

Breakwater Construction

Wild Cove, NL

Environmental Registration Document

Submitted to the Government of Newfoundland and Labrador

Department of Environment and Conservation

Environmental Assessment Division

Prepared For: **Fisheries and Oceans Canada**
Small Craft Harbours Branch - Central Area

Prepared By: **Public Works and Government Services Canada**

Date: **May 10, 2010**

Project No.: **R.031972.004**

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1.0 NAME OF UNDERTAKING:

Breakwater construction, Wild Cove, NL (P/N R.031972.004)

2.0 PROPOSER:

- (i) Fisheries and Oceans Canada
Small Craft Harbours Branch – Central Area
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3.0 THE UNDERTAKING:

3.1 Nature of the Undertaking:

The proposed undertaking represents an enhancement of the existing DFO SCH facilities in Wild Cove, Baie Verte Peninsula, Newfoundland and Labrador. It involves the construction of rubblemound breakwater which will provide shelter to existing wharf infrastructure.

3.2 Purpose/Rationale/Need for the Undertaking:

An existing finger pier wharf extends outward from the shoreline in a southerly direction then turns approximately 45 degrees toward the east. The location of the wharf leaves it exposed to harsh high sea conditions from the west. As a result of this exposure the construction of a rubblemound breakwater has been proposed. The rubblemound breakwater will provide shelter to the wharf from

high sea conditions and provide safe access to the berthing areas of the wharf to meet the operational requirements of facility users. The proposed project complies with DFO SCH's mandate to keep harbours critical to the fishing industry open and in good repair.

4.0 DESCRIPTION OF THE UNDERTAKING:

4.1 Geographical Location:

The proposed project site is located along the western shoreline of the Baie Verte Peninsula, Newfoundland. Approximate NAD coordinates of the project site are 49° 59' 37" N, 56° 20' 27" W. Access to the site is provided by municipal roads through the community of Wild Cove, which may be accessed via provincial route 419.

4.2 Physical Features:

The project involves the construction of a rubblemound breakwater to provide protection to an adjacent finger pier wharf. The area between the breakwater and the existing finger pier wharf will also be infilled to provide an expanded service area. The breakwater will have an approximate length of 120 m at the water surface, extending in a generally southern direction with an overall footprint (breakwater and infill for new service area) of 7,000 m². The breakwater will be constructed of a mixture of 0.5 - 1000kg core material (19,025m³), 1 - 4 tonne armourstone (7,495m³) and 4 - 12 tonne armourstone (27,500m³). The armourstone material will be trucked to the site and will be placed using an excavator(s), working above the high water mark, from the shoreline/breakwater structure or atop a barge. The successful contractor will determine the exact construction methodology and source for the armourstone.

Physical and Biological Environment

Within the general vicinity of the project site there are numerous wharf structures, sheds and other buildings. The DFO SCH facility consists of a finger pier wharf, marginal wharf, service area, ice shed and several small sheds. The seabed within the project area is a mixture of sand, pebble and exposed bedrock. The shoreline consists primarily of sloping exposed bedrock with intermittent areas of pebble-cobble material. The landscape immediately upland of the breakwater location is forested.

Wild Cove is located within the Central Newfoundland Forest Ecoregion, North-central subregion. The Central Newfoundland Forest ecoregion has the highest summer and lowest winter temperatures on the Island. Furthermore, this ecoregion experiences the least wind and fog on the island, and is also one of the driest ecoregions on the island. The north-central subregion is much more densely forested than areas to the north, east and southeast with bogs occurring regularly within the landscape. Soils within this ecoregion are primarily brown humic ferric podzols which contain primarily inorganic material.

Overall the ecoregion is dominated by gently rolling hills ranging from 150-200m above sea level. The geology of the North-central subregion is diverse

with rock formations belonging to four geologic zones which range from 290 million to one billion years of age. These geologic zones are made up of mixtures of sandstones, shales and conglomerates with granite intrusions found throughout the subregion. The North-central subregion experiences the most continental climate of the island portion of the province with a growing season ranging from 140-160 days. Mean annual temperatures range from between -4 to -8°C in February and 15 to 16°C in July. Annual rainfall is 740.6mm per year with annual snowfall of 389.1cm.

According to Fisheries and Oceans' Traditional Ecological Knowledge Maps of the area capelin, brook trout, herring, mackerel, salmon and kelp may be found within the project area. Groundfish species such as cod and winter flounder may also be found near the general project area.

The project site is also within the distribution range of several endangered species such as the Blue Whale (Atlantic population), North Atlantic Right Whale, Red Crossbill (*percna* subspecies) and the Leatherback Turtle which have been placed on Schedule 1 of the Species at Risk Act by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). It is not expected that the project site provides critical or limiting habitat for any of the above noted species at risk.

4.3 Construction:

Commencement of this project is subject to DFO SCH operational priorities and funding.

Construction of the breakwater is expected to require 3.5 - 4 months to complete. Commencement of the proposed project is tentatively scheduled for 2010/2011 fiscal year.

The most probable sources of potential pollutants are related to the use of heavy equipment. Accidental spills of heavy equipment fuel, engine oil, and hydraulic fluids are a possibility. Short-term sedimentation as a result of the placement of rock material into the marine environment can also be anticipated.

An active fishery is executed from the project area. The duration of the construction phase of the proposed project is likely to extend into the fishing season. As a result, minor disruptions to harbour and fishing operations can be anticipated.

4.4 Operation:

Routine maintenance and repair projects including repairs or replacement of displaced armourstone will be carried out on an as-required basis over the estimated thirty (30) year life of the structure.

The proposed undertaking represents an enhancement of the existing DFO SCH facilities in Wild Cove, Baie Verte Peninsula, Newfoundland and Labrador. It involves the construction of rubblemound breakwater which will provide shelter to existing wharf infrastructure.

Reasonably foreseeable pollutants occurring during the operational phase of the proposed project are limited to accidental discharges of vessel fuels, engine oils, and fishing industry related refuse.

The operation and maintenance of the facility will be under the control of the Harbour Authority of Wild Cove with the support of Fisheries and Oceans Canada, Small Craft Harbours Branch. Potential resource conflicts are not anticipated as a result of the operation of the proposed project.

4.5 Occupations:

Construction of the harbour improvements are expected to require 3.5 – 4 months to complete. Commencement of the proposed project is tentatively scheduled for the 2010/2011 fiscal year.

The following list outlines occupations which may be employed during the design and construction period. Please note that this list represents only an approximation of the number and type of occupations that may be produced as a result of the proposed project. Actual occupations created as a result of the proposed project will ultimately be determined by the successful contractor. Occupations are expected to be comparable to those created for similar construction projects throughout the Province.

- 2 – Professional Engineers - 0211 - entire project
- 2 – Engineering Techs - 2231 - entire project
- 1 – Surveyors - (1)-2113 and (1)-2154 - construction only
- 1 – Rod and Chainmen - 7612 - construction only
- 1 – Construction Inspector - 2264 - construction only
- 1 – Draftsperson - 2253 - 2 months work
- 1 – Secretary - 1241 - entire project
- 6 – Laborers - 7217 - construction only
- 2 – Heavy Equipment Operators - 7217 - construction only
- 5 – Truck Drivers - 7217 - construction only
- 2 – Flag Persons - 7611 - construction only
- 1 – Office Clerk - 1211 - 1 for construction and 1 for engineering
- 1 – Construction Foremen/Superintendents - 7217 - construction only

4.6 Project-Related Documents:

1. Benthic Environment Survey – Wild Cove
Author: Central Diving Ltd. – November 2009

5.0 APPROVAL OF THE UNDERTAKING:

The following is a list of the likely permits, licences and approvals required for this project.

Approvals/Certificate/Permits	Regulatory Authority
NL Environmental Assessment Registration	NL Department of Environment and Conservation, Environmental Assessment Division
Fish Habitat Approval	Fisheries and Oceans Canada, Habitat Protection Division
Application to Alter a Body of Water	NL Department of Environment and Conservation, Water Resources Division
Navigable Waters Protection Approval	Transport Canada
Quarry Permit	NL Department of Mines and Energy
Lease / Permit to Occupy Crown Lands	NL Department of Government Services

6.0 SCHEDULE:

The proposed project could commence at the earliest, June 15, 2010. This timeline would allow for completion of a federal environmental assessment prior to initiating a call for tender. Depending on the responses provided by the abovenoted regulators, commencement of the project could be delayed by up to 6 months to a year.

7.0 FUNDING:

The total cost estimate for all phases of the proposed project, as provided by the proponent, is approximately \$2.99 million. Funds will be provided by Small Craft Harbours Branch, Fisheries and Oceans Canada.

May 10, 2010

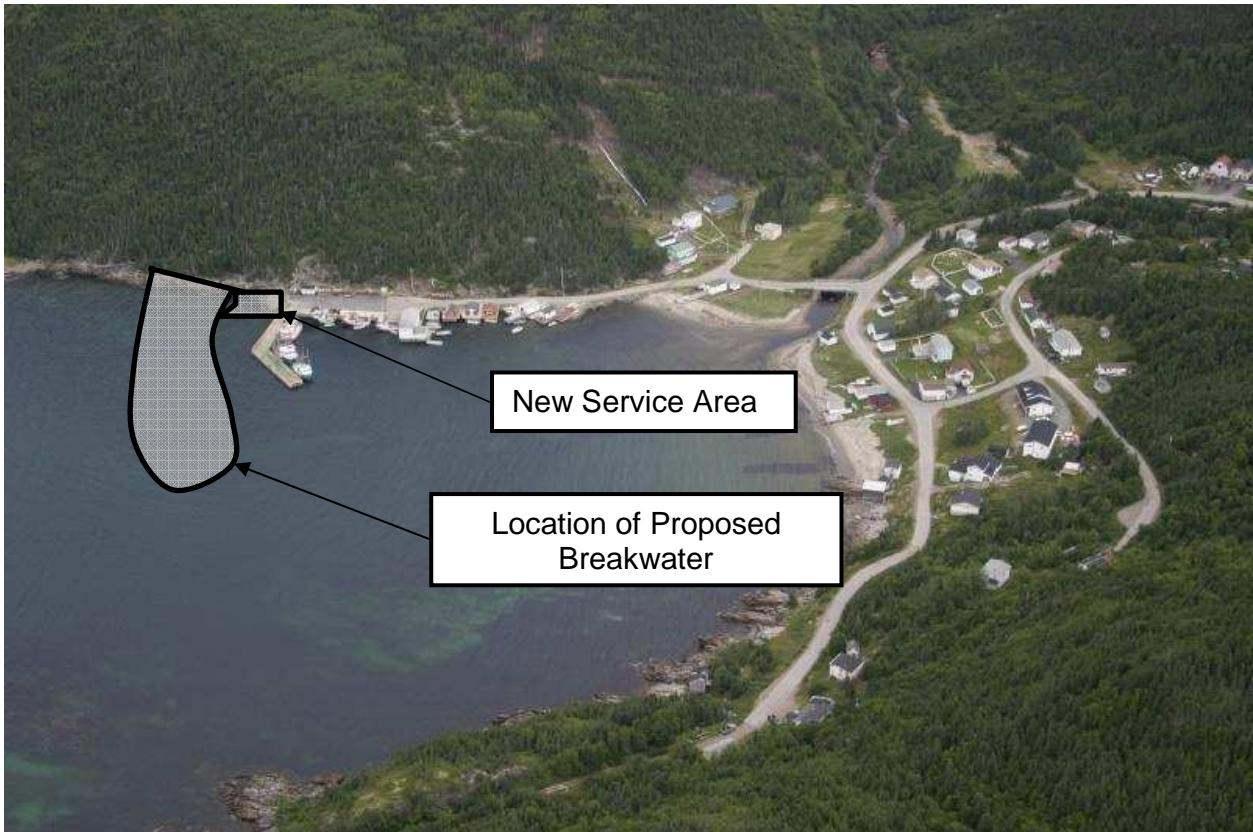
Date



Environmental Assessment Representative

APPENDIX A

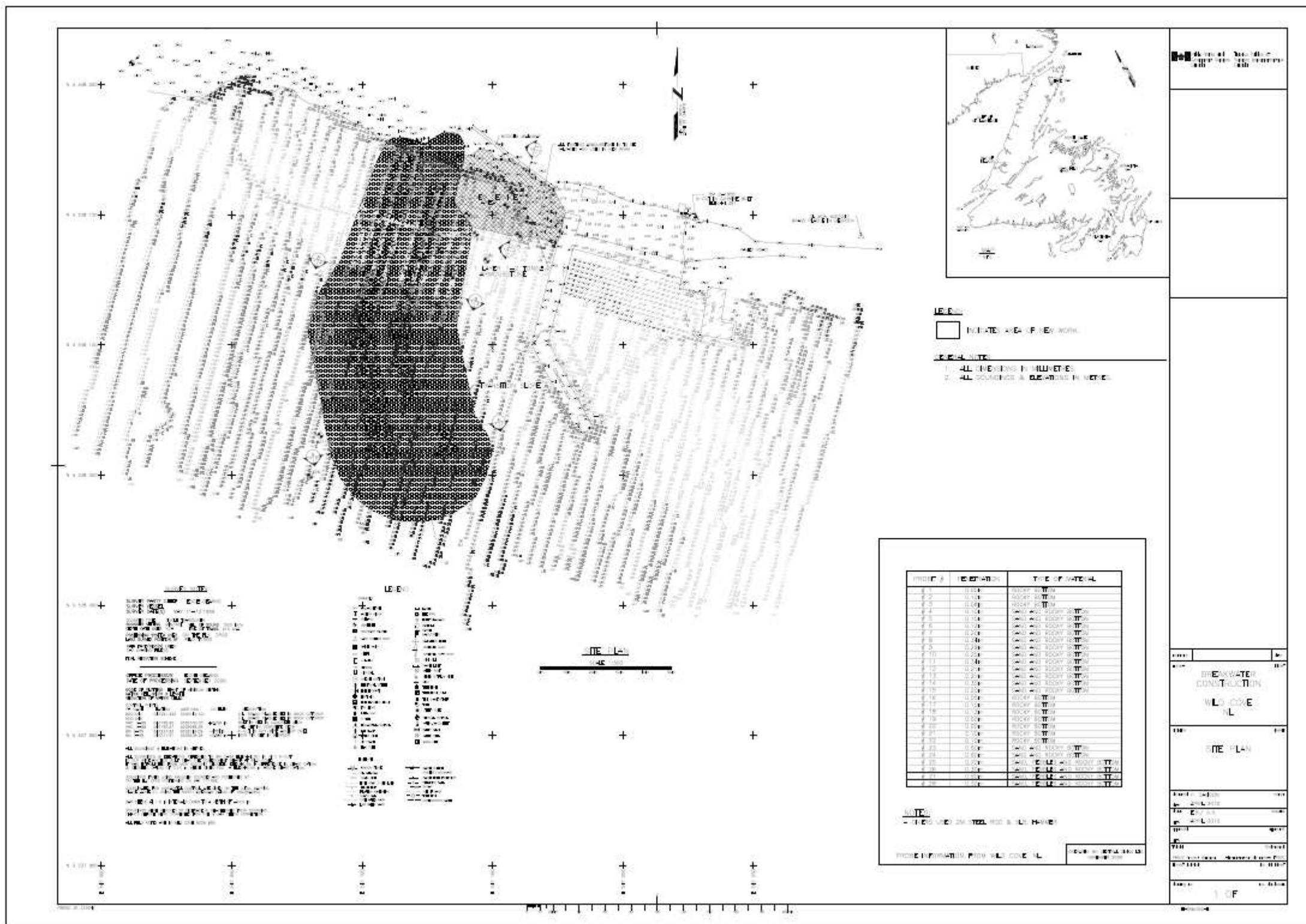
PHOTOS



Appendix A-1. Location of proposed project

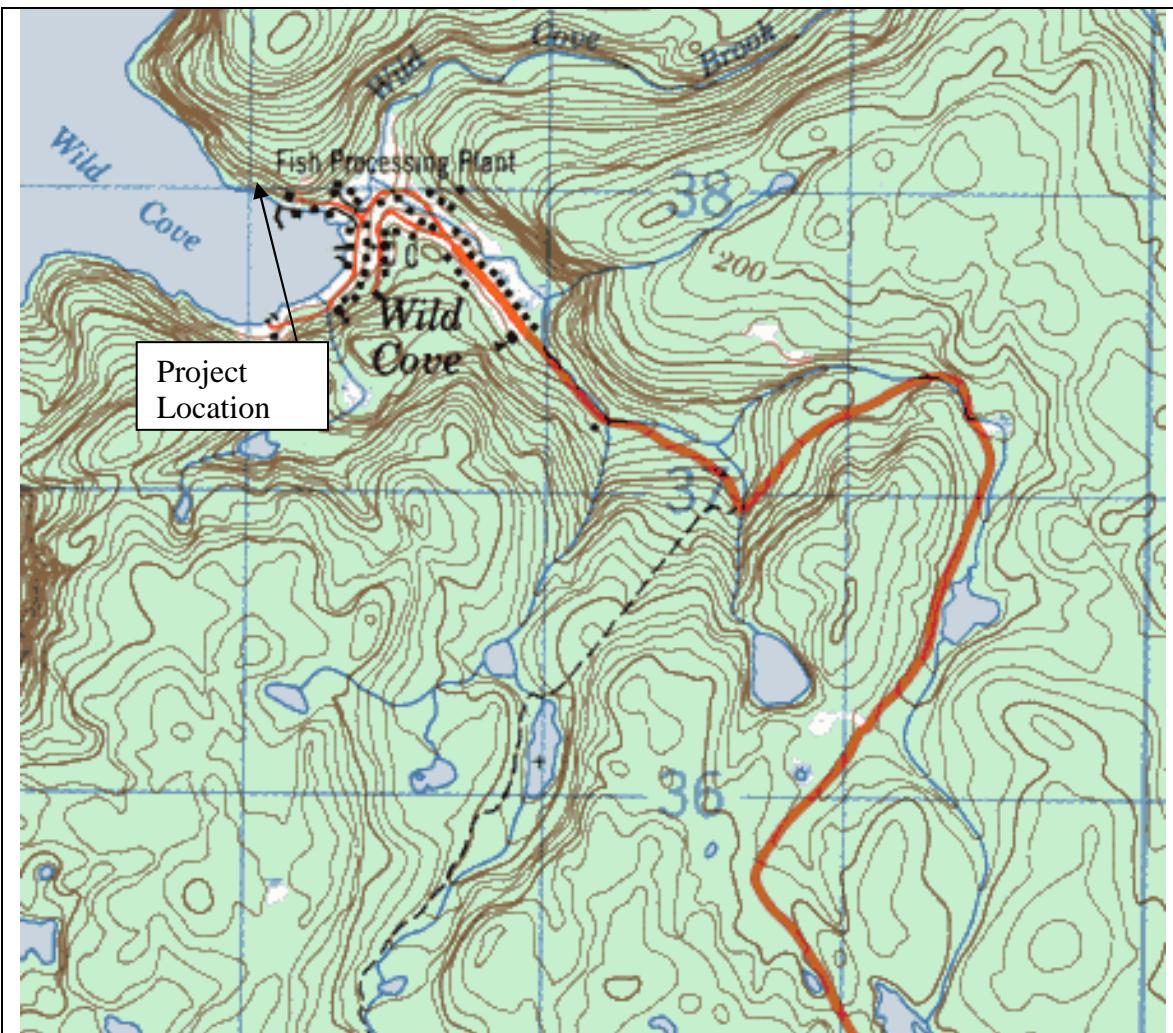
APPENDIX B

SITE PLAN



Appendix B-1. Site plan of proposed breakwater construction

APPENDIX C
TOPO MAP



Appendix C-1: Topographic Map of Proposed Site
Location: Wild Cove
Scale 1:50,000
NTS Mapsheet 12-H-16 – Baie Verte

