

**DASQUE CREEK HYDROELECTRIC DEVELOPMENT  
APPLICATION FOR WATER LICENCE AND CROWN LAND  
TENURE**

**PREPARED FOR LAND AND WATER BC**

**VICTORIA BC**

**PREPARED**

**BY**

**755748 BC LTD.**

**P.O. Box 23  
Postal Station A  
Vancouver BC**

**September 5, 2006**

**RECEIVED**  
Integrated Land Management Bureau

**NOV 01 2006**

**Ministry of Agriculture and Lands  
SMITHERS**

**DASQUE CREEK HYDROELECTRIC DEVELOPMENT**  
**APPLICATION FOR WATER LICENCE AND CROWN LAND**  
**TENURE**

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**1.0 WATERPOWER PROJECT APPLICATION COMPLETENESS  
CHECKLIST**



## Waterpower Project Application Completeness Checklist

**Water licence and land tenure applications must include the items listed below (Waterpower Project applicants shall refer only to this Checklist as opposed to the Application Completeness Checklist for New Water Licence Application).**

**Refer to the Guide for Waterpower Projects.**

**Please be advised that incomplete applications will be returned to the applicant.**

(Updated September 2005)

APPLICATION REQUIREMENTS	
<b>Application Form</b>	<div style="margin-bottom: 10px;"><input checked="" type="checkbox"/> Water Application Form</div> <div style="margin-bottom: 10px;"><input checked="" type="checkbox"/> Land Application Form (if required)</div> <div style="margin-bottom: 10px;"><input type="checkbox"/> Schedule 2: Dam &amp; Reservoir Information (if required)</div> <div><input checked="" type="checkbox"/> Schedule 3: Power Information</div>
<b>Application Fee</b>	<div style="margin-bottom: 10px;"><input checked="" type="checkbox"/> A cheque or money order for the water licence application must be payable to <b>Minister of Finance</b>.</div> <div style="margin-bottom: 10px;"><input checked="" type="checkbox"/> A cheque or money order for the Crown land tenure application must be payable to <b>Minister of Finance</b>. (if required)</div> <p style="margin-top: 20px;"><b>Separate payment is required for a water licence application and a Crown land tenure</b></p>
<b>Maps and Plan</b>	<p>The maps and the plan of the works must be submitted as per the Guide for Waterpower Projects.</p> <div style="margin-bottom: 10px;"><input checked="" type="checkbox"/> General Location Map – at a scale of 1:250,000 to 1:50,000 indicating the location of the project, nearby towns, communities and public transportation routes.</div> <div> <input checked="" type="checkbox"/> Topographic Map - at a scale of 1:50,000 to 1:20,000 and to include (as per the Guide):           <ul style="list-style-type: none"> <li>streams and tributaries affected by the project;</li> <li>all points of diversion;</li> <li>boundaries of the watershed above diversion points;</li> <li>the project components;</li> <li>all existing roads and trails;</li> <li>sites related to the construction of the project.</li> </ul> </div>

## APPLICATION REQUIREMENTS

- ☒ Plan of the Works – at a scale of 1:20,000 to 1:5,000 and to include (as per the Guide):
- the general arrangement of the components;
  - cross section and profile of the dams;
  - total and active volumes of the storage reservoirs;
  - areas above the natural boundaries of the stream to be flooded;
  - configuration of the powerhouse, the tailrace channel and the switchyard;
  - areas required for staging construction and excavation;
  - active and inactive roads and trails, roads to be constructed or improved;
  - route and size of transmission line;
  - boundaries of all parcels of private and Crown land in the vicinity.

- ☒ The Crown Land Application Area – indicated with a polygon-shape outlined in red with dimensions and area to include project components on Crown land.

### Certificates, Plans and Land Ownership

- ☐ State of Title Certificates
- ☐ Legal Survey Plans
- ☐ Legal descriptions of affected adjacent lands
- ☐ If the applicant owns the land where the water is proposed to be used, submit the certificate of Title, BC Tax Assessment Notice or Transfer of Sales Agreement
- ☐ If you have tenure on Crown land where the water is proposed to be used, submit a copy of the Lease or Licence of Occupation.

### Landowner's Consent

- ☐ If the proposed pipeline or diversion works are on or will cross one or more parcels of land owned or leased by another party, submit a completed Landowner's Consent Form for each parcel affected.
- ☐ If such an agreement cannot be obtained indicate how access is proposed e.g., by an interim agreement or Proof of Service Form.

## APPLICATION REQUIREMENTS

### Joint Works



If the proposed works will be connected to another licensee's authorized works, refer to General Information on Joint Works Agreement and submit a Joint Works Agreement.

### Agency Requirements



I have read the Water Applicant's Agency Resource Guide.

### Preliminary Project Definition



Summarized from the Guide for Waterpower Projects

- Executive Summary
- Proponent Identification
- Project Description
- Capacity of Project
- Linkages with Other Projects
- Market for Electricity from the Project; and
- Schedule for Completion of the Project

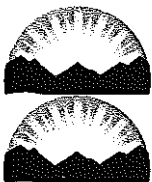
### Certificate of Incorporation



To be submitted if the applicant is a company



## **2.0 APPLICATION FOR LAND TENURE**



# Applying for a Crown Land Tenure

Updated September 2005

THIS PAGE MUST BE COMPLETED FOR ALL APPLICATIONS.  
PLEASE READ THE APPLICATION FORM GUIDE WHEN COMPLETING THIS APPLICATION.

## PART 1. NAME(S) AND MAILING ADDRESS

Client Name ☐ OR Company Name ☒ OR Society Name ☐

755748 BC LTD.

For applications made by more than one individual:

- ☐ Joint Tenants; or,  
☐ Tenants in Common

Your File Number (if applicable):

Contact Name of Agent (if applicable): Alexander Eunall

Letter of Agency attached (see Form Guide for additional information): Yes ☒ No ☐

BC Incorp. No., BC Registered No. or Society No.: BC 755748

GST Registration Number:

Age: 19 or over Yes ☒ No ☐

Canadian Citizen or Permanent Resident Yes ☒ No ☐

Mailing Address

755748 BC LTD.

PO BOX 23

Postal Station A

Vancouver BC

Postal Code: V6C 2L8

E-mail Address s.22

Home Phone

( )

Business Phone

( 604 ) 737 3929

Fax Number

( )

Applicant /Agent's Signature(s)

Date

November 30 / 2006

Please Enclose Appropriate fees (see Fee Schedule <http://www.lwbc.bc.ca/01lwbc/leg/fees.html>)

**NOTE:** Make cheque or money order payable to the **Minister of Finance**.

PLEASE RETAIN A COPY OF THIS APPLICATION FOR YOUR RECORDS

## FOR OFFICE USE ONLY

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Ministry of Agriculture and Lands  
SMITHERS

Land File Number: 6407834

Disposition ID: 861542

Client No.: s.21

Company Search (Date):

Postal Check (Date):

Fees Received: 3498.00



# Applying for a Crown Land Tenure

## PART 2. LOCATION, AREA AND PURPOSE

General Location of Crown land  Dasque Creek , 28 km West of Terrace	Area in Hectares: <u>113</u> or length (km/m): _____ width (km/m): _____
Land Use Purpose:  Construction and operation of an Intake/weir, buried penstock, surface powerhouse and Transmission line for a Dasque Creek hydroelectric project.	<b>Type of Tenure</b> <input type="checkbox"/> Investigative permit <input type="checkbox"/> Temporary permit <input type="checkbox"/> License <input type="checkbox"/> Lease <input checked="" type="checkbox"/> Statutory right-of-way <input type="checkbox"/> Purchase <input checked="" type="checkbox"/> Waterpower land tenure

Period of Occupation Required 30 years

Do you hold another Crown land tenure? Yes ☐ No ☒

If yes, state Type and Tenure Number:

Right of way tenure for Transmission line and Waterpower land tenure for the Intake, Penstock and Powerhouse

## PART 3. LEGAL OR BOUNDARY DESCRIPTION

For **surveyed** land, give legal description. For **unsurveyed** land, see the Application Guidebook for instructions to describe unsurveyed Crown land and provide a description of boundaries.

See attached.

**NOTE:** Please refer to the Requirements Checklist for the specific program (e.g., Aggregates) for additional information that must be submitted with this application.

The information you provide will be subject to the Freedom of Information and Protection of Privacy Act. If you have any questions regarding the treatment of your personal information, please contact the Manager, Privacy, Information Access and Records Management.

In addition, the submission of this form does not in any manner convey any rights to use or occupy Crown land.

### **3.0 APPLICATION FOR A WATER LICENCE**



# Applying for a Water Licence

Updated September 2005

THIS PAGE MUST BE COMPLETED FOR ALL APPLICATIONS.

PLEASE READ THE APPLICATION FORM GUIDE WHEN COMPLETING THIS APPLICATION.

## PART 1. NAME(S) AND MAILING ADDRESS

Client Name ☐ OR Company Name ☒ OR Society Name ☐

0755748 BC LTD.

For applications made by more than one individual:

- ☐ Joint Tenants; or,  
☐ Tenants in Common

Your File Number (if applicable):

Contact Name of Agent (if applicable): Alexander Eunall

BC Incorp. No., BC Registered No. or Society No.: BC0740462

GST Registration Number:

Mailing Address  
755748 BC LTD.  
PO Box 23  
Postal Station A  
Vancouver BC

Postal Code: V6C 2L8

E-mail Address

s.22

Home Phone

( )

Business Phone

( 604 ) 737 3929

Fax Number

( )

Applicant /Agent's Signature(s)

Date

November 30 / 2006

Please Enclose Appropriate fees (see Fee Schedule <http://www.lwbc.bc.ca/01lwbc/leg/fees.html>)

**NOTE:** Make cheque or money order payable to the Minister of Finance.

The information you provide will be subject to the Freedom of Information and Protection of Privacy Act. If you have any questions regarding the treatment of your personal information, please contact the Manager, Privacy, Information Access and Records Management.

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## FOR OFFICE USE ONLY

Date Received

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Integrated Land Management Bureau

NOV 03 2006

Ministry of Agriculture and Lands  
SMITHERS

Water File Number: 6000731

Client Number: s.21

Application Number: 2122464

Map Number: 103 I/SE

Fees Received: \$5000.00

Receipt Number:



**NOTE:** Once you have completed this form, please refer to the **Application Completeness Checklist** at [http://www.gov.bc.ca/wsd/water\\_rights/licence\\_application/cabinet/app\\_complete\\_cl.pdf](http://www.gov.bc.ca/wsd/water_rights/licence_application/cabinet/app_complete_cl.pdf) for additional information that must be submitted with this application.

## PART 2. PLACE OF USE – LEGAL DESCRIPTION OF PROPERTY WHERE WATER IS TO BE USED

PID #	Land description:
	Dasque Creek, Crown land
	Civic address of the property:
	N/A

An applicant must have tenure to the land where water will be used.  
(Provide copies of Certificate of Title, Recent Tax Notice or Crown Land Tenure.)

Are you the Registered Owner?  
Yes ☐ No ☒ Lessee ☐ Other ☐

Do you hold another water licence(s)?

Yes ☐ No ☒ If yes, state Licence Number: \_\_\_\_\_ File Number: \_\_\_\_\_ Client Number: \_\_\_\_\_

## PART 3. PURPOSE(S) AND QUANTITY(IES) – Please refer to Schedule 1 ([http://www.env.gov.bc.ca/wsd/water\\_rights/licence\\_application/cabinet/fees-water.pdf](http://www.env.gov.bc.ca/wsd/water_rights/licence_application/cabinet/fees-water.pdf)) – Water Purpose and Application Fees

<b>Domestic:</b>	<b>Other:</b>
Number of dwellings: _____	Power Generation _____ Quantity: <u>7</u> Unit: <u>m<sup>3</sup>/s</u>
Quantity (m <sup>3</sup> per day or Gallons) _____	Quantity: _____ Unit: _____
<b>Irrigation:</b>	<b>Stockwatering:</b>
Quantity: _____ Unit: _____	Quantity: _____ Unit: _____
Number of acres to be irrigated: _____	Number of stock: _____ Type of stock: _____

**Note:** For Water Licence application with proposed diversion rate over 100 m<sup>3</sup> (25,000 gallons) a day, a Development Plan must be completed.

## PART 4. SOURCE OF WATER

Name of Source: Dasque Creek	Flows into: Dasque Creek
If creek, brook or river, width and depth of source at diversion point: <u>8 m wide/ 1.2 m high</u>	

## PART 5. WORKS–Existing or proposed to divert and convey water to place of use (works must be shown on drawing)

List Works		
a) Diversion Works	Pump <input type="checkbox"/> or Gravity Feed <input checked="" type="checkbox"/>	Length of pipe into a river or lake measured from the high water mark: _____ m or _____ ft
	Are any of the Works on Crown land? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Length of Works on Crown land: _____ m or _____ ft
b) Storage Works	Do you require storage? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If yes, complete and attach Schedule 2 - Dam & Reservoir Information <a href="http://www.env.gov.bc.ca/wsd/water_rights/licence_application/cabinet/sched2.pdf">http://www.env.gov.bc.ca/wsd/water_rights/licence_application/cabinet/sched2.pdf</a>
		List Storage Works: _____
c) Additional Information	Joint with another's Works? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If yes, with whom?
	Works constructed? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/>	Use of a Joint Works Agreement is recommended if part or all of your proposed works will be shared with other water licence holder(s).
		Enclosed: Yes <input type="checkbox"/> No <input type="checkbox"/>

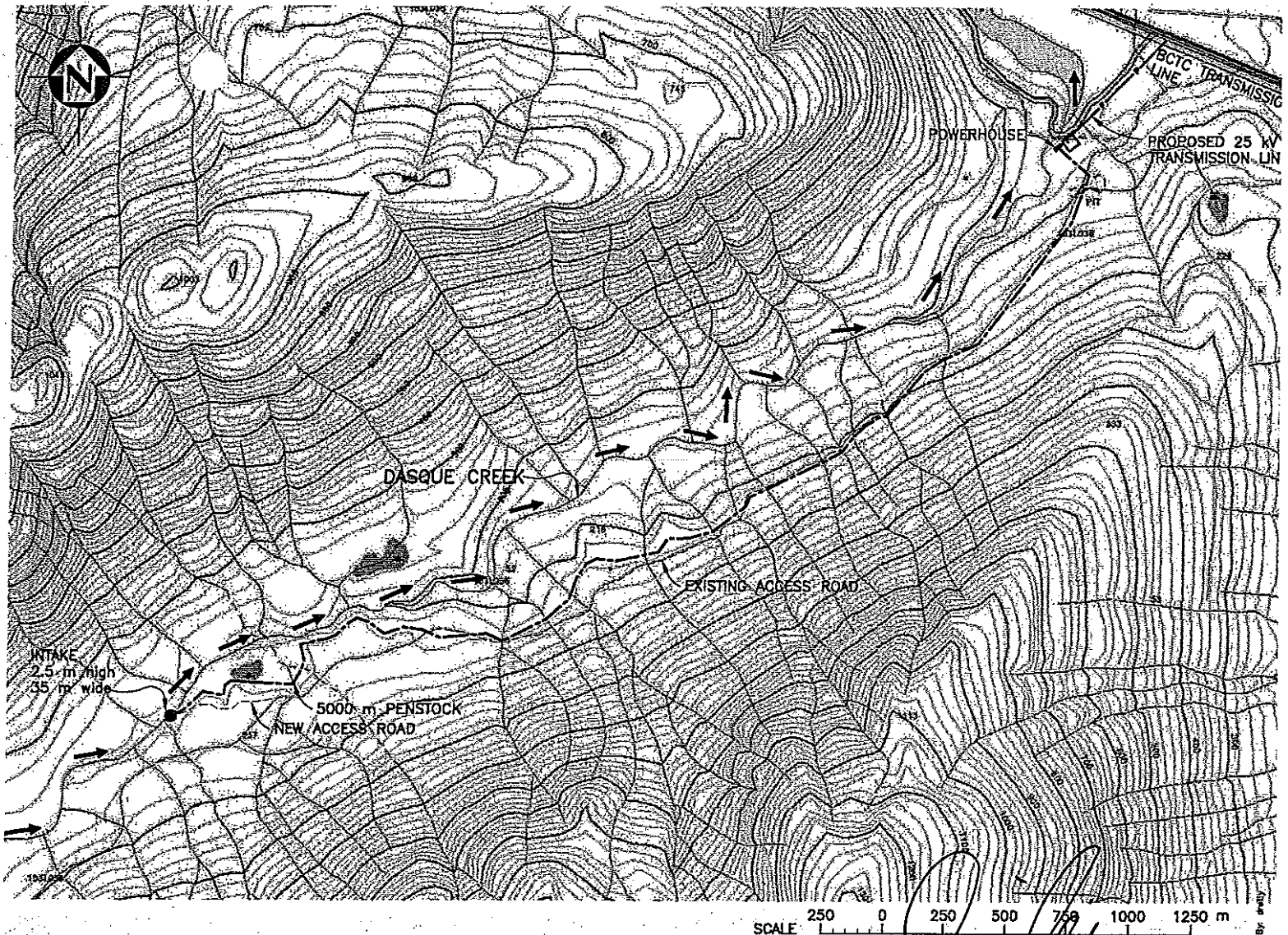
## PART 6. OTHER LANDS PHYSICALLY AFFECTED BY WORKS

Do or will the Works occupy or flood another person's private land? Yes <input type="checkbox"/> No <input type="checkbox"/>	Do or will the Works occupy or flood Crown land? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Landowner's Consent Form for private land affected	If Yes, PCL fee required with application
Enclosed: Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Could not obtain <input type="checkbox"/>	
If yes to either question, provide the legal description of land affected	Name of Owner(s) including Crown land tenure holders



# WATER LICENCE APPLICATION DRAWING

**APPLICANT'S DRAWING** - Prepare a drawing to submit with your application. Refer to the required drawing standards for required elements.



Scale:

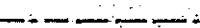
1: 25 000


Legend:

Point of Diversion



Pipe



The boundaries of the land to which this licence is appurtenant are shown thus 

Land District: RANGE 4 COAST DISTRICT

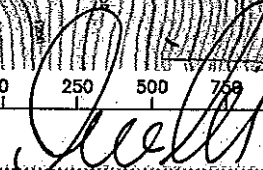
Map: 1031036

POD:

Water District: PR

Precinct: TERRACE

Applicant's Signature:



Date:

November 30 / 2006

For Office use Only



## **Economic Impacts For Water Licence Applications**

**Applications for domestic water or small irrigation purposes  
(less than 6000m<sup>3</sup> (5 AF)/year)  
do not need to complete this information.**

In an effort to more fully appreciate the positive impacts of economic development for a wide variety of uses please provide the following information for your water licence application request:

<b>Capital Investment</b>	<b>\$ 27, 000, 000</b>
---------------------------	------------------------

**Capital Investment** – Reflects the **expenditures** anticipated to be spent in the near future (next 3 years) including:

- Off-site and on-site services that are directly attributable to development related to the water licence (engineering, design, etc.)
- Construction costs directly related to the water licence (pumps, pipes, earthworks, labour, etc.)

<b>Permanent Jobs</b>	<b>1</b>
-----------------------	----------

**Permanent Jobs** -- Measure of the number of ongoing jobs created in the operating and maintenance of the ongoing water use. Use decimals where appropriate.

**This information is required before your water licence application can be processed.**



## **4.0 SCHEDULE 3 – POWER INFORMATION**

# SCHEDULE 3 POWER INFORMATION

REQUIRED IN SUPPORT OF A WATER LICENCE APPLICATION FOR POWER PURPOSE

1. WATER LICENCE APPLICATION INFORMATION			FOR OFFICE USE ONLY	
PURPOSE: Residential <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> General <input type="checkbox"/>			Date Received	
SURNAME		GIVEN NAME(S)		<b>RECEIVED</b> Integrated Land Management Bureau NOV 03 2006 Ministry of Agriculture and Lands SMITHERS
755748 BC LTD.				
MAILING ADDRESS				
755748 BC LTD. PO Box 23 Postal Station A Vancouver BC		POSTAL CODE		
E-MAIL ADDRESS aeunall@shaw.ca		V6C 2L8		
HOME PHONE	BUSINESS PHONE	FAX	FILE NUMBER	
604 737 3929				

SOURCE(S) OF WATER (NAME OF STREAM WHERE WORKS ARE TO BE CONSTRUCTED) Dasque Creek

## PROJECT CONSULTANT (IF ANY)

Amnis Engineering Ltd.

## MAILING ADDRESS

#551 - 409 Granville Street

Vancouver, BC

POSTAL CODE

V6C 1T2

PHONE

(604) 682 1063

FAX

(604) 682 1064

## 2. GENERAL PROJECT INFORMATION - Please complete entire section.

ANTICIPATED POWER PRODUCTION	MAXIMUM	9000 kW	MINIMUM	0 kW	AVERAGE	4500 kW
MAXIMUM STREAM FLOW REQUIRED 7.5 m <sup>3</sup> /s	FLOW RATE	7 m <sup>3</sup> /s				
POWER PRODUCED FOR	Indicate how the power will be used. Check all that apply.					
	a) PERSONAL USE <input type="checkbox"/> c) SALE TO BC HYDRO & POWER AUTHORITY <input checked="" type="checkbox"/> b) SALE TO OTHERS <input type="checkbox"/> d) SALE TO OTHER POWER AUTHORITY <input type="checkbox"/>					

## 3. PROPOSED WORKS - Please complete where applicable for your project.

a) STORAGE DAM	HEIGHT	2.4 m	LENGTH	40 m	TYPES OF CONSTRUCTION MATERIALS		Concrete and Steel
b) RESERVOIR	STORAGE CAPACITY	dam <sup>3</sup> 0 or m <sup>3</sup>	FLOODED AREA	1 ha	If a dam is incorporated please complete Schedule 2 - Dam & Reservoir Information.		
c) INTAKE	DESCRIPTION Coanda Screen Intake						
	FISH SCREENS Coanda Screen						
	OTHER FEATURES IFR Release Pipe						
d) PENSTOCK	FLUME, PIPE, TUNNEL, ETC. - DESCRIPTION Weholite and Welded Steel Pipe						
	LENGTH	5000m	WIDTH/DIAMETER	1.5 to 1.7 m	DEPTH (IF FLUME)	N/A cm	PRESSURE RATING (IF PIPE)
	ELEVATIONS - UPPER END	230 m	ELEVATIONS - LOWER END	60 m	Elevations may be expressed as heights above the level of the turbine.		
e) TURBINE	TYPE Twin Jet Turgo				RATING 2 x 4500 kW		
f) GENERATION	TYPE Horizontal Synchronouse				RATING 2 x 5000 kVA		
g) TAILRACE	FEATURES Concrete Channel						
	DISCHARGES TO Dasque Creek						
h) OTHER EQUIPMENT	STORAGE BATTERIES, ETC. - DESCRIPTION						



## **5.0 APPLICATION FEES**



## SCHEDULE 1 WATER APPLICATION FEES (effective June 1, 2003)

GST not applicable Cheque or money order made payable to **Minister of Finance**

(Updated September 2005)

### DOMESTIC USE

Water used for domestic household purposes, including watering a garden up to 1,012 square metres (approx. 1/4 acre) in area. Generally, one household requires 2,250 litres or 2.25 cubic metres (approx. 500 gallons) a day.

**Fee: \$100.00**

#### Associated Industrial Purposes

Camps  
Churches or community halls  
Exhibition Grounds  
Institutions  
Public Facilities  
Residential lawn or garden watering if area exceeds 1,012 square metres (approx. 1/4 acre) in area.  
Swimming Pools  
Work Camps

**Fee: \$150.00 (for each purpose)**

### AGRICULTURAL USE

to irrigate less than 5 hectares (approx. 12.35 acres)

**Fee: \$100.00**

to irrigate 5 hectares to less than 50 hectares  
(approx. 12.35 acres to less than 123.5 acres)

**Fee: \$150.00**

to irrigate 50 hectares (123.5 acres) or more

**Fee: \$400.00**

water conveyed by a local authority for irrigation

**Fee: \$400.00**

#### Associated Industrial Purposes

Crop Suppression  
Flood Harvesting  
Frost Protection  
Game Farms  
Greenhouses  
Kennels  
Nurseries  
Ponds  
Stockwatering  
Watering of golf courses, ornamental gardens, parks or similar properties

**Fee: \$150.00 (for each purpose)**

### AQUACULTURE

Fish Hatcheries

**Fee: \$150.00**

### INDUSTRIAL & COMMERCIAL USE

Amusement parks  
Bottling fresh water for sale less than 200 cubic metres (approx. 43,993 gallons) a day  
Brake cooling  
Cooling  
Dewatering  
Dust control  
Effluent dilution  
Enterprise, which includes hotels, motels, trailer parks, stores, service stations, restaurants, or similar commercial enterprises  
Film processing plants  
Fire prevention  
Fire protection  
Garbage dumps  
Heat exchangers  
Ice making  
Log fluming  
Mineral baths or trading  
Overburden disposal  
Processing, which includes food processing plants, manufacturing operations, sawmills and washing sand or gravel  
Road maintenance  
Sediment control  
Sewage disposal  
Shipyards  
Snowmaking  
Truck washing  
Tunnelling  
Washing intake screens  
Wharves

**Fee: \$500.00 (for each purpose)**

Bottling fresh water for sale of 200 cubic metres (approx. 43,993 gallons), or more a day

**Fee: \$2,000.00**

Pulp mills

**Fee: \$10,000.00**

## MINING & OIL

Mining equipment  
Oil field Injection  
Placer mining  
Pressure testing and flushing

Fee: \$500.00 (for each purpose)

Hydraulic mining  
Processing of ore  
Washing coal

Fee: \$5,000.00 (for each purpose)

## CONSERVATION & LAND IMPROVEMENT USE

Water used or stored, or works constructed, for the purpose of conserving fish and wildlife.

Diverting or impounding water to protect property or facilitate development of a park or reclaiming, draining or making other improvements to land.

Fee: \$150.00

## WATERWORKS & CONVEYING USE

All applications conveyed for waterworks by a person other than a local authority.

Conveyed by a local authority for waterworks, less than 100,000 cubic metres (approx. 21,996,900 gallons) a year.

Water delivered within British Columbia.

Fee: \$500.00

Conveyed by a local authority for waterworks, 100,000 cubic metres to less than 5,000,000 cubic metres (approx. 21,996,900 to less than 1,099,850,000 gallons) a year

Fee: \$2,000.00

Conveyed by a local authority for waterworks, of 5,000,000 cubic metres (approx 1,099,850,000 gallons) or more a year

Fee: \$10,000.00

## STORAGE PURPOSE

less than 125,000 cubic metres (approx. 101.3 acre-feet) stored.

Fee: \$150.00

125,000 cubic metres to less than 1,250,000 cubic metres (101.3 acre-feet to less than 1,013.3 acre-feet) stored.

Fee: \$400.00

1,250,000 cubic metres (1,013.3 acre-feet) or more stored.

Fee: \$2,000.00

## POWER PURPOSE

### Residential (Self-supplied) Waterpower

Water that is used to generate power for residential use (up to 25 kW for one household)

Fee: \$100.00

### Commercial Waterpower

Up to 499 kW, of which less than 5% of energy may be sold

Fee: \$5,000.00

### General Waterpower

Water that is used to generate power for a power plant, which produces up to 20 MW

Fee: \$5,000.00

Water that is used to generate power for a power plant, which produces over 20 MW

Fee: \$10,000.00

## PERMITS TO OCCUPY CROWN LAND

Affecting less than 0.5 hectares (approx. 1.23 acre)

Fee: \$100.00

Affecting 0.5 hectares to less than 50 hectares (approx. 1.23 acres to less than 123.5 acres)

Fee: \$500.00

Affecting 50 hectares (approx 123.5 acres) or more

Fee: \$2,000.00

## TO AMEND A WATER LICENCE

A request to amend a licence or approval under section 18 of the *Water Act*.

The transfer of appurtenancy of any licence (payable by each recipient of transferred rights upon issue of licence).

An apportionment of a licence (payable by each recipient or rights, upon issue of licence)

Fee: \$100.00

To amend water licences issued for the following purposes: Industrial & Commercial, Mining, large Storage over 1,250,000 cubic metres (approx. 1,013.3 acre-feet) stored, Waterpower, and Waterworks.

Fee: \$500.00

## APPROVALS, STREAM CHANGES & SHORT TERM USE

### Changes In and About a Stream

Fee: \$130.00

### Short Term Water Use

The fee for short term water use as set out in Part 1 of the water tariff, plus the annual rent for the proposed use - as set out in Part 2 of the water tariff.



**LAND TENURE PURPOSE AND  
APPLICATION FEES**  
(effective June 1, 2003)

**APPLICATION FEES ARE DUE WHEN THE APPLICATION IS SUBMITTED**  
(Note: Items indicated with \* are billed at a later date)  
(GST included where applicable)

(Updated July 2006)

**APPLICATION FEES**

**AGRICULTURE**

Application fee (\$250.00 + GST) ..... \$265.00

**AIRPORT**

\*Application fee ..... \$50.00/hr + GST of staff time  
..... minimum fee \$25.00 + GST

**ALPINE SKIING**

Type 1 minor operation (\$1,000.00 + GST) ..... \$1,060.00  
\*Type 2 major operation ..... \$50.00/hr + GST of staff time  
..... minimum fee \$25.00 + GST

**AQUACULTURE (Shellfish and Finfish)**

Application fee (\$4,925.00 + GST) ..... \$5,220.50

**COMMERCIAL RECREATION**

Non-mechanized uses (\$250.00 + GST) ..... \$265.00  
Mechanized uses (\$3,300.00 + GST) ..... \$3,498.00

**COMMUNICATION SITE**

Application fee (\$1,000.00 + GST) ..... \$1,060.00

**FEDERAL RESERVES/TRANSFERS**

Application fee (\$3,300.00 + GST) ..... \$3,498.00

**FERRY TERMINALS**

Other than general commercial or general industrial use  
\*Application fee ..... \$50.00/hr + GST of staff time  
..... minimum fee \$25.00 + GST

**FILM PRODUCTION**

Application fee (\$500.00 + GST) ..... \$530.00

**GENERAL COMMERCIAL**

Excluding film production, marinas, golf courses  
Application fee (\$250.00 + GST) ..... \$265.00

**GENERAL INDUSTRIAL**

Excludes log handling, quarrying, energy and mining  
Application fee (\$500.00 + GST) ..... \$530.00

**GOLF COURSE**

Application fee (\$3,300.00 + GST) ..... \$3,498.00

**GRAZING**

Application fee (\$250.00 + GST) ..... \$265.00

**HEAD LEASES**

\*Application fee ..... \$50.00/hr + GST of staff time  
..... minimum fee \$25.00 + GST

**INSTITUTIONAL AND COMMUNITY**

Application fee (\$250.00 + GST) ..... \$265.00

**INVESTIGATIVE PERMITS**

Application fee (\$500.00 + GST) ..... \$530.00

**LOG HANDLING**

Application fee (\$1,000.00 + GST) ..... \$1,060.00

**MARINA**

Application fee (\$500.00 + GST) ..... \$530.00

**MINING**

Excludes alternative power projects  
Application fee (\$500.00 + GST) ..... \$530.00

**OIL AND GAS**

Excludes alternative power projects  
Application fee (\$500.00 + GST) ..... \$530.00

**PRIVATE MOORAGE**

Application fee (\$250.00 + GST) ..... \$265.00

**PUBLIC AND PRIVATE UTILITIES**

Linear utilities less than 25 km long  
Application fee (\$1,000.00 + GST) ..... \$1,060.00

Linear utilities 25 km or longer  
\*Application fee ..... \$50.00/hr + GST of staff time  
..... minimum fee \$25.00 + GST

**QUARRYING (Aggregates)**

Application fee (\$1,000.00 + GST) ..... \$1,060.00

**RESIDENTIAL**

Application fee (\$250.00 + GST) ..... \$265.00

**TRANSPORTATION/ROADWAYS**

Public use, excluding ferry terminals and airports  
Application fee (\$250.00 + GST) ..... \$265.00

Industrial use or private use, excludes ferry terminals  
and airports (\$1,000.00 + GST) ..... \$1,060.00

**WATERPOWER**

Application fee (\$3,300.00 + GST) ..... \$3,498.00

**WIND POWER**

Application fees for:  
• Investigative Permit (\$500.00 + GST) ..... \$530.00  
• Up to 5 monitoring towers (\$500 + GST) ..... \$530.00  
• Windfarm (\$3,300.00 + GST) ..... \$3,498.00

**REPLACEMENT OF TENURE**

50% of application fee or \$212.00 (\$200.00 + GST) whichever is more



**Waterpower**

The specified application fee in accordance with the attached fee schedule is as follows:

\$3,300.00 + GST .....\$3,498.00

Cheque is payable to ..... 'Land and Water British Columbia Inc.'

Attach Cheque Here

**Power Purpose – General Waterpower (<20MW)**

The specified application fee in accordance with the attached fee schedule is as follows:

\$5,000.00 No GST .....\$5,000.00

Cheque is payable to ..... 'Land and Water British Columbia Inc.'

Attach Cheque Here



## **6.0 PROJECT LOCATION MAP**





## **7.0 WATER DEVELOPMENT PLAN**

**755748 BC LTD.**

**DASQUE CREEK HYDROELECTRIC DEVELOPMENT**

**WATER DEVELOPMENT PLAN  
REF NO. 0067/01**

**Prepared**

**By**

**AMNIS ENGINEERING LTD.**

**September 5, 2006**

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## **1. INTRODUCTION**

Amnis Engineering Ltd. was retained 755748 BC LTD to prepare this Water Development plan as part of the Water License Application.

The Dasque Creek Hydroelectric Project is located on the West Coast of BC, it is a tributary of the Skeena River and it is approximately 18 km west of Terrace. The watershed has a maximum elevation of 2219 masl, Mt Valpy, and its outlet to the Skeena River is approximately at elevation 30 masl.

The philosophy of designing this project is to maximize the potential of the resource and minimize the environmental impact of the project; as well as to mitigate any social issues that may arise.

The project comprises of an intake structure at elevation 230 masl and a powerhouse at elevation 60 masl.

The plant will generate power and energy for BC Hydro.



## **2.0 DESIGN ASPECTS**

The general arrangement of the project is shown in **Figure 3**.

### **2.1 Intakes**

The intake will be located at approximate elevation 230 masl. It will be 40 m wide Coanda Screen Intake. The flow after passing through the screen will be directed to concrete headrace structure where the IFR will be taken from and where the inlet to the penstock will be located.

### **2.2 Penstocks**

The project will consist of a 3400 m long buried low pressure pipeline. This is expected to be 72 inch and 60 inch diameter buried Weholite Pipe (HDPE). The remaining 1600 m will consist 66 inch diameter bell and spigot welded steel pipe. The steel penstock will be buried its full length. The steel penstock will be coated both on the inside and out. The penstock will follow the existing Forestry Road alignment.

The penstock will have manholes installed every 500 m.

### **2.3 Powerhouse**

The powerhouse will be located approximately 1000 m upstream of the outlet to the Skeena River. It will house two horizontal turgo turbines that will be connected to generators with 4.5 MW capacity each or 5 MVA. TIV valves will be installed to allow the stoppage of flows to the turbines during emergency conditions.

### **2.4 Tailrace**

The powerhouse will discharge its flow back into the Dasque River, the normal tailwater level will be 60 masl.

## **2.6 Access Roads**

There will be no new access roads. The existing forestry road will be upgraded as required.

## **2.6 Switchyard and Transmission Lines**

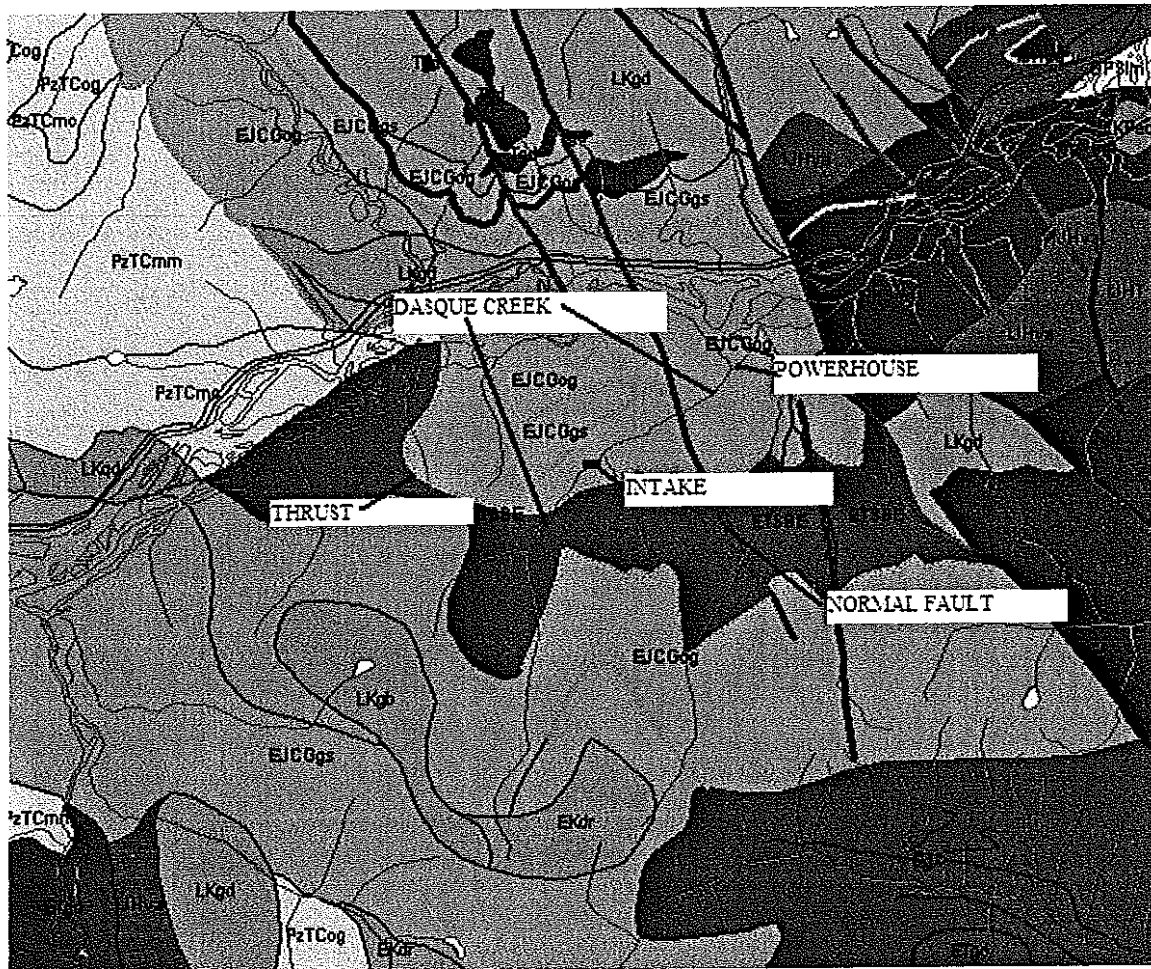
The generation from the power plant will be stepped up via 10 MVA transformers to interconnect to 230 kV BCTC line that is 596.9 m from the powerhouse.

### **3.0 RESERVOIR INFORMATION**

This section is not applicable to this project.

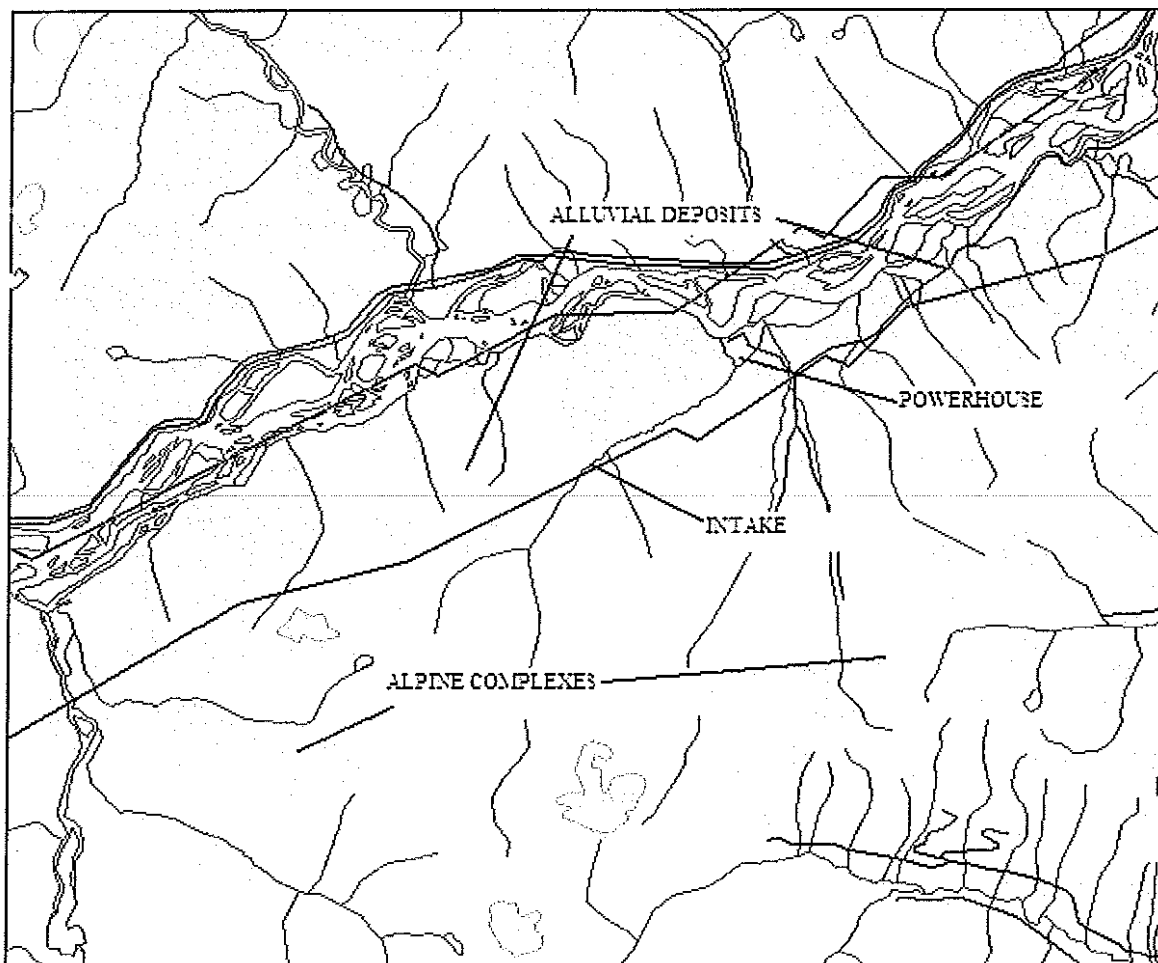
## 4. GEOTECHNICAL CONSIDERATIONS

The project will be on Early Jurassic Central Gneiss Complex, Orthogneiss Metamorphic Rock. As shown below.



The surface geology will consist of alluvium, colluvium and glacial fluvial deposits. It is expected that bedrock is close to the surface, the depth depending on the location.





## 5. SEISMIC CONSIDERATIONS

The Pacific Coast is the most earthquake-prone region of Canada. In the offshore region to the west of Vancouver Island, more than 100 earthquakes of magnitude 5 or greater (large enough to cause damage had they been closer to land) have occurred during the past 70 years. The reason for the concentration of earthquakes along the west coast is the active faults, or breaks in the earth's crust that occur in this area.

The west coast of Canada is one of the few areas in the world where four tectonic plates meet and interact, and three different types of plate movements take place, resulting in significant earthquake activity. Plates move towards each other at converging, apart at diverging and past each other at transform boundaries. All three of these boundary types occur in offshore B.C.

About 200 kilometers off the west coast of Vancouver island, the Juan de Fuca plate and Pacific plate are diverging or spreading apart along the Juan de Fuca ridge. Further east, the Juan de Fuca plate is converging with and sliding (subducting) beneath the North American plate at about 2-5 cm/year. This region is called the Cascadia subduction zone. It is located about 45 km beneath Victoria, and about 70 km beneath Vancouver. Another small plate, the Explorer, is also sliding underneath the North American plate, and at the same time the Juan de Fuca plate is sliding along the Nootka fault. In the north, there is a major transform fault boundary between the Pacific and the North American plates called the Queen Charlotte fault. This fault was the site, in 1949, of Canada's largest earthquake.

The National Building Code of Canada (NBC) has zoned the various areas of Canada with regards to seismicity. Each seismic zone is characterized with Zonal Acceleration (**Z<sub>a</sub>**) and Zonal Velocity (**Z<sub>v</sub>**) factor. Two seismic zoning maps, one based on the **Z<sub>a</sub>** factor, and the other based on the **Z<sub>v</sub>** factor, are included in the 1995 National Building Code of Canada.

Based on these maps, the Dasque Creek Hydroelectric Development falls under Seismic Zone 4 for peak horizontal velocity and Seismic Zone 3 for peak horizontal acceleration; out of a maximum rating of 6 and a minimum rating of 0.

The design earthquake will be further evaluated during the final design of the project.

## 6. PROJECTED RELATED CONSIDERATIONS

The projects will run as run of river projects. There will be no use of storage on this project. The water levels will be operated to within 10 cm of the design water level under normal operations. The water levels though may increase in the existing lakes, as they would naturally during flood periods.

## **7. LAND RELATED ISSUES**

### **7.1 Affected Lands**

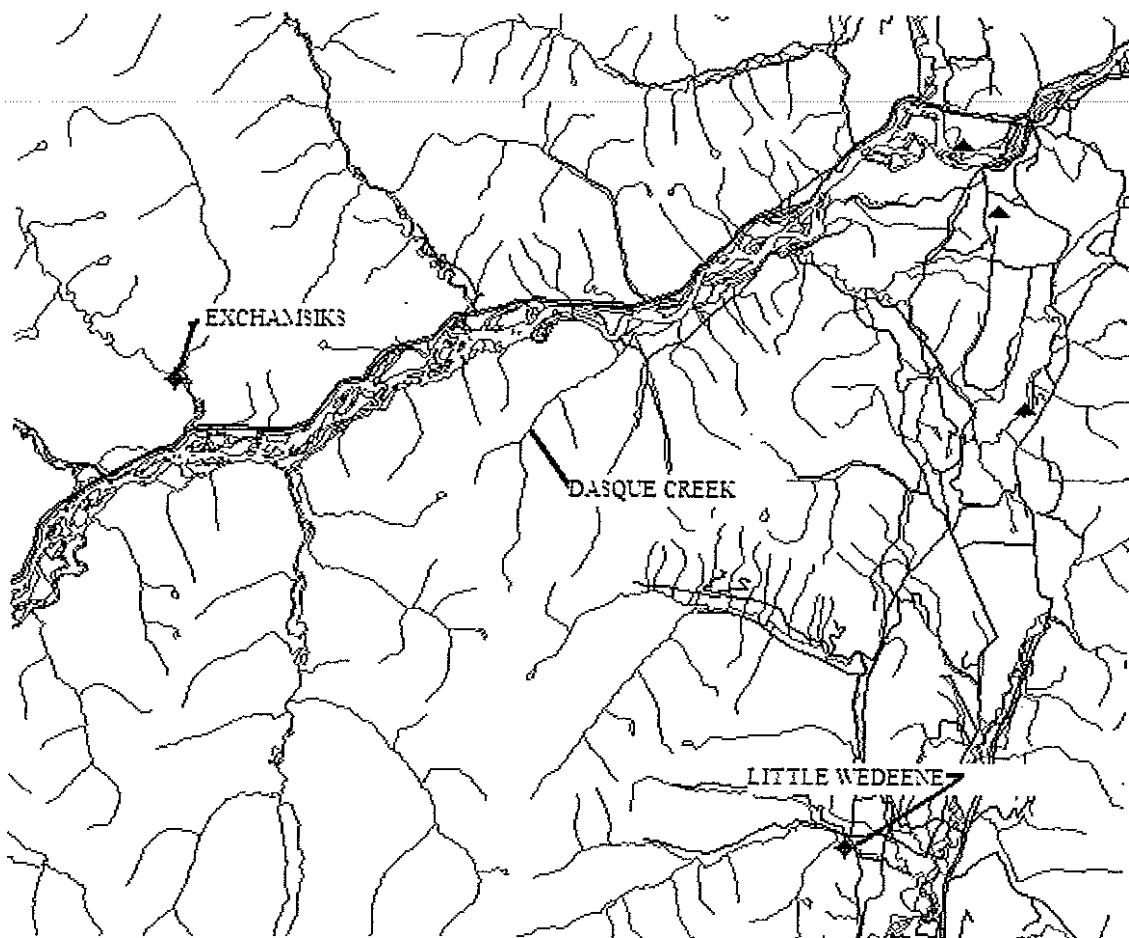
The project will be constructed on Crown Land.



## 8 WATER RELATED ISSUES

### 8.1 Water Quantity

The Water Survey of Canada (WSC) gauging stations in the vicinity of the project were examined. As well as the Atmosphere Environment Services (AES) precipitation gauges were also investigated. The figure below shows the location of key stations.



Based on the available data, the elevation, aspect, and location of the watershed, a unit runoff of  $118 \text{ l/s/km}^2$  was considered a conservative value for the Dasque Creek watershed. The existing WSC gauging stations are located at low elevations and therefore do not represent unit runoff that occurs at higher elevations. Precipitation in a given area generally increases with an increase in elevation.

Below are nearby WSC gauging stations relevant data. The watershed boundaries are shown in Figure 2.

WSC STATIONS NEAR DASQUE CREEK

Station ID	Station Name	Records	Drainage Area km <sup>2</sup>	From Year	To Year	Latitude	Longitude	Mean Flow m <sup>3</sup> /s	Unit Runoff l/s/km <sup>2</sup>
08FF003	LITTLE WEDEENE RIVER BELOW BOWBYES CREEK	36	182	1966	2001	54°08'11"N	128°41'24"W	17.5	95.93
08EG012	EXCHAMSIKS RIVER NEAR TERRACE	43	370	1962	2004	54°21'47"N	129°18'41"W	43.7	118.11

A water level recorder is located near the intake location and the data is currently being evaluated.

## 8.2 Water Quality

No quality issues are apparent but will be studied further during the environmental studies.

## 8.3 Instream Requirements

Two waterfalls, each approximately 3m high were noted approximately 100m upstream of the bridge crossing. A Photo of the lower fish barrier is shown below. This will be confirmed during the Environmental Studies whether these represent a fish barrier.

For preliminary energy calculations it was assumed that a constant 10% release would occur year round. Further discussions with the DFO will be required to determine the release requirements.

## 8.4 Affected Water Users

There are no current water users in Dasque Creek Watershed Area.

## 9 CONSTRUCTION ACTIVITIES

The project will be constructed over a 2 year construction period.

Key dates area as follows:

April 2006	-	Submit Call for Tender 2006 Bid
August 2006	-	EPA Awarded
September 2006	-	Contractor Selected
October 2006	-	Contractor Mobilizes to Site
October 2007	-	End of Construction
October 2007	-	Testing and Commissioning
November 2007	-	Commercial Operation Date

## 10 SAFETY ASPECTS

There is no one living between the proposed intake at Dasque Creek and the proposed Powerhouse. The low level weirs will result in minimal impoundment of the water and the natural shape of the outlet will prevent massive amounts of water to be discharged.

The weirs will be designed for a 200 year flood.

As the weirs are below 2.5 m high they are not classified as dams under the Canadian Dam Safety Guidelines. The weirs though will be designed based on the criteria given by the Canadian Dam Association. This will insure that safety of structure is considered of paramount importance.

Based on the Canadian Dam Safety Guidelines, the proposed weirs would be in the Consequence Category of “very low”, which is defined as where there is no fatalities expected and minor damages beyond the Owner’s property.

During the life of the project, the weir will be inspected to insure that they are structurally sound.



## 11 FUTURE MONITORING

The project will be monitored by the following:

1. **Flow metering at the intakes.** Depending on the final design of the project this will be done by using a 4-path ultrasonic metering system. This method is accurate to within 1% of the flow.
2. **Flow measurement at the IFR outlets.** The IFR outlets will be calibrated based on the orifice equation and the flow will be governed by the head water upstream of the inlet.
3. **Water Level Measurements of the head pond.** This will be measured by pressure transducers and be recorded at 10 minute intervals.
4. **Metering of Generation at the output of the Generator.** The generation from the generator will be recorded on accumulative MWh meter that will be recorded on an hourly basis.
5. **Revenue Metering of the transfer of electricity to BC Hydro** will be located once the interconnection study is complete. The records will be kept as required by BC Hydro.



## **12.1 Environmental Monitors**

An environmental monitor will be retained to insure that the construction of the project will be carried out according to the recommendations of the Environmental Impact Assessment and the requirements of the Ministry of the Environment, Land and Water BC, DFO, and other regulatory agencies.

The monitor will have the authority to stop work where the owner, contractor or their representatives have been found to contravene the regulations and have not take prompt action to correct these acts.

The number of site visits will depend on the stage of work.

## **12.3 Remaining Environmental Considerations**

A flora and fauna environmental study will be carried out to determine whether the project will adversely impact the different flora and fauna in the project area. Where adverse impacts may occur, a plan to mitigate these impacts will be made and implemented.

## 13 SUMMARY AND CONCLUSION

The Dasque Creek Hydroelectric Development is being developed by 755748 BC LTD.

The design philosophy in developing this project is to maximize the potential of the resource and minimize the environmental impact of the project as well as to mitigate any social issues. The proponents of the project are working closely with the Tsimshian First Nation to insure that all matters pertaining to the development of the project are fully understood and agreed upon.

The project will in total consist of 9 MW of installed capacity and generate on average 50 GWh of energy/year.

The following table summarizes the key components of the project:

<b>Project Proponent</b>	755748 BC LTD
<b>District</b>	Kitimat Stikine
<b>Watershed</b>	Lower Skeena Group
<b>Water Source</b>	Dasque Creek
<b>Mean Annual Flow</b>	7 m <sup>3</sup> /s
<b>Design Discharge</b>	7.5 m <sup>3</sup> /s
<b>Normal HWL</b>	230 masl
<b>Normal TWL</b>	60 masl
<b>Gross Head</b>	170 m
<b>Head Loss</b>	30 m
<b>IFR</b>	0.7 m <sup>3</sup> /s, year round, to be confirmed with DFO
<b>Weir/Intake</b>	2.4 m high coanda screen intake structure, submerged intake to pipeline/tunnel
<b>Conduit</b>	1700 m of 1.5 m dia 60" Weholite, 1700 m of 1.7 m Wheolite, 1600 m of 1.6 m dia steel .
<b>Powerhouse</b>	Steel clad and roofed superstructure, concrete substructure
<b>Tailrace</b>	Elevation 60 masl, discharges in the Dasque Creek
<b>Turbines</b>	2 x 4.5 MW Turgo units
<b>Generator</b>	2 x 5 MVA
<b>Power Factor</b>	0.9
<b>Switchyard</b>	10 MVA, 13.8 kV to 25 kV transformer
<b>Transmission Line</b>	Approximately 597 m of 230 kV transmission line.
<b>Energy Generated</b>	50 GWh/annum

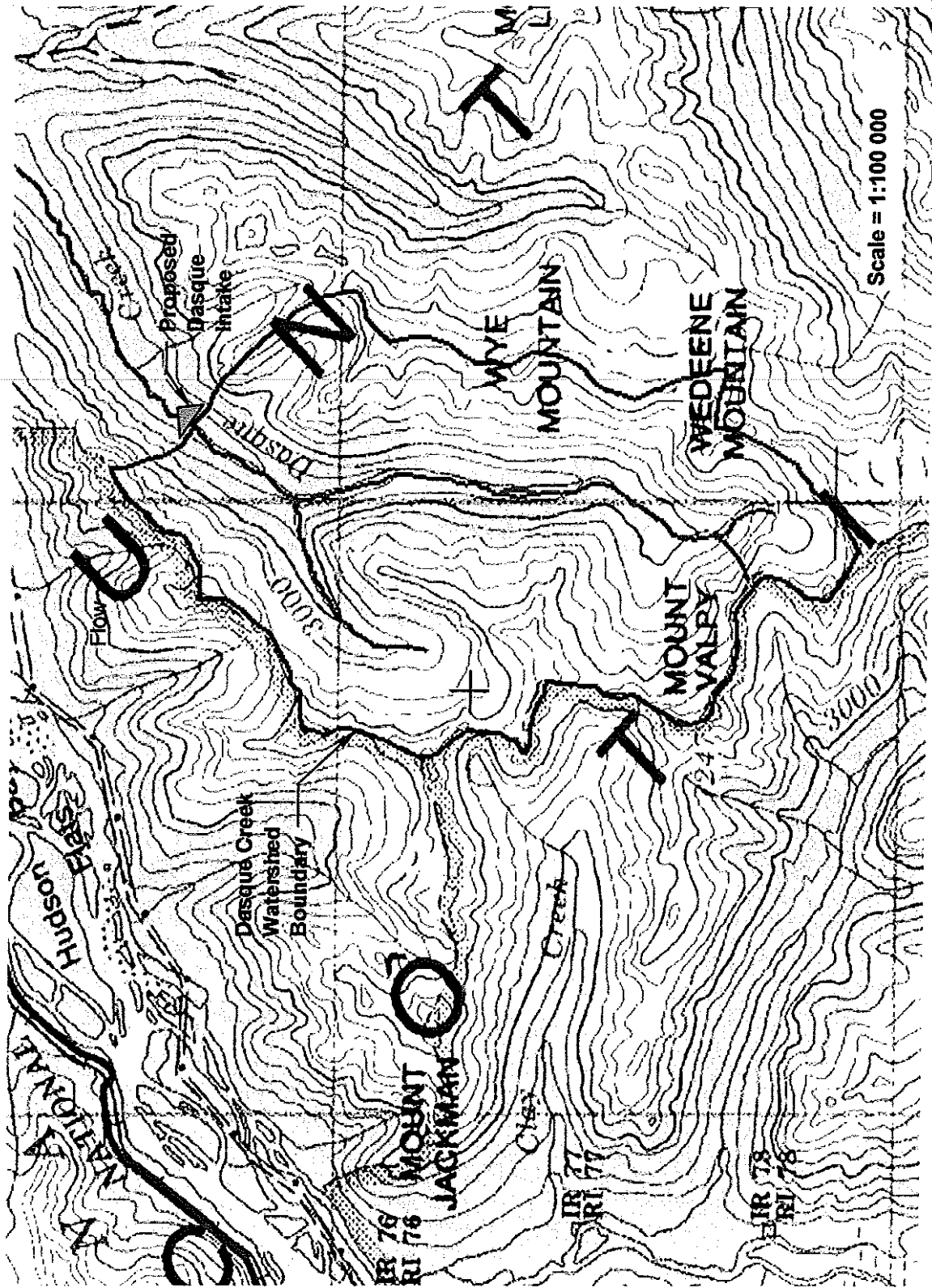
The total energy that would be generated is summarized in the following table.



MONTHLY ENERGY PRODUCTION (GWH)	
Month	Energy
January	1.21
February	0.81
March	1.33
April	3.57
May	6.53
June	6.86
July	7.07
August	6.72
September	5.72
October	5.45
November	3.17
December	1.69
Annual Total	50

**FIGURE 4**

**DASQUE CREEK WATERSHED BOUNDARY**



**TABLE 2 e**  
**755748 BC LTD. Intake penstock, and powerhouse metes and bounds**

	Northing (m)	Easting (m)	Distance (m)	Azimuth Direction
And proceed in the Azimuth Direction	6024429.7	503474.6	177.6	243°27'25"
And proceed in the Azimuth Direction	6024350.4	503315.7	67.3	293°47'51"
And proceed in the Azimuth Direction	6024377.5	503254.2	184.8	264°58'38"
And proceed in the Azimuth Direction	6024361.3	503070.1	76.7	292°53'21"
And proceed in the Azimuth Direction	6024391.2	502999.5	82.1	278°07'34"
And proceed in the Azimuth Direction	6024402.8	502918.2	72.8	251°06'43"
And proceed in the Azimuth Direction	6024379.2	502849.3	73.3	306°38'35"
And proceed in the Azimuth Direction	6024422.9	502790.5	62.1	287°16'09"
And proceed in the Azimuth Direction	6024441.4	502731.2	60.1	239°24'30"
And proceed in the Azimuth Direction	6024410.8	502679.5	63.5	225°00'50"
And proceed in the Azimuth Direction	6024365.9	502634.5	32.1	248°26'17"
And proceed in the Azimuth Direction	6024354.1	502604.7	35.8	259°27'57"
And proceed in the Azimuth Direction	6024347.6	502569.5	95.9	256°19'24"
And proceed in the Azimuth Direction	6024324.9	502476.3	88.2	166°26'06"
And proceed in the Azimuth Direction	6024239.1	502497.0	30.4	202°23'27"
And proceed in the Azimuth Direction	6024211.0	502485.5	45.0	210°17'56"
And proceed in the Azimuth Direction	6024172.1	502462.8	248.4	273°01'58"
And proceed in the Azimuth Direction	6024185.3	502214.7	47.6	230°00'45"
And proceed in the Azimuth Direction	6024154.7	502178.2	23.3	188°28'31"
	6024131.6	502174.8		

**TABLE 2 a****755748 BC LTD. Intake penstock, and powerhouse metes and bounds**

There are no known existing survey posts in the vicinity of the project from which a point on the boundary of the Crown Land application area may be referenced. Thus, the reference point will be a nearby prominent geological feature

From this reference point travel in a north easterly direction to reach the southeast corner

	Northing (m)	Easting (m)	Distance (m)	Azimuth Direction
Start	6024029.6	501946.4		
And proceed in the Azimuth Direction			72.9	157°50'34"
	6023962.1	501973.9		
And proceed in the Azimuth Direction			51.3	67°50'34"
	6023981.4	502021.5		
And proceed in the Azimuth Direction			21.0	337°50'34"
	6024000.9	502013.5		
And proceed in the Azimuth Direction			51.1	74°18'38"
	6024014.7	502062.7		
And proceed in the Azimuth Direction			106.0	84°22'20"
	6024025.1	502168.2		
And proceed in the Azimuth Direction			67.8	94°23'47"
	6024019.9	502235.8		
And proceed in the Azimuth Direction			52.3	51°21'18"
	6024052.6	502276.6		
And proceed in the Azimuth Direction			123.8	84°50'22"
	6024063.7	502400.0		
And proceed in the Azimuth Direction			39.5	48°49'45"
	6024089.7	502429.7		
And proceed in the Azimuth Direction			68.3	63°04'26"
	6024120.6	502490.5		
And proceed in the Azimuth Direction			78.9	30°17'56"
	6024188.8	502530.4		
And proceed in the Azimuth Direction			50.1	22°23'27"
	6024235.1	502549.5		
And proceed in the Azimuth Direction			54.6	346°26'06"
	6024288.1	502536.7		
And proceed in the Azimuth Direction			44.6	76°19'24"
	6024298.7	502580.0		
And proceed in the Azimuth Direction			39.3	79°27'57"
	6024305.8	502618.6		
And proceed in the Azimuth Direction			47.3	68°26'17"
	6024323.2	502662.6		
And proceed in the Azimuth Direction			67.6	45°00'50"
	6024371.0	502710.3		
And proceed in the Azimuth Direction			31.6	59°24'30"
	6024387.0	502737.5		



**TABLE 2 b**  
**755748 BC LTD. Intake penstock, and powerhouse metes and bounds**

	Northing (m)	Easting (m)	Distance (m)	Azimuth Direction
And proceed in the Azimuth Direction	6024377.7	502767.5	31.4	107°16'09"
And proceed in the Azimuth Direction	6024323.4	502840.6	91.1	126°38'35"
And proceed in the Azimuth Direction	6024351.6	502923.1	87.1	71°06'43"
And proceed in the Azimuth Direction	6024342.6	502986.0	63.6	98°07'34"
And proceed in the Azimuth Direction	6024310.4	503062.1	82.6	112°53'21"
And proceed in the Azimuth Direction	6024326.6	503245.7	184.3	84°58'38"
And proceed in the Azimuth Direction	6024295.1	503317.0	77.9	113°47'51"
And proceed in the Azimuth Direction	6024387.9	503502.7	207.5	63°27'25"
And proceed in the Azimuth Direction	6024476.6	503603.9	134.5	48°45'29"
And proceed in the Azimuth Direction	6024561.6	503632.1	89.6	18°23'51"
And proceed in the Azimuth Direction	6024613.2	503668.2	63.0	34°56'31"
And proceed in the Azimuth Direction	6024626.8	503697.7	32.4	65°15'29"
And proceed in the Azimuth Direction	6024619.2	503773.5	76.2	95°45'10"
And proceed in the Azimuth Direction	6024657.9	503960.6	191.0	78°18'53"
And proceed in the Azimuth Direction	6024709.3	503994.0	61.3	32°58'56"
And proceed in the Azimuth Direction	6024713.2	504070.5	76.6	87°08'20"
And proceed in the Azimuth Direction	6024740.0	504171.3	104.3	75°05'50"
And proceed in the Azimuth Direction	6024850.8	504313.9	180.6	52°08'59"
And proceed in the Azimuth Direction	6024884.4	504327.6	36.3	22°10'11"
And proceed in the Azimuth Direction	6025021.5	504611.2	315.0	64°12'07"

**TABLE 2 c**  
**755748 BC LTD. Intake penstock, and powerhouse metes and bounds**

	Northings (m)	Easting (m)	Distance (m)	Azimuth Direction
And proceed in the Azimuth Direction	6025065.0	504689.3	89.4	60°54'20"
And proceed in the Azimuth Direction	6025130.6	504740.3	83.1	37°50'44"
And proceed in the Azimuth Direction	6025167.1	504778.8	53.0	46°33'48"
And proceed in the Azimuth Direction	6025198.9	504828.9	59.4	57°35'58"
And proceed in the Azimuth Direction	6025208.7	504866.3	38.6	75°14'19"
And proceed in the Azimuth Direction	6025385.6	505020.4	234.6	41°04'17"
And proceed in the Azimuth Direction	6025433.9	505092.2	86.5	56°04'16"
And proceed in the Azimuth Direction	6025501.5	505240.2	162.7	65°27'01"
And proceed in the Azimuth Direction	6025999.6	505619.4	626.0	37°16'38"
And proceed in the Azimuth Direction	6026207.1	505689.7	219.1	18°42'37"
And proceed in the Azimuth Direction	6026296.7	505587.1	136.1	311°08'01"
And proceed in the Azimuth Direction	6026331.4	505632.0	56.7	52°14'38"
And proceed in the Azimuth Direction	6026400.7	505578.3	87.7	322°14'38"
And proceed in the Azimuth Direction	6026323.2	505478.2	126.6	232°14'38"
And proceed in the Azimuth Direction	6026253.9	505531.8	87.7	142°14'38"
And proceed in the Azimuth Direction	6026265.5	505546.8	19.0	52°14'38"
And proceed in the Azimuth Direction	6026191.5	505631.6	112.5	131°08'01"
And proceed in the Azimuth Direction	6026023.4	505574.6	177.4	198°42'37"
And proceed in the Azimuth Direction	6025541.8	505208.0	605.3	217°16'38"

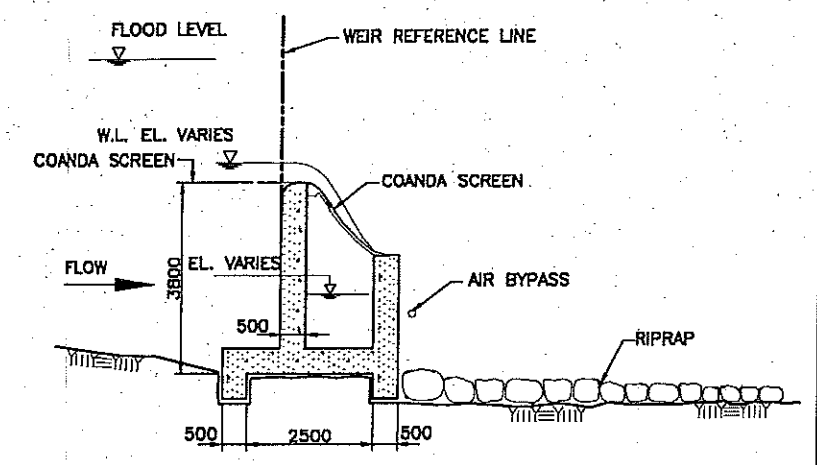
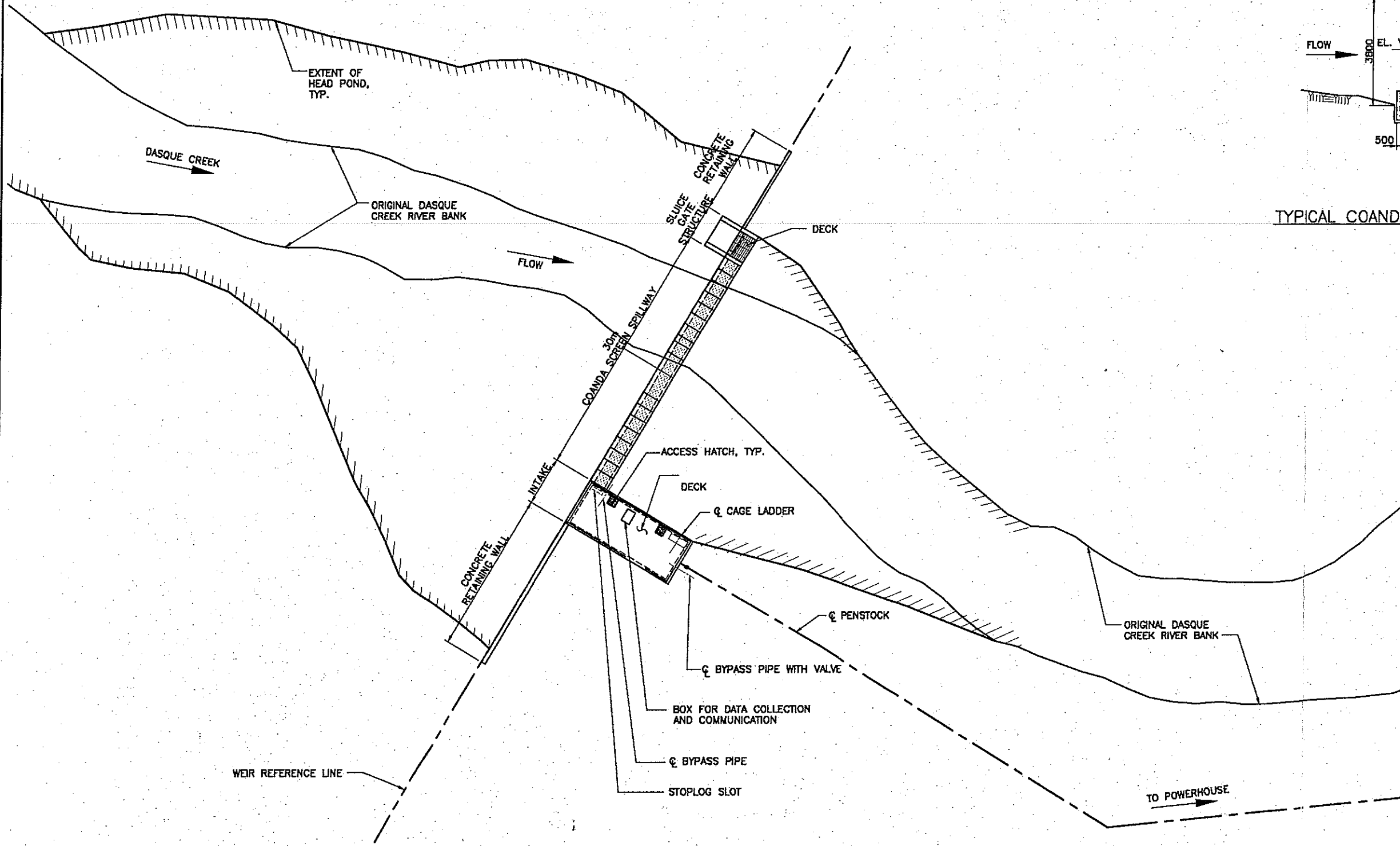
**TABLE 2 d**  
**755748 BC LTD. Intake penstock, and powerhouse metes and bounds**

	Northing (m)	Easting (m)	Distance (m)	Azimuth Direction
And proceed in the Azimuth Direction	6025477.7	505067.7	154.3	245°27'01"
And proceed in the Azimuth Direction	6025423.4	504987.1	97.2	236°04'16"
And proceed in the Azimuth Direction	6025253.2	504838.7	225.8	221°04'17"
And proceed in the Azimuth Direction	6025245.3	504808.7	31.0	255°14'19"
And proceed in the Azimuth Direction	6025206.7	504747.9	72.0	237°35'58"
And proceed in the Azimuth Direction	6025164.3	504703.2	61.6	226°33'48"
And proceed in the Azimuth Direction	6025103.7	504656.1	76.7	217°50'44"
And proceed in the Azimuth Direction	6025065.9	504588.1	77.8	240°54'20"
And proceed in the Azimuth Direction	6024921.1	504288.5	332.8	244°12'07"
And proceed in the Azimuth Direction	6024882.0	504272.6	42.2	202°10'11"
And proceed in the Azimuth Direction	6024785.7	504148.6	157.0	232°08'59"
And proceed in the Azimuth Direction	6024762.8	504062.7	88.9	255°05'50"
And proceed in the Azimuth Direction	6024758.0	503965.9	96.9	267°08'20"
And proceed in the Azimuth Direction	6024702.6	503930.0	66.0	212°58'56"
And proceed in the Azimuth Direction	6024669.7	503770.9	162.5	258°18'53"
And proceed in the Azimuth Direction	6024677.9	503689.1	82.1	275°45'10"
And proceed in the Azimuth Direction	6024653.0	503635.0	59.6	245°15'29"
And proceed in the Azimuth Direction	6024584.2	503587.0	83.9	214°56'31"
And proceed in the Azimuth Direction	6024505.2	503560.7	83.3	198°23'51"
			114.5	228°45'29"

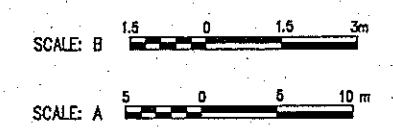
**TABLE 2 f**  
**755748 BC LTD. Intake penstock, and powerhouse metes and bounds**

	Northing (m)	Easting (m)	Distance (m)	Azimuth Direction
And proceed in the Azimuth Direction	6024143.6	502104.7	71.2	279°40'05"
And proceed in the Azimuth Direction	6024063.3	502016.9	118.9	227°31'51"
And proceed in the Azimuth Direction	6024054.5	501991.7	26.7	250°47'45"
And proceed in the Azimuth Direction	6024091.9	501976.5	40.3	337°50'34"
And proceed in the Azimuth Direction	6024072.5	501929.0	51.3	247°50'34"
And proceed in the Azimuth Direction	6024029.8	501946.3	46.1	157°50'34"
End				



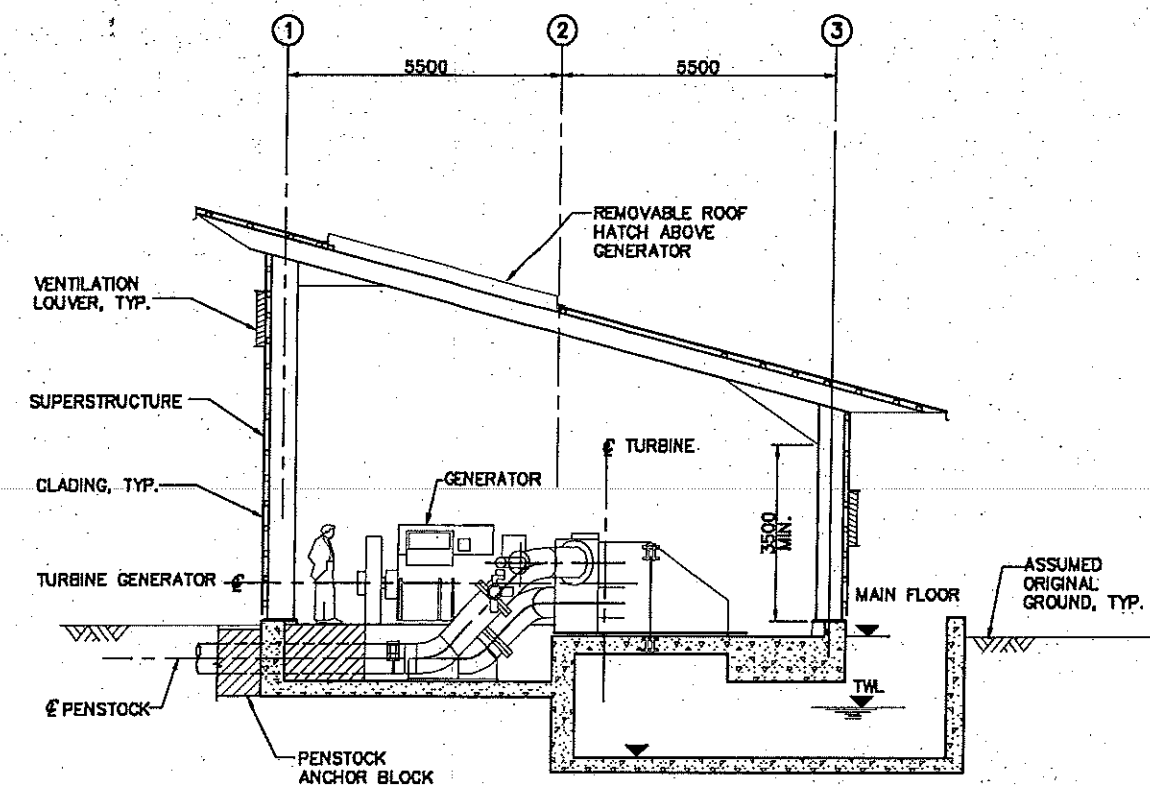
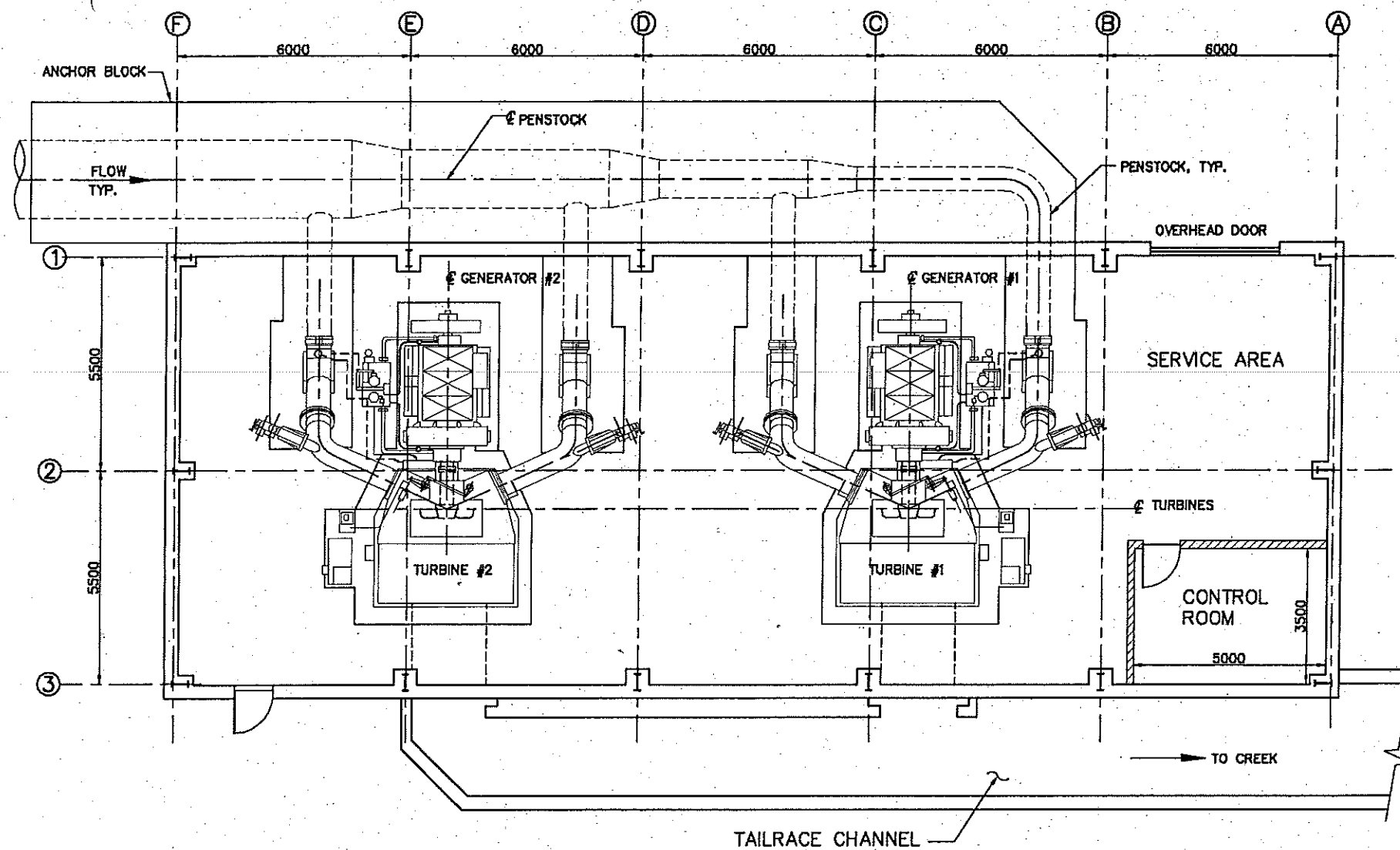


TYPICAL COANDA SCREEN SPILLWAY CROSS SECTION  
SCALE B




PLAN  
SCALE A

Rev.	REVISION DESCRIPTION	Date	Design	Drawn	Chk'd	App'd
Designed by		Checked by				
Drawn by		Approved by				
Amnis Engineering Ltd.		755748 BC LTD				
DASQUE CREEK HYDROELECTRIC PROJECT						
INTAKE GENERAL ARRANGEMENT PLAN & SECTION						
SCALE AS SHOWN		DRAWING NO. 0067-0010		REVISION B		



Rev.	REVISION DESCRIPTION	Date	Design	Drawn	Chk'd	Appr'd
Designed by _____		Checked by _____				
Drawn by _____		Approved by _____				



**Amnis  
Engineering  
Ltd.**

**755748  
BC LTD**

## DASQUE CREEK HYDROELECTRIC PROJECT

# POWERHOUSE GENERAL ARRANGEMENT PLAN AND SECTION

SCALE <b>AS SHOWN</b>	DRAWING NO. <b>0067-0020</b>	REVISION <b>B</b>
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## **8.0 LAND REQUIREMENTS**

**Table 1: 755748 BC LTD. Crown Land Requirements**

Component	Use	Area (ha)	Length
Penstock Including Intake & Powerhouse	Licence	30	Penstock: 5000 m
Transmission Line	Right-of-Way	83	20.6 km

596.9 m long  
 ↑  
 right ✓

↑ ?      ↑ ?  
               596.9m  
                         

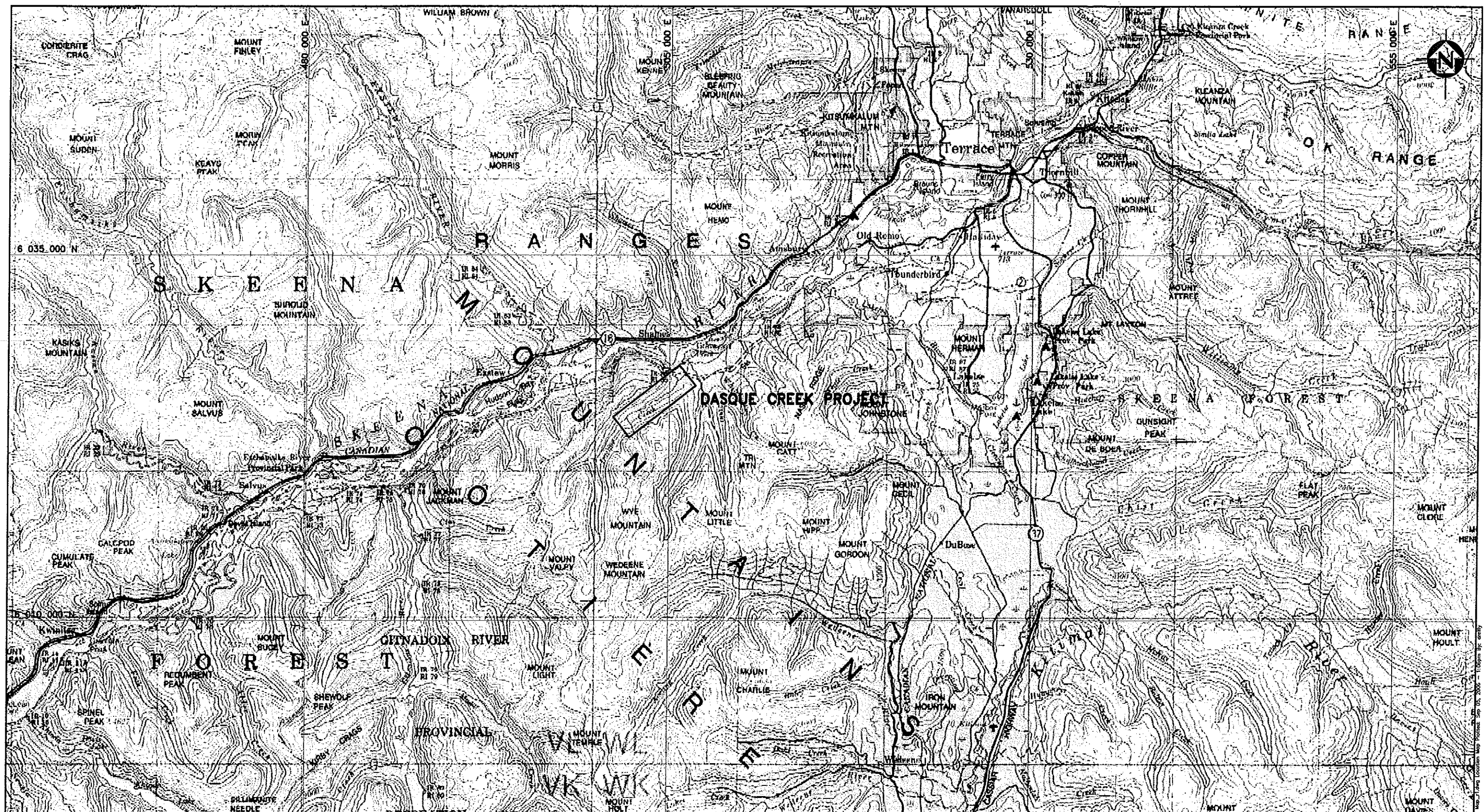
830000 sq m  
 20600 m  
 1390.5 m wide  
 x 596.9 m long  
 = 830000 sq m

TABLE 3

755748 BC LTD. Application for Crown Land Metes and Bounds for Transmission Line.

Location	Waypoint	Coordinates at waypoint		Distance (m)	Azimuth Direction
		<del>Northings</del> <del>Easting</del> (m)	<del>Easting</del> <del>Northings</del> (m)		
Switchyard	1	6026312.0	505542.3	596.9	44°29'16"
	2	6026737.8	505960.6		
BCTC			Total	596.9	





NOTE  
1. Grid shown is UTM NAD83 ZONE 9.

Scale 2500 0 2500 5000 7500 10000 12500 m

Amnis  
Engineering  
Ltd.

755748  
BC LTD

DASQUE CREEK PROJECT

LOCATION MAP

SCALE  
1:250 000

FIGURE NO. Page 58  
FIGURE 2011-00288

REVISION  
0





## **9.0 CERTIFICATE OF INCORPORATION**



Number: BC0755748

Certified a true copy this 7  
day of June, 2006  
[Signature]  
Solicitor

# CERTIFICATE OF INCORPORATION

RAYMOND D. SCHACHTER  
Barrister & Solicitor  
1450 - 1075 WEST GEORGIA STREET  
VANCOUVER, B.C. V6E 3C9  
TEL: (604) 682-0701  
FAX: (604) 682-7356

## *BUSINESS CORPORATIONS ACT*

I Hereby Certify that 0755748 B.C. LTD. was incorporated under the Business Corporations Act on April 25, 2006 at 11:31 AM Pacific Time.

*Issued under my hand at Victoria, British Columbia  
On April 25, 2006*

RON TOWNSHEND  
Registrar of Companies  
Province of British Columbia  
Canada

