

REGISTRATION

Pursuant to s.49 of the Environmental Protection Act, SNL 2002, c. E-14.2

Undertaking:

Microbrewery

LOCATION:

81 Highway 410, Baie Verte, Newfoundland

SUBMITTED BY:

Jeffrey Quigley, on behalf of
Saltbox Brewhouse Inc.

SUBMISSION DATE:

March 5, 2019

NAME OF UNDERTAKING:

Little North Brewhouse

PROPONENT:

(i) Name of Corporate Body:

Saltbox Brewhouse Inc.

(ii) Address:

81 Highway 410
Baie Verte, NL
A0K 1B0

(iii) Chief Executive Officers:

Name: Ryan White
Official Title: President / CEO
Address: 68 Highway 410
Baie Verte, NL
Telephone No.: (709) 293 - 4434

Name: Jerry Ball
Official Title: Treasurer
Address: 64A Highway 410
Baie Verte, NL
Telephone No.: (709) 638 - 3724

Name: Neil Clarke
Official Title: Secretary
Address: 16A Critch's Lane
La Scie, NL
Telephone No.: (709) 740 - 0415

Name: Jeffrey Quigley
Official Title: Director
Address: 41 Bennett Terrace
Baie Verte, NL
Telephone No.: (709) 532 - 6640

Name: Ryan Saunders
Official Title: Director
Address: 55 Southshore Drive
Baie Verte, NL
Telephone No.: (709) 424 - 6255

Name: Brandan Philpott
Official Title: Director
Address: 7 Barnhill Road
Baie Verte, NL
Telephone No.: (709) 293 - 2667

(iv) Principal Contact Person for purposes of environmental assessment:

Name: Jeffrey Quigley
Official Title: Director
Address: P.O. Box 595
Baie Verte, NL, A0K 1B0
Telephone No.: (709) 532 - 6640

THE UNDERTAKING:

(i) Nature of the Undertaking:

The owners of Little North Brewhouse, are presently seeking approval to redevelop a building located at 81 Highway 410 in Baie Verte, NL, to operate a small microbrewery using a 5-barrel 4-in-1 brew system. A separate portion of the building will also be renovated into taproom, retail area, and kitchen with the ability to produce and serve a small variety of menu items. The beer will be produced with all natural ingredients (water, malted barley, hops and yeast) with no added preservatives or pasteurization.

A microbrewery is a small brewery, often defined as producing less than 15,000 hectolitres per year. In our case, we will be a very small microbrewery, producing less than 600 hectolitres per year. This is small in comparison to the major breweries, such as Labatt that produces 10 million hectolitres annually.

In Addition to producing beer, visitors to our facility will be able to tour the brewery equipment and experience how beer is made. They will also be able to learn from our brewmaster about the process of making beer. Visitors will have the opportunity to sample food and beer from our taproom as well as purchase merchandise.

(ii) Purpose/Rationale/Need for the Undertaking:

The Baie Verte Peninsula is an up and coming tourist destination within the province, with its rich history in the mining industry. Many tourists visit the area to see the natural beauty of it's many rural communities and interact with its friendly residents.

The craft beer and the microbrewery industry has exploded across the country with microbreweries opening in many rural locations and experiencing unprecedented success.

With only a few microbreweries currently in operation in the province, Newfoundland's craft beer industry has a great opportunity for growth. We have the ability to capitalize on an emerging market with the rise of the craft beer culture in Newfoundland. Currently there are no breweries located between Deer Lake and Gander. Little North Brewhouse is perfectly located to fill the demand for craft beer in the White Bay, Green Bay, and Grand Falls regions.

There are also two major events on the peninsula that bring a large number of tourists to the area; the Mining Conference and "The Gathering". These events bring new tourist to the peninsula each year. Providing them with another destination to visit will add to their experience.

In order for us to offer this tourism-friendly host business, we need to purchase the necessary equipment and carry out renovations to the building to accommodate the brewery. Utilizing an existing property in the community will help in terms of community beautification.

DESCRIPTION OF THE UNDERTAKING:

(i) Geographic Location

The building site is located within the Town of Baie Verte, at 81 Highway 410. The entire property that the microbrewery will be located on is approximately 13,230 square feet. The building lot is surrounded by the main highway through Baie Verte on the front, the Atlantic Ocean on the back, and on both sides by vacant properties.

The property for the brewery is zoned commercially and we have received approval from Baie Verte Town Council at their meeting on December 12, 2018 to continue with our business venture.

Appendix 1 includes a topographic map and several different photos showing the vicinity of Baie Verte and location of our project. A site survey of the building and property can be found in Appendix 2.

We will be using the Town of Baie Verte's water supply and sewage system.

(i) Physical Features

As mentioned above, the site is in an existing building located in Baie Verte that is surrounded by the main Highway on the front of the property, the Atlantic Ocean borders the rear of the property and the sides of the property are boarded by two vacant properties.

There will be no new buildings, pipelines, transmission lines, roads, etc

The building has been previously used as a split level rental property that is approximately 1300 square feet. There is an oil tank located at the back of the building that is used as the primary heat source. The building will be renovated and an extension will be added to increase the area to approximately 2400 square feet. The oil tanks and furnace will be removed and two commercial heat pumps will be installed to heat the building. Electric baseboard heaters will also be added as a secondary heat source.

The area allocated is very similar to other waterfront lots located within the Town of Baie Verte. It is relatively flat with a little slope from the front of the property to the rear. The lot contains our building and the land surrounding the building consist almost entirely of tall grass.

(ii) Construction

The existing building in which the brewery will be housed was a split level rental property of approximately 1300 square feet. The building will be totally renovated and expanded on to increase the square footage to 2400 square foot. The brewery portion of the the building will be approximately 900 square feet, the kitchen area will be approximately 200 square feet, the remaining area will be the taproom. A floor plan for the building can be found in appendix 3. There will also be a cement basement added to the property for the storage of our materials.

We will require confirmation from all contractors that they are following provincial occupational health and safety standards throughout the construction work.

The brewery construction will consist of renovation work and improvements to the existing building in order to accommodate a brewery, taproom, and commercial kitchen. This construction will be carried out over a 7- 8 month period starting May 2019. Items that need to be addressed during this construction are:

- Electrical Upgrade to a 600 amp service
- Expansion of building to accommodate the brewing equipment and provide adequate seating for our patrons.
- Plumbing upgrade and installations, including proper drainage in the brewery area.
- Installation of two public bathrooms that will be wheelchair accessible, and a staff bathroom.
- Other construction and finishing work such as installation of a wheelchair ramp, fire-rated drywall, industrial hand-washing sinks, etc. to bring the building up to code to obtain all the necessary permits and approvals (Building Accessibility, Fire and Safety, Food Establishment Licence, Newfoundland Liquor Corporation licences, etc.)

The only potential sources of pollutants during the construction period would be related to the use of any machinery, such as excavators (spill from any diesel fuel or lubricants). The use of this type of equipment will be minimal.

(iv) Operations

Microbrewery Operations

The microbrewery operations will consist of: (a) milling the grain (b) the brewing process which will be carried out with stages taking place over a 2 - 3 week period (c) Cleaning and (d) Kegging

(a) Milling the Grain:

We will be milling approximately 300 lbs of grain prior to brewing, which will be done in a small enclosed room with proper ventilation. The grain is processed through a grain mill that cracks the husk to allow for sugar and starch extraction. The grain will be cracked into a closed barrel to minimize airborne dust particles and thus will not be a fire hazard.

(b) The Brewing Process

The typical brewing process (Brew Day) will run over an 8 hour period and the steps can be described as follows:

- Heating, via electrical elements, approximately 600 L of water in our Brewha 4-in-1 system to a temperature of 75°C.
- Grains are then added and stirred to ensure an even distribution. The grains are “steeped” in hot water (63°C) for approximately 1 hour. Additional water (approximately 50 -150 L, depending on the recipe) is added to sparge the grain to draw off more sugars where possible.
- The liquid (now called “wort”) is then brought to a boil. The wort is heated to 100°C and boils for approximately 1 hour. During the boil, hops (the female flower of the hop plant, *Humulus lupulus*) are added at different intervals to give the beer its bitterness along with flavour and aroma
- The wort is then chilled in the tank with cold water circulating through an insulated jacket.
- Yeast is added to the cool wort to begin fermentation. The temperature of the tank is controlled to hold the wort at a consistent 18°C for 5 - 14 days depending on the recipe and type of beer.
- After fermentation is complete, the liquid (now alcohol beer) is cooled in the same tank over a 12 - 24 hour period to reach a temperature of 4°C.

- The temperature of the carbonating / conditioning tank is held at 4°C during which it is carbonated via the addition of CO₂. The carbonated beer is then transferred into kegs.

A schematic of the brewing process is as follows:

Mash +
Lauter +
Boil +
Ferment =

THE BIAC™
A COMPLETE ONE
VESSEL BREWING
SYSTEM. THE
SIMPLEST
WAY TO
BREW THE
BEST BEER!



BREWHA™
equipment co.

For the love of brewing.

1. MASH

Water for mashing is added to the 3-in-1 and heated. The Mash Colander is inserted into the 3-in-1 and grain is added. Mash temperature is precisely regulated by the temperature controller and heating element.



2. LAUTER

When mashing is complete, the grain is removed by raising the Mash Colander. The wort filters through the spent grain and into the 3-in-1. Sparge water can be added to rinse the grain as the Mash Colander is raised.



3. BOIL

Boiling in the 3-in-1 provides perfect, chemical-free sanitation. Once boiling is complete, the wort is chilled by passing cold water through the 3-in-1 jacket.



4. FERMENT

When the wort reaches yeast-pitching temperature, protein is removed out of the bottom and the wort is aerated. Fermentation temperature is precisely regulated with the temperature controller and jacket.



For more information and
how to order, visit our website
brewhaequipment.com

(c) Cleaning

As we are using an all in one system, our equipment is constantly sanitizing itself via heat during the boil. Therefore we are able to limit our chemical use to a minimum. Cleaning of the equipment will mainly be done with hot water reserved from chilling the beer, to remove any hop or grain residue from inside our tanks.

(d) Kegging

Kegging will occur at the end of the fermentation process. The beer will be forced out of the tank and into the kegs via CO₂.

Other Operations

We will also be operating a walk-in cooler in the premises for kegs and hop storage. There will also be a taproom, which will be a licensed lounge area, including a patio, where we will have a small draft system to offer our beer on tap to the public in pint and sample-sized glasses. We will also have a kitchen on site that will provide a small menu of food for our patrons. There will also be a small retail area where we will offer merchandise and our packaged beer for off-site consumption.

Water Demand/Usage

During our entire operations, our water demand will fluctuate daily. Despite a baseline demand for regular washroom use of visitors, the only times water will be required will be: 1) Brew day and 2) during cleaning. On brew day, our water demand is approximately 600 L for the brewing process. During the cleaning process, approximately 100 L is used.

We will reuse water wherever we can. The water we use for chilling our wort will be collected for cleaning or reheated to start our next brew, minimizing the waste of any water. Since we are using an all-in-one system, rather than a 3 tank system, we only have to clean one tank after each brew, again minimizing water usage and wastage.

To alleviate water demand, we plan to schedule brew days and cleaning during our time of lowest occupancy.

Potential Sources of Pollutants

Little North Brewhouse will operate within environmental regulations and attempt to exceed all standards where possible

Airborne Emissions:

There are two opportunities for airborne emissions during our operations: 1) vented steam during brewing. 2) dust during the grain milling process. Both will result in very little to no actual air emissions and all are 100% natural and will contain no chemicals or toxic substances.

The steam occurs during the brewing process. Water that has been steeped in malted barley is boiled for approximately 1 hour and hops are added at various stages of the boil to give the beer a most distinct flavour. At this point, the liquid (wort) contains only starches from the grains and flavours drawn off of the hops, which are all-natural and contain no chemicals or toxic substances. The steam from the boil emits a slight odour, consisting of only barley and hops. The steam will be vented outside of the building and due to our small operation the smell would be minor (if at all) and only detected if you were standing very close to the exterior vent.

There will also be a very small amount of airborne grain dust when the grains are put through the mill. To deal with this the grain will be milled in a small fully-enclosed room and collecting the crushed grain in an enclosed container. We confirm that the emission of the grain dust will be very small in nature and all-natural (non-toxic and no chemicals of any nature). Any grain dust escaping our crushing process will be contained to our designated room and will be swept and discarded as needed.

Solid Waste & Liquid effluents:

Fortunately, all waste produced during the brewing process is organic material, which has the potential to be recycled, reused or composted. It is our goal to operate as environmentally-friendly as possible and with the scale of our operation we feel that a fully sustainable operation is attainable. Little North Brewhouse has adopted an environmental friendly ideology and strive to ensure that we are able to exceed environmental regulations.

The waste produced during the brewing process of a single batch of 600 litres of beer and to clean the equipment consist of:

- **Water (approximately 100L)** - The majority of water is used to produce the beer but there is some water that is used to cool the beer and to clean the equipment. We intend to recapture the water used to cool the wort for the cleaning process. Upon completion of the cleaning process, it will become an effluent discharge.
- **Waste beer** - there will be a minimal liquid effluent that will result from any accidental spillage. By using the 4-in-1 system we don't have to move the liquid from tank to tank which will help prevent chances for accidental spillage.
- **Spent grains (approx. 250 - 300 lbs)** - this is the “steeped” grain leftover once the liquid has been drawn off from the tank. Since this is a food-grade by-product, it will be reused for a subsequent brew or as animal feed / compost by a local farmer who we are in talks with. We will also compost some of the grain in our own location to help grow our own hop plants.
- **Spent hops / Kettle Trub / Fermentation Trub (approx. 2 - 5 litres)** - this is the precipitate left in the bottom of the fermenter. This is a food-grade by-product that will be composted in our garden to help grow our own variety of hops.
- **Cleaning Products (small amounts)** - There are environmentally-friendly products available for the cleaning needs of the brewery. Due to the nature of the 4-in-1 Brewha system most of the equipment is cleaned by the steam in the boiling stage of the brewing processes. When needed we will use small amounts of chemical clean to sanitize parts of the equipment that is not in contact with the steam. For cleaning of the taproom, bathrooms, kitchen, etc. we intend to use biodegradable, environmentally friendly cleaning products.

All liquid effluents will be disposed of through the use of the Town of Baie Verte's sewage system.

(v) Occupations:

The brewery, lounge, and kitchen will be a year round business so we will be needing several employees to cover off the various jobs required to run such a business. servers, bartenders, brewmaster, and a cook will be needed for us to operate as a business.

All of our renovation work is being carried out by local contractors and construction workers with local suppliers. Once the business is operating, if any maintenance or repair-work is required for the equipment, this will also be contracted out to local businesses.

APPROVAL OF THE UNDERTAKING:

The following is a list of permits, licences and approvals required for this microbrewery:

Municipal

- **Municipal Approval** - Town of Baie Verte

Provincial

- **Food Establishment Licence** - Department of Health
- **Environmental Assessment Approval & Registration** - Department of Environment and Conservation
- **Building Accessibility & Fire and Life Safety Approval** - Service NL
- **Manufacturer's Licence (Brewery)** - Newfoundland Liquor Corporation
- **Lounge Licence** - Newfoundland Liquor Corporation
- **Patio Licence** - Newfoundland Liquor Corporation
- **Brewer's Agent Licence** - Newfoundland Liquor Corporation

Federal

- **Excise Duty Licence** - Canada Revenue Agency
- **Labelling Requirements** - Canadian Food Inspection Agency

SCHEDULE:

The construction date depends on final approval of this application. Construction can otherwise begin prior to the remaining licences and approvals as such will not be granted until final inspections of the completed construction work. Our plan is to start construction early May, 2019.

FUNDING:

A portion of the project will be funded from personal finances

Loans have been requested from:

Atlantic Canada Opportunities Agency (ACOA)
John Cabot Building, 11th Floor
10 Barter's Hill
P.O.Box 1060 STN C
St. John's, NL, A1C 5M5

Community Business Development Corporation (CBDC)
325 Highway 410
Baie Verte, NL, A0K 1B0

PROJECT-RELATED DOCUMENTS ATTACHED

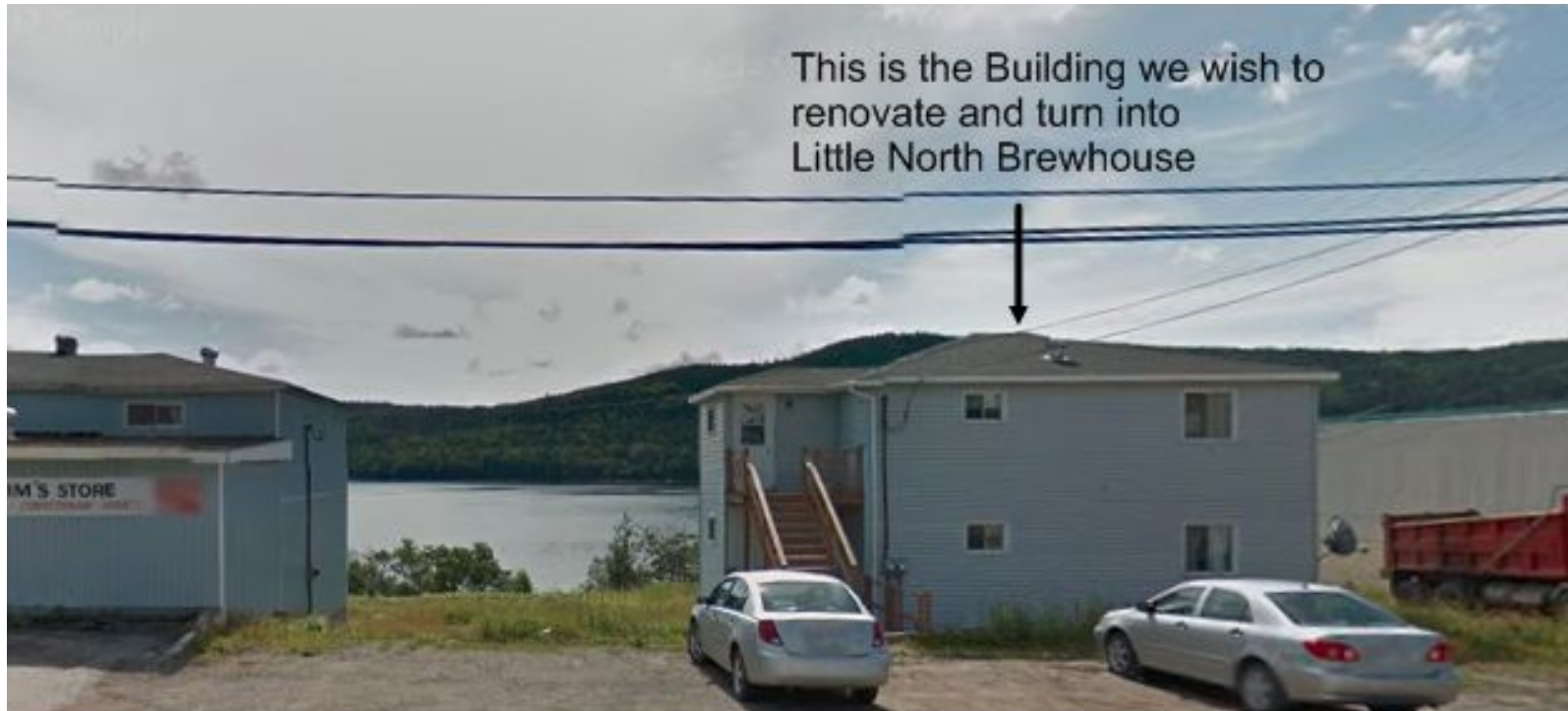
- Topographic maps, aerial photos and site survey can be found in appendix 1 and 2 of the Environmental Assessment document.

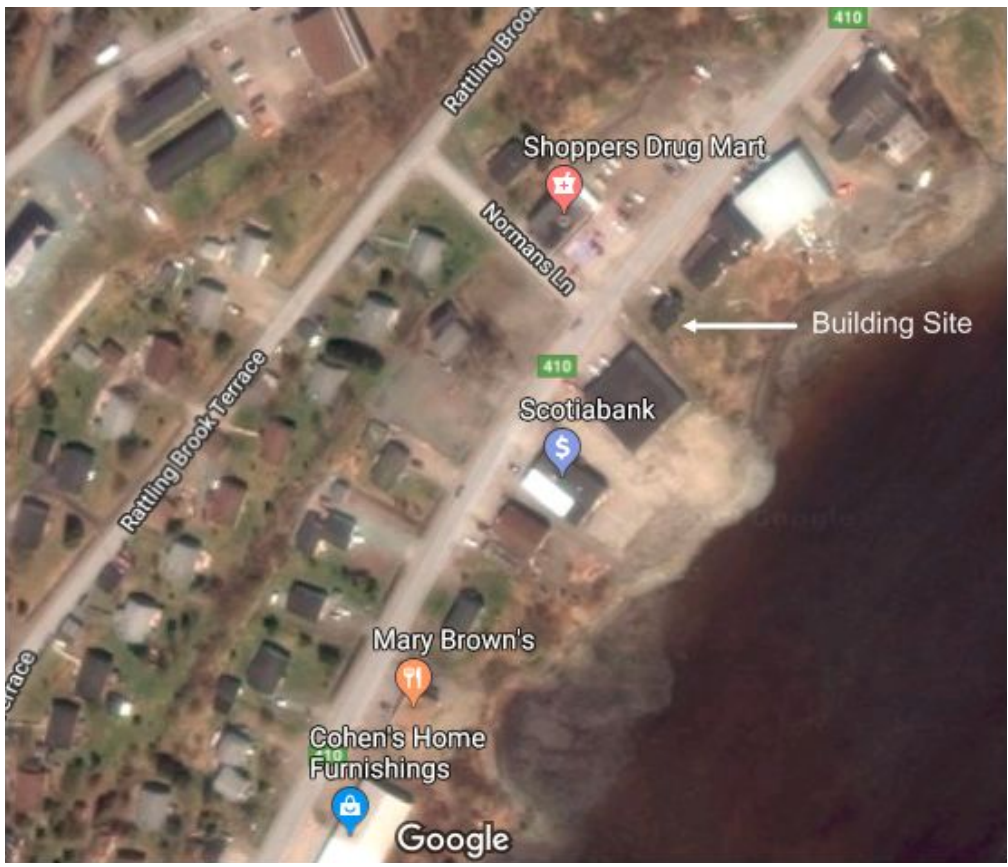
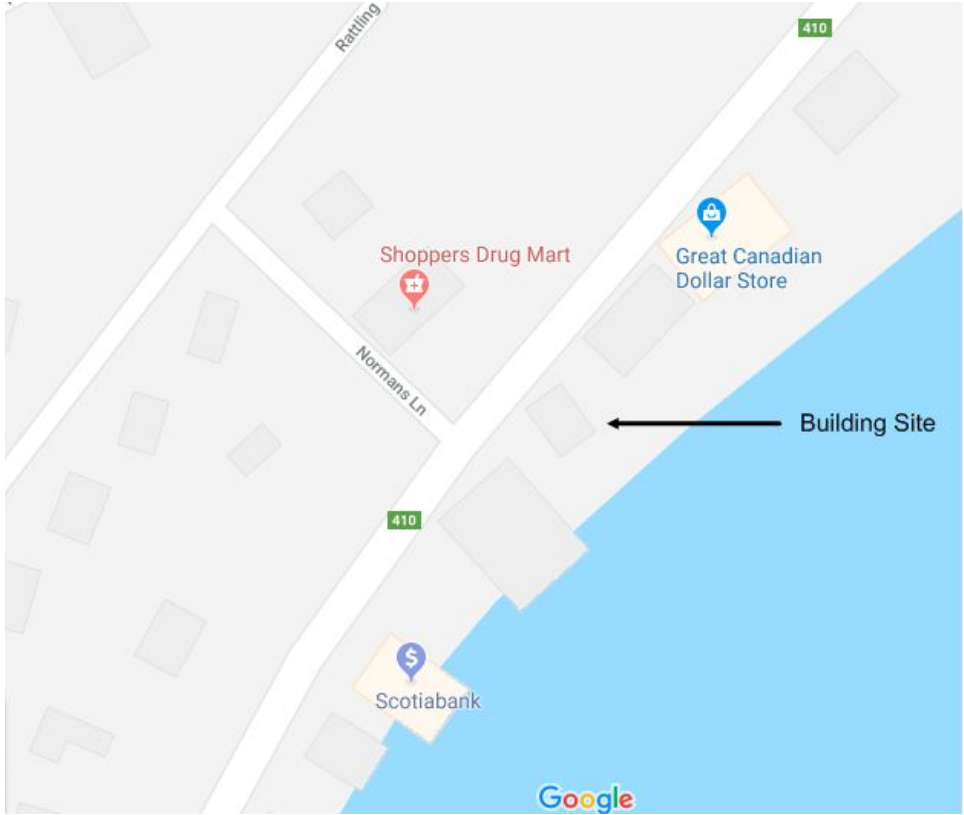
March 5, 2019
Date


SIGNATURE OF CHIEF EXECUTIVE OFFICER

Appendix 1

Maps / Pictures of the Property





Appendix 2

Site Survey

Description of land for Patrick Jim
Lot 191, Highway 410, Baie Verte, NL

All that piece or parcel of land situate and being at Baie Verte, in the Electoral District of Baie Verte-Green Bay, Province of Newfoundland and Labrador, abutted and bounded as follows, that is to say:

Beginning at a capped iron bar set on the southerly limit of Highway 410, twenty decimal one two metres wide, and marking a northwesterly corner of other land of Patrick Jim Lot 190 and having coordinates of north 5533193.171 metres and east 290504.281 metres;

Thence running by the said other land of Patrick Jim or assigns Lot 190 south forty-four degrees twenty-two minutes zero seconds east forty-four decimal eight zero zero metres;

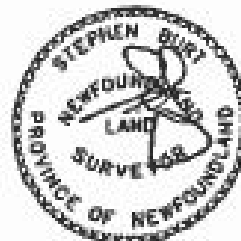
Thence running along the northerly limit of the Reservation, four decimal five seven two metres wide, which extends along the northerly shoreline of the Waters of Baie Verte south forty-three degrees fourteen minutes zero seconds west twenty-seven decimal three nine eight metres;

Thence running by land of Melmar Enterprises Limited or assigns north forty-four degrees twenty-two minutes zero seconds west forty-four decimal one four one metres;

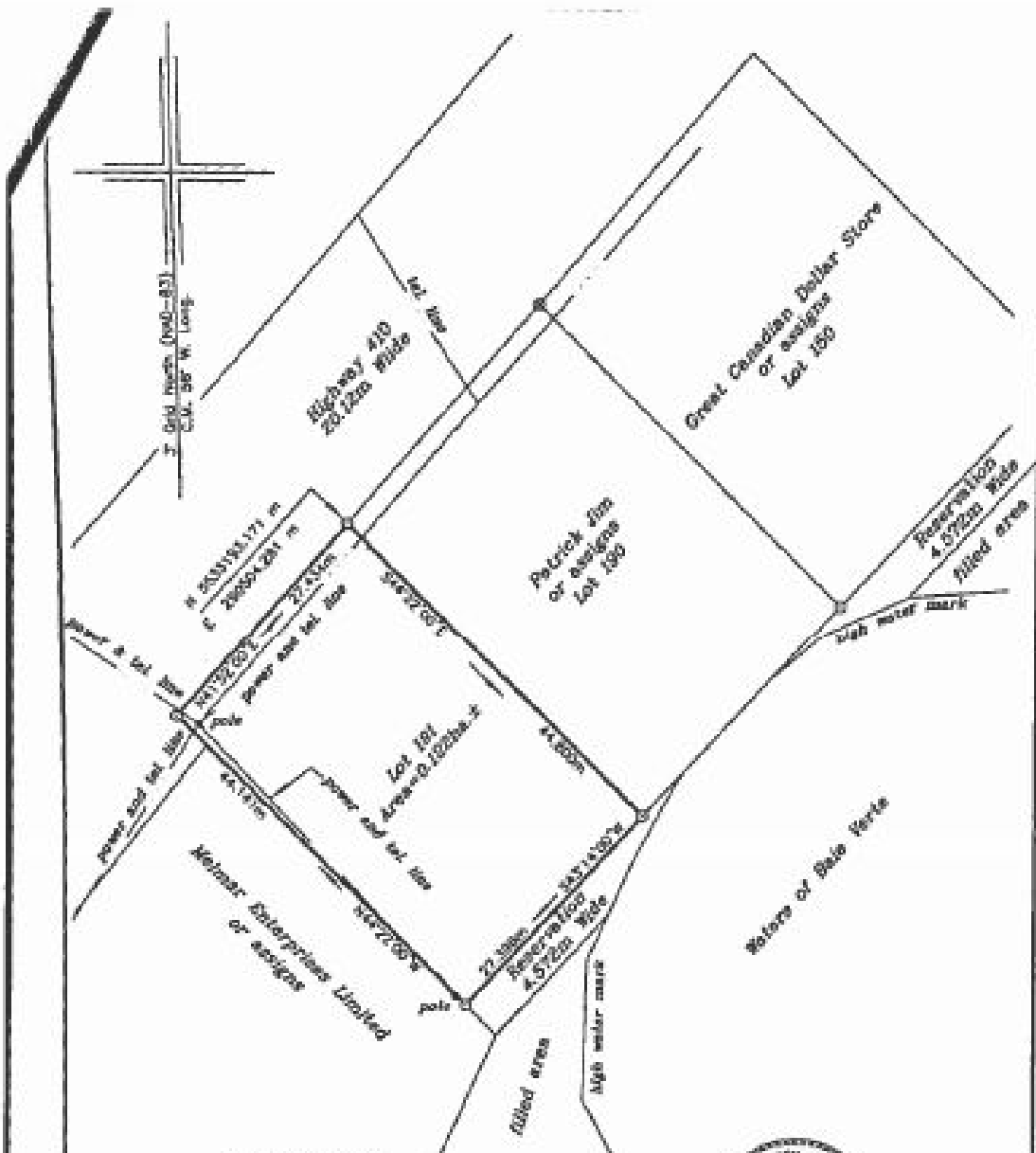
Thence running along the southerly limit of Highway 410, twenty decimal one two metres wide, north forty-one degrees fifty-two minutes zero seconds east twenty-seven decimal four three four metres, more or less, to the point of beginning.

Containing an area of zero decimal one two two hectares, more or less, and being more particularly shown as Lot 191 on the diagram annexed hereto;

All bearings being referred to the meridian of fifty-six degrees west longitude of the Modified Three Degree Transverse Mercator Projection (NAD 83), and all distances shown being horizontal ground distances.



September 9, 2018.



Reference Monuments:

Mon. No. 92C1051	Mon. No. 92C1049
N 5533484.429 m	N 5531872.170 m
E 280874.521 m	E 288661.226 m
SF=0.999894	SF=0.999895

Iron Bar ----- ○
 Coated Iron Bar ----- ○
 Concrete Nail ----- ○
 Survey Spike ----- ○
 Fence Lines ----- X



STEPHEN BURT SURVEYS LTD.
KING'S POINT, NL

SURVEY PLAN OF LOT 191
FOR PATRICK JIM
HIGHWAY 410
BAIE VERTE, NL

NOTES

THIS PLAN CERTIFIES THE INFORMATION SHOWN AS OF SEPTEMBER 5, 2018 AND ONLY AS OF THAT DATE.

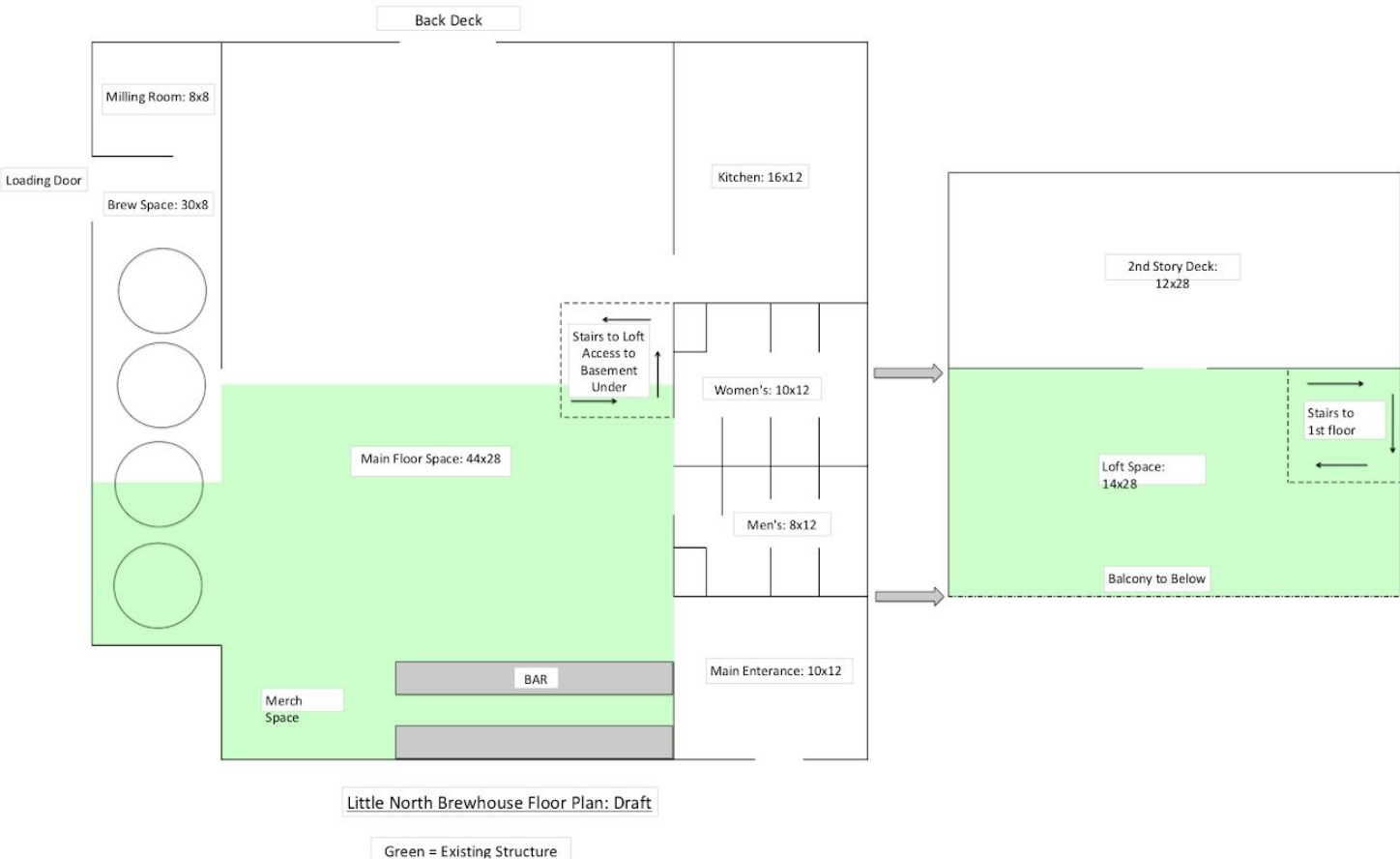
ALL DISTANCES SHOWN ARE METRIC HORIZONTAL GROUND DISTANCES, EXCEPT WHERE OTHERWISE NOTED.

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Drawn: S. Burt	Scale: 1:500
Survey: S. Burt	Date: September 9, 2018
Checked:	Org. No.: 2018-028-2

Appendix 3

Saltbox Brewhouse Building Floor Plan



- Colored Area is the Existing Structure