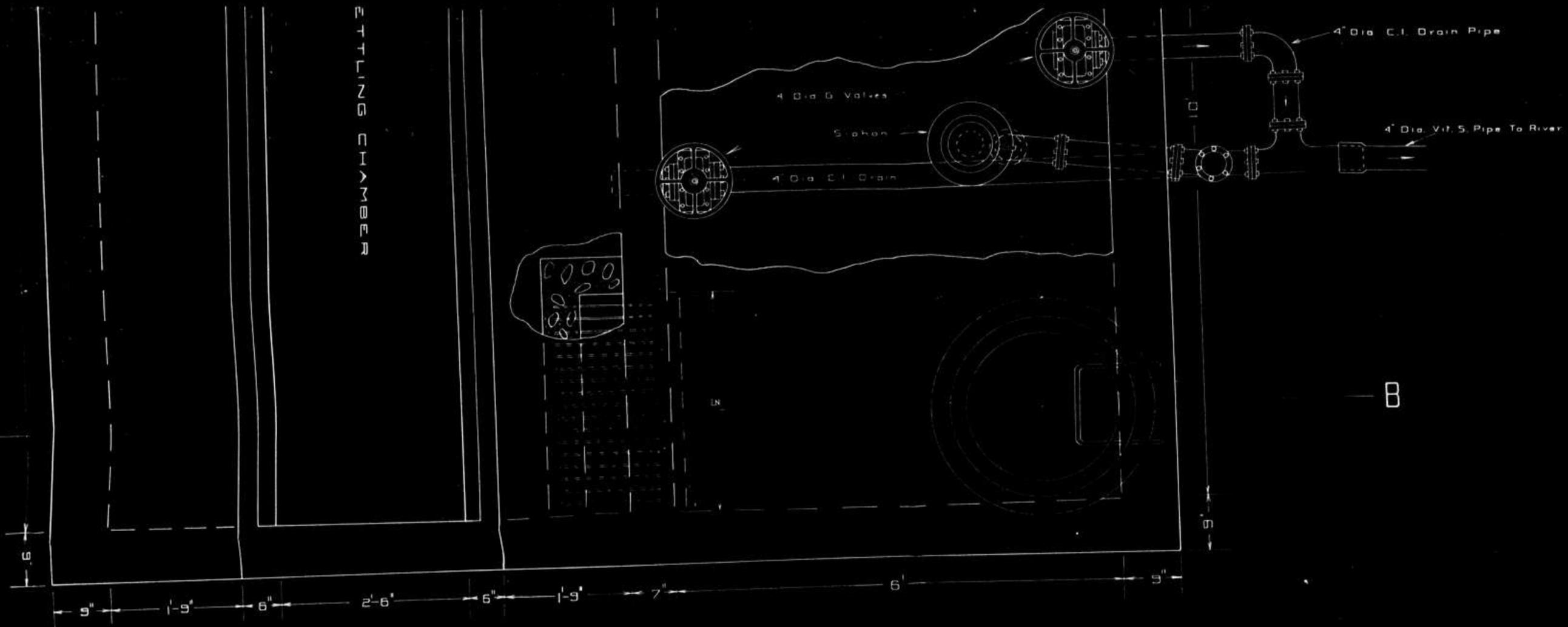
SECTION THROUGH A-B

—PLAN—  
 OF  
 —PROPOSED SEPTIC TANK—  
 —LYTTON INDUSTRIAL SCHOOL—  
 —SEWAGE DISPOSAL SYSTEM—

SCALE 1"=10"



PREPARED FOR  
 DEPARTMENT  
 DEPARTMENT  
 DOMINION  
 AND RECL.



PLAN

60/6

PREPARED FOR  
 DEPARTMENT OF INDIAN AFFAIRS  
 BY  
 DEPARTMENT OF INTERIOR  
 DOMINION WATER POWER  
 AND RECLAMATION SERVICE  
 KAMLOOPS, B.C.  
 MAY 20 - 1926.  
 DESIGNED BY E.H. TREDGROFT  
 DIV. ENG.  
 APPROVED BY *G.F.W. 66*  
 DIST. CHIEF ENG.

# 1002



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

R E P O R T

re

PROPOSED WATER SUPPLY

LYTTON INDUSTRIAL SCHOOL

LYTTON, B.C.

By

E. H. TRECROFT

C.E. Webb, Esq.,  
District Chief Engineer,  
Dom. Water Power & Reclam. Service,  
739 Hastings Street, West,  
Vancouver, B.C.

Kamloops, B.C.,  
May 20, 1926.

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J. 2543. w. "a"

R E P O R T

re

PROPOSED WATER SUPPLY

LYTTON INDUSTRIAL SCHOOL

LYTTON, B.C.

By

E. H. TRELCROFT

Kamloops, B.C.,  
May 20, 1926.

Indian Affairs (RG 10 Volume 6464, file 888-5, part 1)

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REPORT  
re  
Proposed Water Supply,  
Lytton Industrial School,  
Lytton, B. C.

Prepared for  
Department of Indian Affairs,  
by  
E. H. Tredcroft,  
Division Engineer,  
Dominion Water Power and  
Reclamation Service,  
Kamloops, B. C.

May 20th., 1926.

INTRODUCTION-

The new Lytton Industrial School will be situated on the south bank of the Fraser River, a distance of 4 miles above the Town of Lytton and approximately 1,600 feet from the present old school buildings. (See accompanying plan)

It will be a semi-fireproof brick building and when completed will be capable of housing 175 persons.

WATER REQUIREMENTS FOR  
DOMESTIC PURPOSES-

The maximum daily water require-  
ments for domestic

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ments for domestic purposes in this institution, assuming 175 persons resident in the building, will amount to 40 U.S. gallons per capita, or a total of 6,000 U.S. gallons per day.

WATER REQUIREMENTS FOR  
FIRE PROTECTION PURPOSES-

The new building will have a value when finished of more than \$100,000.00, and should therefore be supplied with sufficient water to afford protection in the event of fire.

The minimum amount of water necessary to afford proper protection to a building of this kind is 500 U.S. g.p.m. (i.e., 2 standard fire streams of 240 U.S. g.p.m. each, playing simultaneously). This amount should be available for a considerable period in order that a possible outbreak of fire, no matter how severe, may be subdued.

POSSIBLE SOURCES OF WATER SUPPLY-

The only possible sources of water supply available for the new school building which can be obtained, other than by pumping from the Fraser River, which, owing to the great height of the school above the river (400 feet) and the lack of electric power available in this vicinity, would be too expensive, is from two springs, one situated on the Lytton Indian Reserve No. 21 and the other on Lot 11, as shown on the accompanying plan.

DESCRIPTION OF SPRINGS-

Spring on Lot 11.

The spring situated on Lot 11,  
while it supplies

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while it supplies water at the present time to the school barn, does not have sufficient flow during certain seasons of the year to warrant the installation of any expensive reservoir or other collecting works, in order to provide water for fire and domestic purposes in the new school building; and in addition the 4" diameter wood-stave pipe which at the present time conveys this water from the spring to the barn is not of a sufficiently large diameter to provide water at a high enough rate should same be required for fire protection purposes at any time in the future.

This 4" diameter pipe, which has now been in use for several years, is in bad condition and considerable trouble from leakage has been experienced during the past season.

It is, therefore, considered advisable to abandon this spring on Lot 11 for any except farm purposes and to install a concrete reservoir to be used for fire protection and domestic purposes near the spring situated on the Lytton Indian Reserve No. 21 (see accompanying plan) rather than to attempt to replace the existing 4" diameter pipe and make use of the spring on Lot 11.

Spring on Lytton Indian Reserve No. 21.

The spring situated on Lytton Indian Reserve No. 21 is located approximately 250 feet above the main Lytton to Lillooet highway (see accompanying plan) and has, from

information obtained

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information obtained from reliable persons familiar with this district, a sufficient flow during all seasons of the year to provide water for school purposes.

It is therefore proposed to utilize this spring in order to supply water for the new school building.

PROPOSED WORKS-

The proposed works will be as follows:

A small concrete dam will be constructed and water will be diverted from the above spring at a point 250 feet above the main highway (see accompanying plan). From this point it will be carried by means of a 6" diameter wood-stave pipe a distance of 600 feet to a reinforced concrete reservoir situated on the high ground north-east of the new school.

The proposed reservoir, which will be of reinforced concrete construction, will be 25' x 12' x 12', inside dimensions, and will have a capacity when full of 25,000 U.S. gallons.

From this reservoir the water will be conveyed through 1,700 lineal feet of 6" diameter wood-stave pipe to the school building, where it will be used for both domestic and fire protection purposes.

FIRE PROTECTION-

The elevation of the surface of the water in the proposed reservoir will be 160.00 and the elevation of the ground floor of the proposed school

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proposed school will be 0.00, which will give a static pressure at any one of the proposed four hydrants situated in the vicinity of the school of 69 pounds per square inch.

From the above it will be seen that should an outbreak of fire occur a total of 25,000 U.S. gallons of water will be instantly available at a pressure of approximately 52 pounds per square inch at the hydrants, which amount at this pressure will be sufficient to supply two standard fire streams at 240 U.S. g.p.m. for a period of one hour.

COST-

The cost of installation of the above water supply system, including the construction of the concrete reservoir, intake dam and the installation of all supply pipes, overflow pipes, hydrants, fittings, etc., will amount to \$5,825.00.

REMARKS-

After having made a thorough study of existing conditions at the above institution, I would respectfully suggest that a water supply system as outlined in this report be installed at the Lytton Industrial School.

Your obedient servant,

(Sgd) E.H.Tredcroft

E.H.Tredcroft  
Division Engineer.

C.E.Webb, Esq.,  
District Chief Engineer,  
Water Power & Reclamation Service,  
739 Hastings Street West,  
Vancouver, B.C.

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- 6 -

## APPENDIX "A"

ESTIMATE OF COST

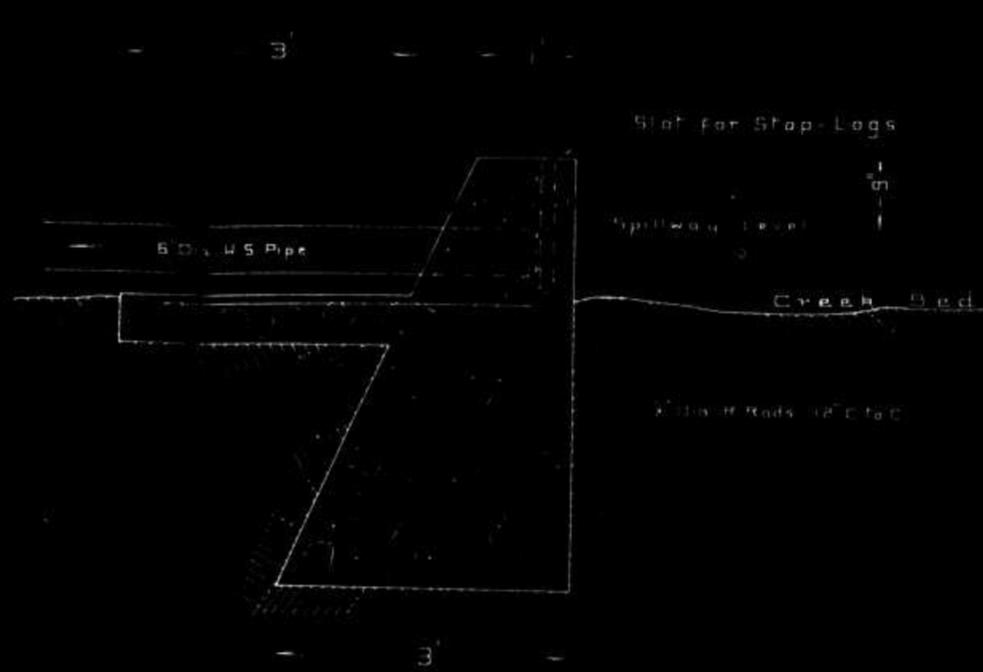
Concrete intake dam (complete)	\$ 110.00
Reinforced concrete reservoir 25' x 12' x 12'	1,900.00
600 feet 6" diameter wood-stave intake pipe in place	530.00
1700 lineal feet 6" diameter wood- stave supply pipe in place	1,850.00
250 lineal feet 8" diameter wood- stave overflow pipe in place	225.00
Miscellaneous fittings, hydrants, valves, etc.,	350.00
Fire-fighting equipment, including 500 lineal feet 2½" diameter fire hose (grade 2) 4 standard 1 1/8" diameter smooth nozzles, 2 standard 7/8" smooth nozzles, 4 fire axes 1 50 foot telescopic fire ladder, 1 wooden shelter for same, Rope and block for hoisting hose. 2 hose spanners 1 500 foot hose reel	560.00
Extras, including miscellaneous, freight, cartage, etc.,	<u>300.00</u>
TOTAL	<u>\$5,825.00</u>

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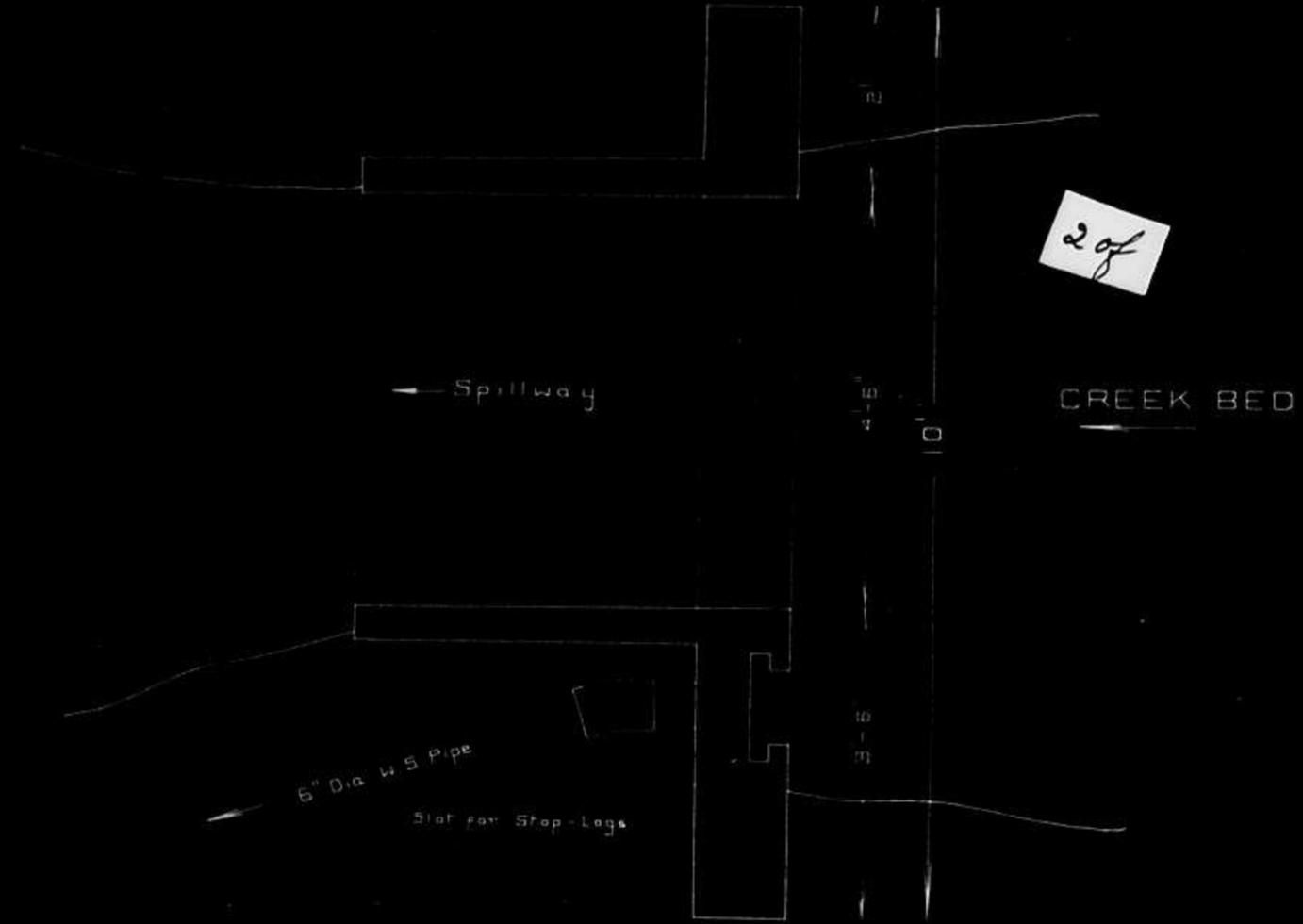
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SECTION THROUGH PROPOSED DAM  
SCALE 1" = 1'



PLAN OF DAM  
SCALE 1" = 1'

2 of



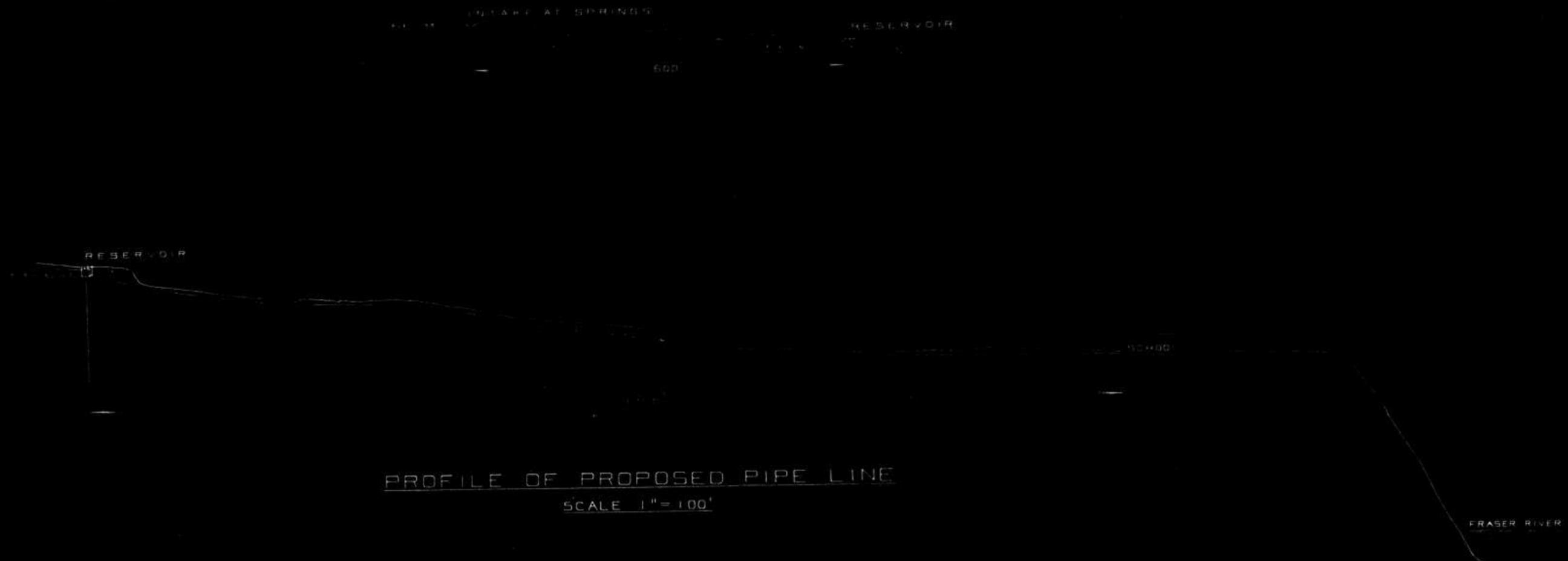


3 of

— PLAN —  
— SHOWING PROPOSED WATER SUPPLY —  
— AND SEWAGE DISPOSAL SYSTEMS —  
— LYTTON INDUSTRIAL SCHOOL —  
SCALE 1" = 320'



PRO



PROFILE OF PROPOSED PIPE LINE  
SCALE 1" = 100'

4 of 4

PREPARED FOR  
DEPARTMENT OF INDIAN AFFAIRS  
BY  
DEPARTMENT OF INTERIOR  
DOMINION WATER POWER  
AND RECLAMATION SERVICE  
KAMLOOPS, B.C.  
MAY 20 - 1926.  
DRAWN BY E. H. TREDGROFT  
DIV. ENG.  
APPROVED BY *C. J. Abbott*  
DIST. CHIEF ENG.

108

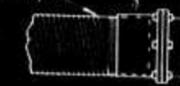
-5'-3"-3'-

-3'-3'-

2 8'

11'

6" Dia. U.S. Pipe



3/4" Dia. R. Rods 3" C to C.

0. level

3/4" Dia. R. Rods 4" C to C.

21'

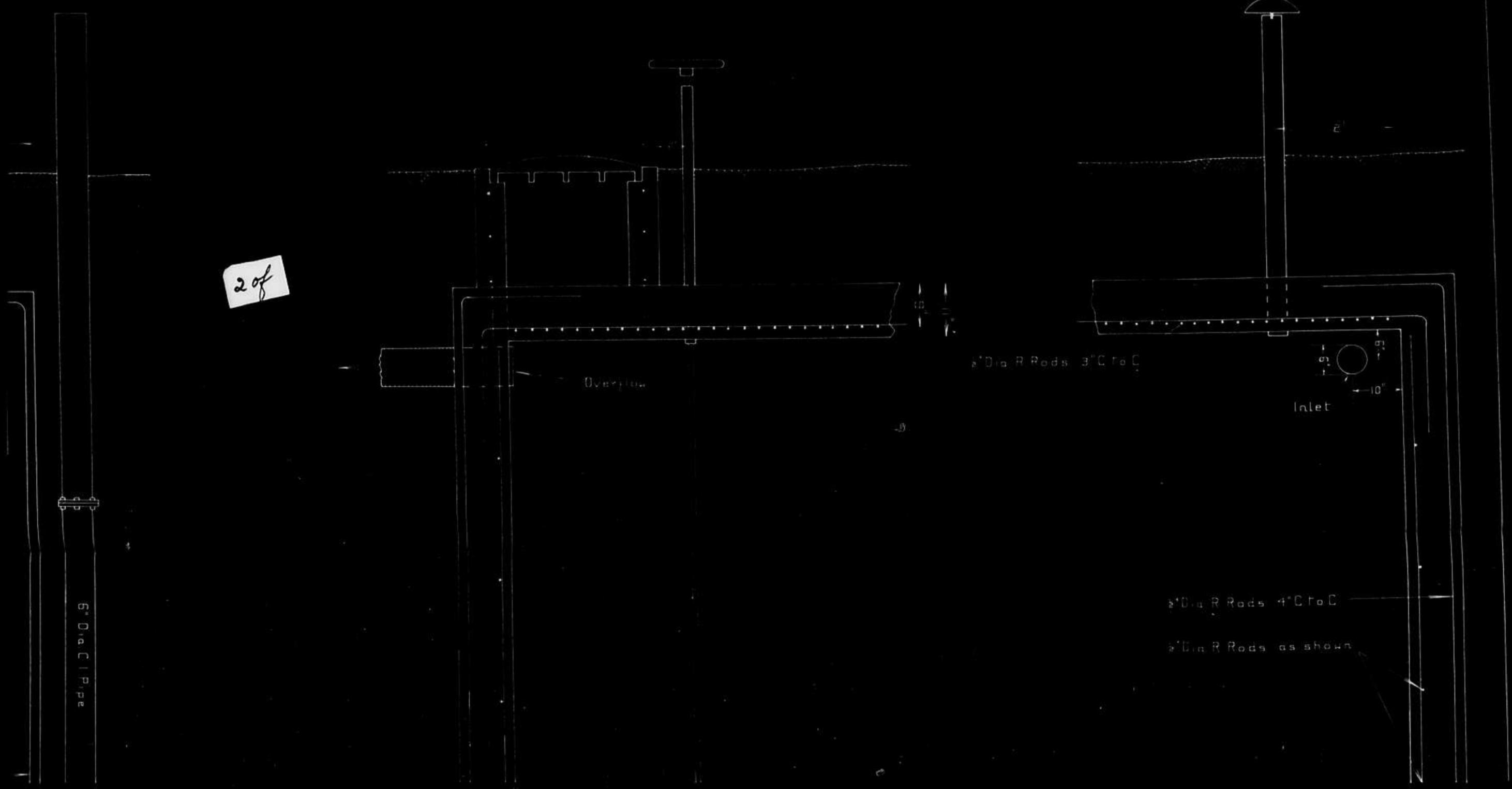
15'

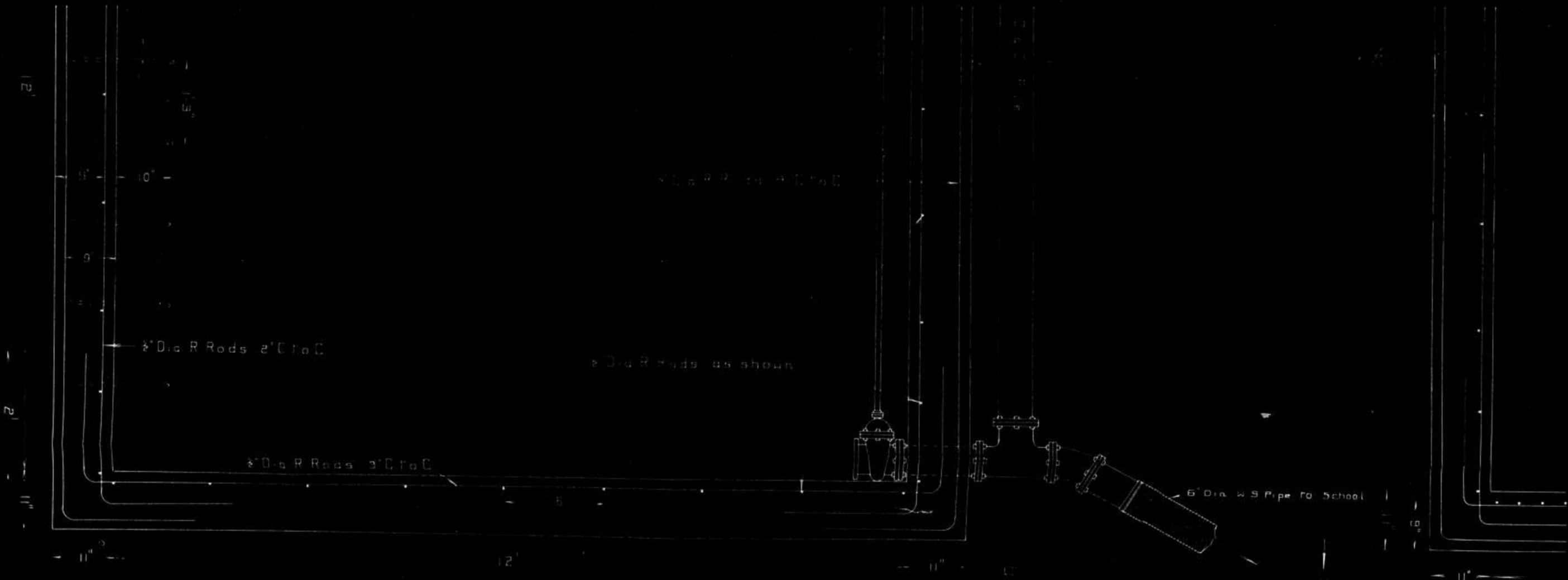
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- 16

11

2 of





SECTION  
C—D

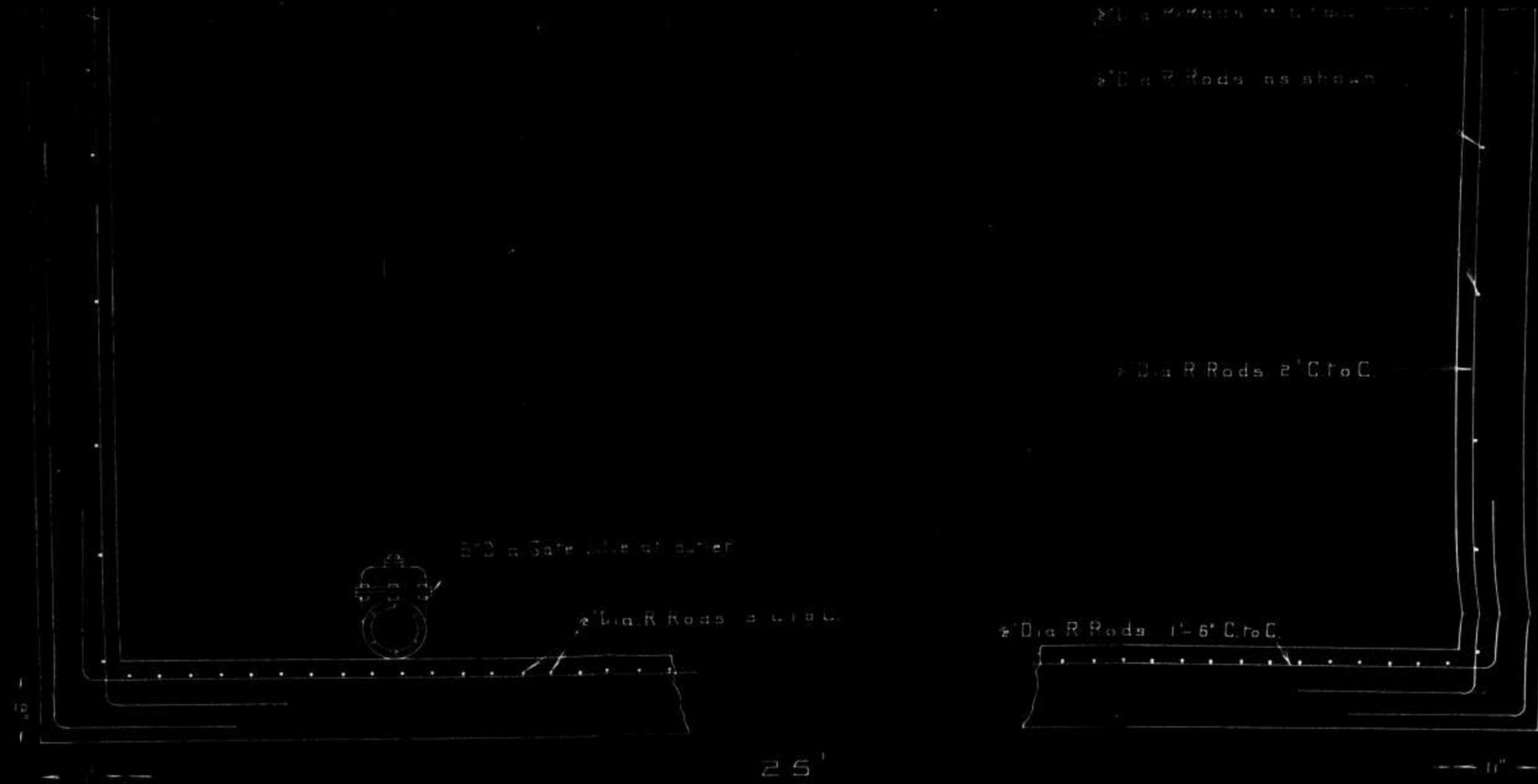
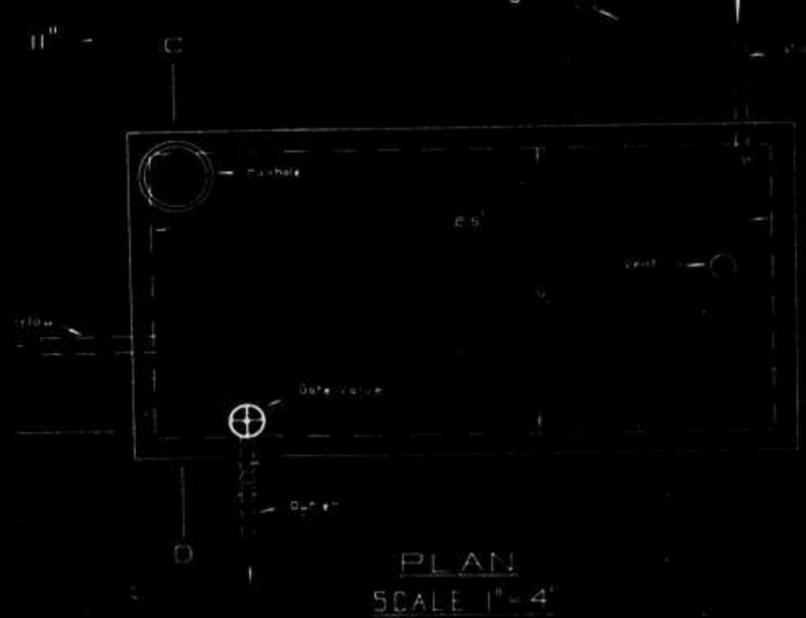
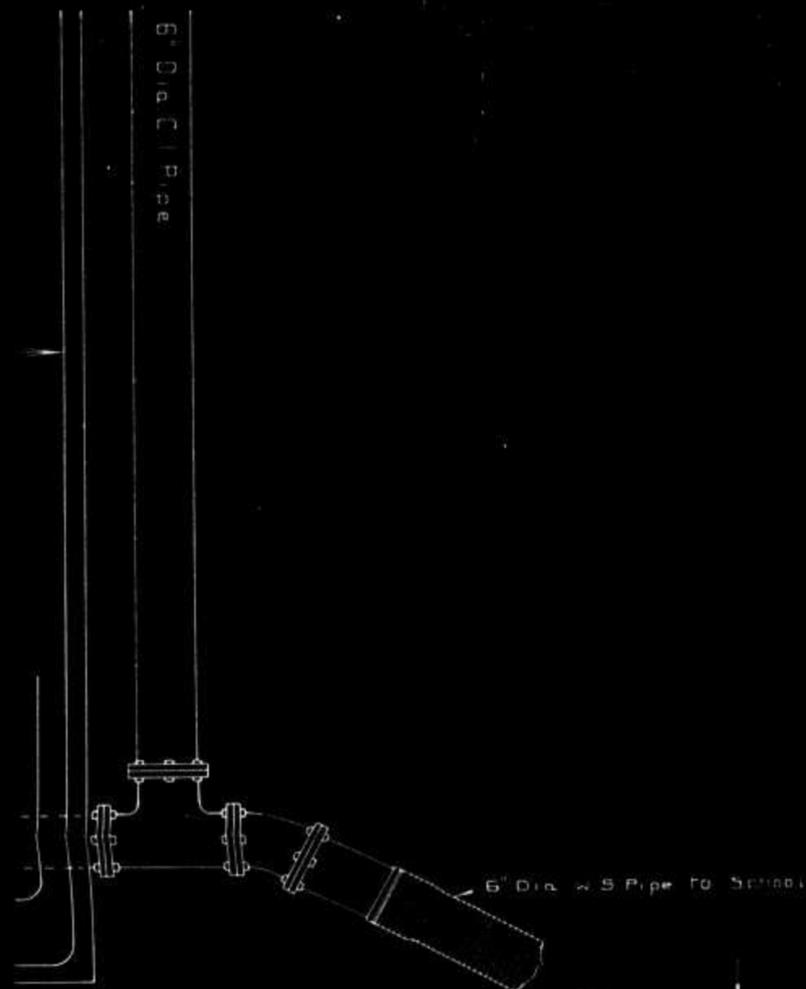
3 of

— PLAN —  
OF  
— PROPOSED RESERVOIR —  
— LYTTON INDUSTRIAL SCHOOL —  
— WATER SUPPLY SYSTEM —

SCALE 1" = 10'



PLAN  
SCALE 1" = 4'



LONGITUDINAL SECTION  
A—B

4 of 4

PREPARED FOR  
 DEPARTMENT OF INDIAN AFFAIRS  
 BY  
 DEPARTMENT OF INTERIOR  
 DOMINION WATER POWER  
 AND RECLAMATION SERVICE  
 KAMLOOPS B.C.  
 MAY 20 - 1926  
 DESIGNED BY EHTREDCROFT  
 DIV. ENG.  
 APPROVED BY *G. S. G. G.*  
 DIST CHIEF ENG.

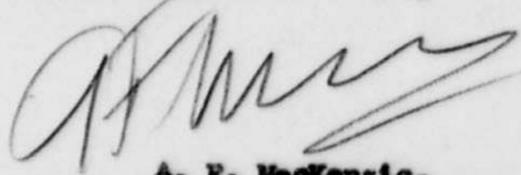
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July 27, 1927.

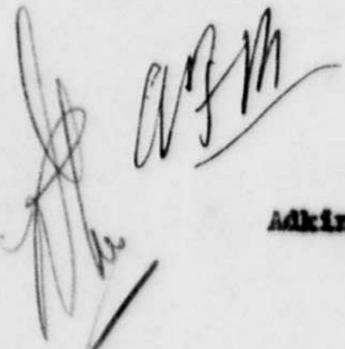
Sirs,-

I beg to enclose herewith your copy  
of the contract for the construction of the new St. George's  
Indian Residential School at Iyton, duly signed.

Your obedient servant,



A. F. MacKenzie.  
Assistant Deputy and Secretary.



Adkinson & Bill, Ltd.,  
Contractors,  
319 Pender St.,  
Vancouver, B. C.

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DEPARTMENT OF INDIAN AFFAIRS  
CANADA

165-0-15  
WATER POWER BRANCH  
25 1927

*Mr. Ferguson*  
*For report*

*Mr. Chene*  
*Approved*  
22, 1927.  
*Dr. Scott.*

Memorandum

Plans, specifications and estimates have been prepared by the Dominion Water Power Branch for the installation of a water supply and sewage disposal system for the new Lytton Residential School.

The water supply system will consist in the construction of a concrete dam in order to form a water reservoir supplied by a number of springs from which a wood stave pipe line will convey the water by gravity a distance of 1700 feet to the school building, where it will be used for both domestic and fire protection.

Owing to the difference in elevation between the school and the above mentioned reservoir it is expected that a static pressure of 69 pounds per square inch will be put on the outlets at the school building. The cost including the installation of fire fighting apparatus will amount to \$5,825.00.

The sewerage system will consist in the construction of a concrete septic tank, located at a distance of 230 feet from the school. It is intended that the effluent from this tank will be discharged directly into the Fraser River, a distance of 100 feet. The installation as planned by the report is that usually installed in connection with similar Institutions, and will cost in the neighborhood of \$3,000.00. Should funds be available for this expenditure I beg to recommend that it be done by day labour, under the supervision of the District Engineer of the Dominion Water Power Branch. A saving will thus be made on account of materials being purchased directly by the Department, which is the most expensive item of the work.

*Dr. Scott:-*  
*Recommended*  
*\$9000 provided*  
*for these purposes*  
*A.S.P.*

*J. Dehinc*  
DEPARTMENTAL ENGINEER.

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**ADKISON & DILL, LIMITED**  
GENERAL CONTRACTORS AND BUILDERS

RE-INFORCED  
CONCRETE  
A SPECIALTY

106-107, 319 PENDER ST. W.

VANCOUVER, B. C., July 25th., 1927.

*Immediate  
Architect*

Secretary, Dept. Indian Affairs,  
Ottawa, Canada.

J.D. McLean, Esq.

Re St. George's School  
near Lytton, B.C.

Dear Sir:

In response to your advice and letter of the 8th., inst., also your wire of the 16th., inst., we got busy on the operations for the above building.

We met the Rev. Mr. Lett on the grounds and he has given us the location of the school for which we have commenced excavation.

We note, however, that in taking the levels of the ground, that there is a considerable slope to the east and to the north. This, of course, is not shown on the plans, nor is the extent of it apparent until one takes the levels. We are not sure, yet, at the Vancouver office, just what the extent of this will be, but, on rough measurement being taken it appeared to be a drop of about ten to eleven feet in portions of the building. This, as you will readily understand, will cause us to go down considerably for a proper foundation at these points and will necessitate very much deeper concrete walls than we were able to estimate from the information given.

We are going right ahead with the work, however, in order to get as far advanced with the building as possible before bad weather may set in.

We trust that you will have the correctness of our statements checked up and will make adequate allowance for same.

Trusting to hear from you at your earliest convenience, we are

Yours truly,  
ADKISON & DILL, LTD.,  
Per

*J. C. Dill*

JCD/H

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*FOR COPY*

# St. George's Indian Residential School

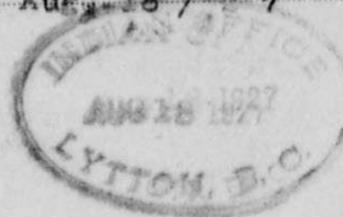
Originated by the New England Company  
(The oldest English Missionary Society, founded 1649)

C. P. R. STATION  
C. N. R. STATION  
TELEGRAPH OFFICE  
POST OFFICE

LYTTON 2 1/2 MILES

VISITOR: THE BISHOP OF NEW WESTMINSTER.  
PRINCIPAL: REV. A. R. LETT.  
BANKERS: BANK OF MONTREAL, VANCOUVER, B. C.

Lytton, B. C., Aug. 18 / 1907



Mr. H. Graham  
Indian Agent  
Lytton B.C.

Dear Mr. Graham-

We are in need of a New Sile. Our corn crop is very heavy and already having one sile filled with alfalfa our capacity is therefore limited having only the eighty ten acre left for about five acres of corn crop. We would be glad if the Dept could see fit to give us this requisite.

The barn is also in need of repainting. This could be done now very conveniently as the contractor for the new school will have Painters on the work and one of these men could be employed to do this work. Thank you for giving the above your earliest attention.

Sincerely

*A. R. Lett.*  
PRINCIPAL

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