

**Preliminary Investigation  
Of Alternate Sites For An  
Aquaculture In-Flow Wharf  
At Harbour Breton**

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## 1) Introduction

As a result of a meeting held in council chambers in Harbour Breton on July 23, 2009 between representatives of industry council and government and discussions held with Mr. Calvin Squires, Dept. of Fisheries and Aquaculture it was decided to undertake an additional investigation into alternative sites for the proposed inflow wharf at Harbour Breton. The sites that are included in this investigation are as follows:

- 1) The Knob area just inside Percy's/Hunts Point (recommended by Rutter Inc.)
- 2) Thompson's Beach north of Lighthouse
- 3) South of Lighthouse
- 4) The existing Marine Service Center
- 5) Poole Cove

## 2) Proposed Sites

A brief description of each of these sites is as follows:

1) The Knob: This area is located just outside the north side of southwest arm and is accessed by crossing the causeway at southwest arm and driving through the residential area on the north side of southwest arm. This road is paved but is very narrow with houses and fences almost to the edge of the pavement. The site is solid rock rising sharply to about 15 meters above sea level. The water level also drops off very sharply with about 10 meters depth within 15 meters of the shoreline. Some of the problems with this site are that at least one house will have to be expropriated to gain access and then rock excavation would make truck access and turnaround space very difficult in this area. Also the narrow approach road through a residential area creates some concerns and potential safety risks for heavy vehicle travel.

2) Thompson's Beach North of Lighthouse: This is a sandy beach area with level access from the main road. Unfortunately it is very close to fish plant and there may be some contamination concerns, also the water depth in this area drop off very slowly.

3) South of the Lighthouse: There is an access road to this site at the present time but it would have to be upgraded. There is a level site that could be developed but it is about 10 meters above sea level. An approach would have to be developed from this site down to the wharf site. The main concern with this site is that it offers little to no protection and it is significantly exposed to southerly and easterly winds.

4) Existing Marine Service Center: This site is located in the Harbour near the causeway. It is well developed with a marginal wharf, wharf basin and paved laydown area. It has been brought to our attention that this site is for sale and it may be the most economical. Bio-contamination of this site may be a concern and would have to be further investigated by the appropriate people.

5) Poole Cove: Poole Cove is an isolated cove about 1.5 km north of Harbour Breton. There is a sheltered pebbled beach in the area about 200 meters long. The adjacent ground rises about 10 meters to a treed area that appears to be fairly level. This site is well inside Harbour Breton Bay and is protected from practically all wind directions. To develop the site an access road approximately 2.5 km long would have to be constructed from Harbour Breton along the north shore of Barasway. A fresh water pond known as Big Pond drains out through the southern end of Poole Cove. This cove is well away from any existing development and should provide the best defense against any bio-contamination. The runout from Big Pond as mentioned previously is on the southern end of the cove and any development could be kept well away from it. Water depths appear to be in the order of 3 to 5 meters about 20 meters from shoreline.



### Summary of Sites

Location	Advantages	Disadvantages
1. The Knob	<p>Close to existing services</p> <p>Deep water close to shore</p>	<p>Congested Access Road</p> <p>Private property expropriation</p> <p>Excessive rock excavation</p> <p>Exposure to south east wind</p>
2. Thompson's Beach	<p>Level Site</p> <p>Close to existing services</p> <p>Sheltered from southerly winds</p>	<p>Shallow water</p> <p>Close to fish plant bio-contamination</p>
3. South of Lighthouse	<p>Existing access road</p>	<p>Site exposed to southern and easterly winds</p> <p>Access to shoreline difficult</p>
4. Existing Marine Services Center	<p>Existing wharfage</p> <p>Existing paved laydown area</p> <p>Existing building</p> <p>Sheltered site</p>	<p>Potential bio-contamination due to location within the harbour</p>
5. Poole Cove	<p>Sheltered beach protected from most winds</p> <p>Laydown area available</p> <p>Adequate water depths close to shore</p>	<p>2.5 km access road required</p> <p>2.5 km power line required</p>



### **3) Site Evaluation**

Two of the main criteria for selecting a wharf site for the aquaculture industry are protection from contamination from adjacent sites and protection from wind exposure.

Site No. 2, Thompson's Beach and Site No. 4, Existing Marine Service Center, appear to be potential candidates of bio-contamination due to their location within the harbour and/or near the fish plant. The writer of this report is not an expert in this field and would therefore welcome comments from associated experts.

Site No. 3, South of Lighthouse is well away from any contamination but is extremely exposed to storm easterly and southerly winds.

Site No. 1, The Knob is just outside the Harbour but across from the fish plant. There may be some bio-contamination exposure with this site. It is protected from most winds except a direct south easterly. The site would require a considerable amount of rock excavation to create a storage area and access. Also at least one private property would have to be expropriated to facility access. The access road on the site would have a grade of about 10%. This access road would be connected to a local town road on the north side of Southwest Arm leading to the causeway. This road is approximately 1.5 km long it is paved but very narrow with residential houses and fences very close to the edge of the pavement. The rock face appears to slope off very sharply below water similar to above water. Preliminary water sounding indicate water depths of 10 to 12 meters within 15 meters of the shoreline. This may be too steep for conventional Timber Crib construction.

Site No. 5, Poole Cove is located about 1.5 km north of the mouth of the main harbour. It is a pebble beach about 200 meters long, bordered with high cliffs on both ends. It is protected from winds on all sides and there is no development at the present time in the general vicinity. A small pond drains out on the southern end of the cove. There is no vehicle access to the site at the present time but a bike trail runs from the end of a new residential development in Harbour Breton a distance of about 2.5 km to the site. There does not appear to be any significant rock excavation required and a level area about 10 meters above seal level could be developed as a storage area. There is no water or power at the site. A power line would have to be run from Harbour Breton or a portable generator set up on site

### **4) Recommendation**

Considering the previous discussion and without taking cost as a major factor, the preferred site for the Aquaculture Wharf for Harbour Breton is Site No. 5 – Poole Cove. As an alternate to this site we would recommend Site No. 1 – The Knob area.

### 5) Cost Estimates

A detailed breakdown of the cost estimates for Poole Cove is included in the appendix of this report.

A summary of these cost estimates is as follows:

Site Development	\$1,482,180.00
Access Road	522,200.00
Power to Site	<u>75,000.00</u>
Estimated Construction Cost	\$2,079,380.00
Original Engineering	91,000.00
Extra Engineering	<u>60,000.00</u>
Sub Total	\$2,230,380.00
HST 13%	<u>289,949.00</u>
Total Estimated Project Cost	\$2,520,329.00



Appendix A  
Site Development  
Cost Estimate

	<u>Quant.</u>	<u>Unit</u>	<u>Price</u>	<u>Amount</u>
Clearing	0.5	Hect.	\$8000.00	\$4,000.00
Grubbing	0.5	Hect.	\$22,000.00	\$11,000.00
Grading	0.5	Hect.	\$25,000.00	\$12,500.00
Imported Fill	900	m <sup>3</sup>	\$11.00	\$9900.00
Class A	660	m <sup>3</sup>	\$18.00	\$11,880.00
Wharf Cribwork	4000	m <sup>3</sup>	\$250.00	\$1,000,000.00
Concrete	513	m <sup>2</sup>	\$220.00	\$112,900.00
Hardwood Fenders	L.S.			\$150,000.00
Cleats	L.S.			\$20,000.00
Attendant Bldg. 6m x 6m	L.S.			\$30,000.00
Septic Tank	L.S.			\$5,000.00
Well				\$5,000.00
Pumping System				\$10,000.00
Water Line to Wharf	150	m	\$100.00	\$15,000.00
Fence				\$25,000.00
Asphalt Paving				<u>\$60,000.00</u>
			Sub Total	\$1,482,180.00











