

July 1995

COVE CAY WATERWORKS REPORT

1.0 INTRODUCTION

The SCRD Works Department received an official request from Cove Cay Waterworks Ltd to consider taking over the operation of the Earls Cove Subdivision waterworks distribution system. Mr W. Marcinkowski, the President of Cove Cay Waterworks made this request citing that the company can no longer maintain or operate this system. The system was maintained on a volunteer basis by Mr. Marcinkowski who is now no longer available due to illness. No other residents are in a position to take over the operation.

2.0 SUMMARY

The SCRD Works Department has reviewed and concluded that it is economically viable to assume responsibility for the Cove Cay Waterworks system. This conclusion was based on the following. The system was built to SCRD standards. Capital projects, repairs and routine maintenance required can be covered by the Cove Cay assets and future revenues to be collected by the SCRD.

3.0 Water Distribution System

The Cove Cay Waterworks system was designed by Web Engineering Ltd and was installed in 1978 by Cove Cay Developments Limited along with the construction of paved roads in the development of the Earls Cove Subdivision. This system was designed for and has water service connections installed to 88 lots in the Subdivision. The system is now owned and operated by the Water Utility Company, Cove Cay Waterworks Ltd under a share trust agreement with the lot owners. To date there are a total of 14 water users/residents on this system.

Water Supply Source

Ruby lake covers an area of approximately 456 Ha with an estimated volume of 2.5×10^8 cubic meters. The watershed area is 2140 Ha. This is a large lake and has both recreational and residential users. There are approximately 15 permanent residents on the lake, the Ruby Lake Resort and many seasonal residents. The lake is a source of water for the residents around the lake, the Ruby Lake Resort and the Earls Cove Subdivision.

The SCRD Lakes Study prepared by the "Wetland Resource Group" expressed the opinion that the water quality was good. This was based on the low utilization, the large volume of the lake plus earlier water quality testing conducted by the B.C. Environment in the late 1980's.

San

It was noted that there is a number of cabins around the north end of the lake where the Cove Cay Water Works Intake was located. The topography in this area consisted of steep rocky sites and the effective operation of any septic fields in this area is questionable.

Waterworks system

Water is diverted with a 150mm diameter PVC intake system which runs 23m into Ruby lake to a depth of 14m from a pump station located on the edge of Ruby Lake. Water is pumped via a 150mm Dia. D.I. force main a distance of 600 meters up an incline approx 90 meters in height to a 46,000 gallon reservoir at the South East corner of the Earl's Cove Subdivision. From the reservoir the water is gravity fed through an 200mm Dia D.I. W/M approximately 54m long to a loop of 150mm Dia. D.I. W/M approximately 1600m in circumference with 3 small 150mm Dia. dead end mains approximately 370m in length offshooting this loop.

Based on as constructed drawings received from Cove Cay Waterworks, hydrant and gate valve spacing, blow offs etc. appear per S.C.R.D. standards.

Waterworks Right of way

Permit No. 10065 issued by the Province of British Columbia authorizing the occupation (unsurveyed) of Crown Land for the Pump Station, intake and force main to the reservoir is attached in appendix 'A'. Reference plans of right of ways for water main easements in the Earl's Cove Subdivision also reviewed.

All the necessary easements, right of ways required for this waterworks system appear complete.

Water licence

The Water license No. CO44630 issued by the Province of British Columbia is attached in appendix 'A'. The conditional water license was issued on August 1, 1975 allowing the licensee to divert 48,000 gallons per day plus losses from Ruby Lake for their waterworks.

Visual Inspection by the SCRD and others of the waterworks.

1. Intake structure - It appears in good condition but replacement may required in the future. The structure will eventually have to be replaced with a high density polyethylene pipe and the intake placed further and deeper into the lake weighted down with concrete blocks. Report of the underwater inspection conducted by Seasport Scuba attached in appendix "B".
2. Pump Station
 - Pump house structure and roof appear in good condition.
 - A section of the intake at pump requires replacement
 - The chlorination system is not being used because of low water

usage.

- Some upgrading required, noted in upgrading costs below .
- A list of materials, replacement parts stored in the pump house attached in appendix "B".

3. Reservoir
 - An aging wood stave structure with an asphalt roof, it has numerous leaks around the base. This tank requires replacement.
 - Estimated capacity of tank- 46,000 gallons.
4. Distribution System in the Subdivision
 - Hydrants were not regularly maintained nor has the system been regularly flushed since its initial installation.

Recommended Upgrading and Repair

1. Pump station
 - Spare pump installed in system as backup.
 - Repair and adjust chlorination system.
 - Install new air bleed system.
 - Install hour meters on the pumps.
2. Reservoir
 - Replace existing wood tank with a new 50,000 gallon steel tank.
3. Distribution system - Regular maintenance and inspection of system required only. The initial costs may be slightly higher due to the fact that no regular maintenance has been carried out since the installation of the system.

4.0 Costs and Requirements of Acquiring the Cove Cay Waterworks System

Transferring Ownership of Water System

This water utility is operated under a Share Trust Agreement whereby each owner has one equal vote in the Cove Cay Waterworks System. Each owner will be required to sign a petition from the SCRD agreeing to transfer the waterworks companies assets including trust funds, easements and water license to the SCRD. Transfer of ownership to the SCRD will require approval of 75% of the registered owners and then the approval of the B.C. comptroller of Water Rights. Above information was provided by the B.C. Comptroller in the attached letter in appendix "A".

Estimated Costs of Upgrading and Operation

Summary of The Cove Cay Waterworks Account up to July 2, 1995. A Balance statement



PERMIT UNDER THE WATER ACT AUTHORIZING THE OCCUPATION OF CROWN LAND

**Cove Cay Developments Ltd., c/o Durrard Corporate Services Ltd.,
Suite 900 Guinness Tower,
1055 West Hastings Street,
Vancouver, B.C. V6E 2E9**

the holder(s) of Conditional/~~Water~~ Water Licence(s) **24593**
the diversion of water from **Ruby Lake,**

authorizing

is/are hereby

authorized to occupy Crown land by constructing, maintaining, and operating thereon the works authorized under the said water licence and any licences which may be issued in substitution thereof.

- (a) The Crown land which is authorized to be occupied under this permit is a portion of
**Lot 3 of Lot 2397; Lot 2398; Lot 2399 and unsurveyed foreshore
and land within Group 1, New Westminster District covered by
waters of Ruby Lake,**

the location of which is shown approximately on the plan attached to the said water licence.

- (b) The approximate dimensions of the Crown land authorized to be occupied under this permit are
**2500 feet in length and 15 feet in width, having an area of
0.34 acre,**

- (c) Subject to the payment of royalty, stumpage, and other compensation, and the obtaining of a licence to cut timber as provided under Condition 5, the permittee may cut and remove from the said land any timber, the removal of which is necessary to permit construction and maintenance of the said works.

- (d) The annual rental for this permit is \$ **2.00**, which is subject to review and revision at any time at the discretion of the Crown.

- (e) This permit is appurtenant to the land, mine, or undertaking to which the aforesaid water licence is appurtenant.

- (f) The conditions relative to the rights granted under this permit are printed on the back of this form.

File No. **0323411**

Deputy Minister of Lands

Ref. Map **93F/9**

W.R. Map **9362 A**

Date issued: **1st August, 1975** Permit No. **10045**

WATER RESOURCES SERVICE
WATER RIGHTS BRANCH

DEPARTMENT OF LANDS, FORESTS,
AND WATER RESOURCES

DEPT OF LANDS, FORESTS,
AND WATER RESOURCES,
WATER RIGHTS BRANCH

AUG 29 1975

RECEIVED

NEW WESTMINSTER, B. C.

THE PROVINCE OF BRITISH COLUMBIA—WATER ACT
CONDITIONAL WATER LICENCE

Cove Cay Developments Ltd., c/o Burrard Corporate Services Ltd.,
Suite 980, Guinness Tower,
1055 West Hastings Street,
Vancouver, B.C. V6E 2E9

is/are hereby authorized to divert and use water as follows:—

- (a) The source(s) of the water-supply is/are **Ruby Lake.**
- (b) The point(s) of **diversion** is/are located as shown on the attached plan.
- (c) The date from which this licence shall have precedence is **12th July, 1974.**
- (d) The purpose for which the water is to be used is **waterworks.**
- (e) The maximum quantity of water which may be **diverted is 48,000 gallons a day,**
and such additional quantity
as the Engineer may from time to time determine should be allowed for losses.
- (f) The period of the year during which the water may be **used is the whole year.**
- (g) ~~The land upon which the water is to be used and to which~~ This licence is appurtenant ~~to the~~
**undertaking of the licensee as set out in Certificate of Public
Convenience and Necessity No. 101/1975, and any substitution
thereof or amendment thereto.**
- (h) The works authorized to be constructed are **diversion structure, pump, pipe,
tank and distribution system,**
which shall be located approximately as shown on the attached plan.
- (i) The construction of the said works shall be commenced on or before the 29th
day of February, 1976, and shall be completed and the water
beneficially used on or before the 31st day of December, 1978.

A.K. Sutherland,
Deputy Comptroller of Water Rights.

File No. 0323411 Date issued: 1st August, 1975 Conditional Licence No. 44630

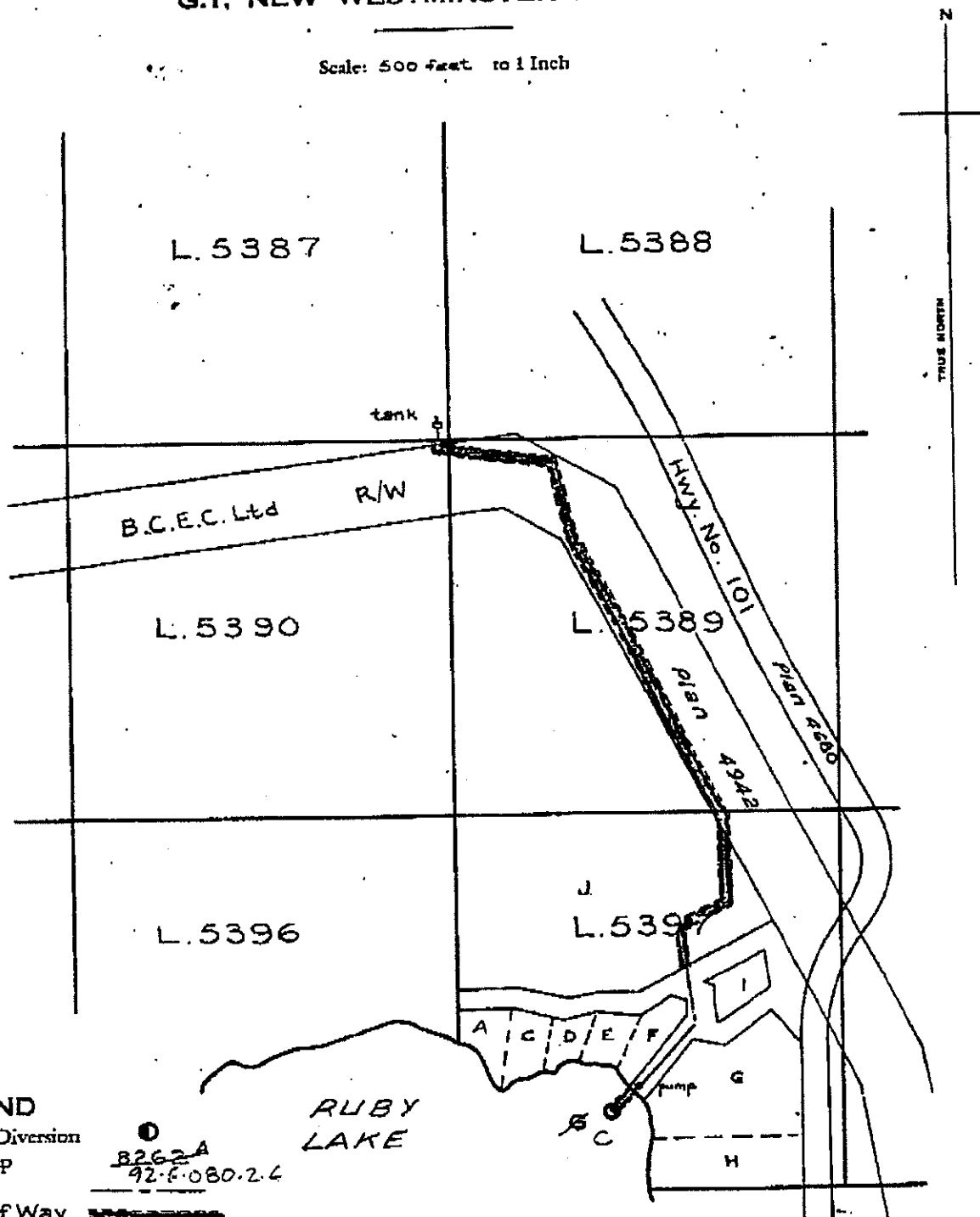
COPY FOR ENGINEER

New West.



VANCOUVER WATER DISTRICT
G.1, NEW WESTMINSTER DISTRICT

Scale: 500 feet to 1 Inch



LEGEND

Point of Diversion

W.R. Map

Pipe

Right of Way

8262A
92-6-080-2-4

RUBY
LAKE

Signature: *AK Sutcliffe*

Date: 1 Aug. 1975

CL 44630

File 0323411

R/W Permit No: 10065

Jervis

Precinct.

APPENDIX "B"

INVENTORY

INSPECTION REPORTS

INVENTORY

COVE CAY WATERWORKS PUMP STATION

PUMPS

Existing pump in use

Make - Berkley Pumps

Serial Series - A3851E89

Model - B2EPBLS B2EPBLS

HP - 30

Amps - 30

Frame - S284JM

Part - 360642-01

Rpm (max.) - 3520

Type - SCE

Spare Pump (new)

Make - Berkley Pumps, Motor - Baldor

Serial Series - G171091

Model - B2EPBLS B2EPBLS

HP - 30

Amps - 30

Frame -

Part - motor, B54084KI

Rpm (max.) - 3520

Impeller - 9.25"

Other

Spare motor with burned out armature for parts.

Two vacuum pumps manufactured by Gast Mfg Corp

Some misc. 6" Dia D.I. pipe bends

Chlorine pump

Make - Liquid Metronics Inc.

Model - A141-155

Serial No. - 87054009

(250 psi max.)

SEASPORT SCUBA

SITE: RUBY LAKE WATER INTAKE

OBJECTIVE: INSPECTION

DATE: JULY 8, 1995

TECHNICIAN: WILLIAM A. BROOKS, C.E.T.

INSPECTION REPORT

RUBY LAKE WATER INTAKE VISUAL INSPECTION

REPORT

- THE 6" DIAMETER PIPE RUNS FOR ~ 75' FOLLOWING THE STEEPLY INCLINED BOTTOM TO THE INTAKE IN ~46' OF WATER.
- THE PIPE IS CONSTRUCTED OF GLUED SECTIONS OF SCH 20 HIGH IMPACT, 160 PSI, PVC, TRADE NAME: "YELOMINE".
- THE INTAKE SCREEN IS HELD 36" OFF OF THE LAKE BOTTOM'S SILT LAYER BY THE STAND ILLUSTRATED IN FIGURE #1.
- THE LINE IS HELD ABOVE THE BOTTOM TO A DISTANCE OF ~50' FROM SHORE BY SUNKEN LOGS LAYING ON THE BOTTOM.
- ALL OF THE BOLTING IS HEAVILY CORRODED CARBON STEEL.
- THE WOODEN FRAME OF THE INTAKE ASSEMBLY APPEARS TO BE INTACT.

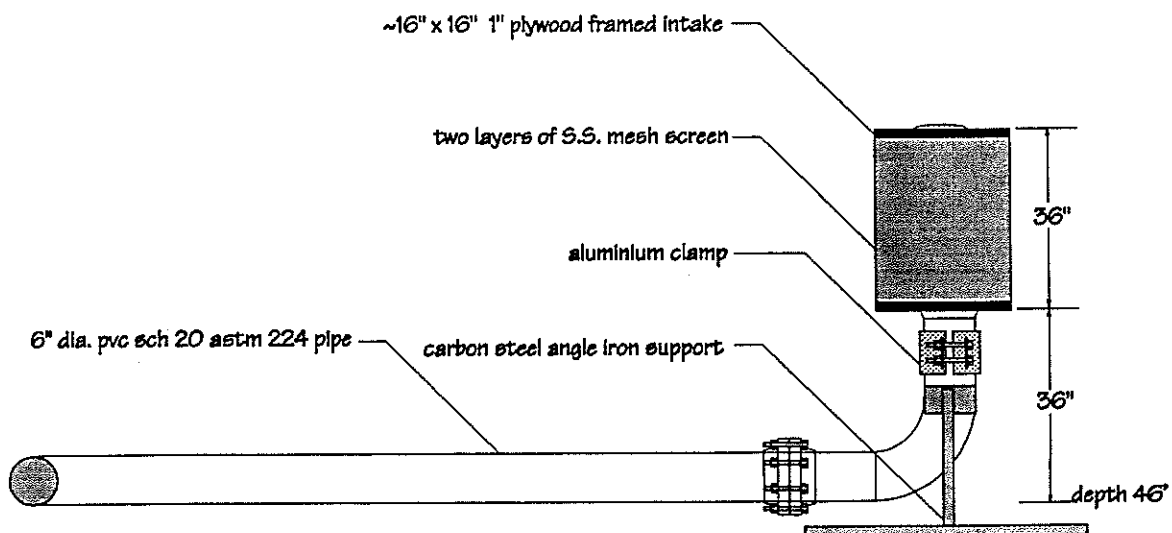


FIGURE 1