
REGISTRATION:

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

UNDERTAKING:

Microbrewery

LOCATION:

75 Conception Bay Highway, Conception Bay South, NL

SUBMITTED BY:

Keith Bartlett on Behalf of

Ninepenny Brewing Company Inc.

SUBMISSION DATE:

November 24, 2017

NAME OF UNDERTAKING:

Conception Bay South Microbrewery

PROPONENT:

(i) Name of Corporate Body

Ninepenny Brewing Company Inc.

(ii) Address

12 Hollyberry Drive, Paradise, NL

(iii) Chief Executive Officer

Keith Bartlett

President

12 Hollyberry Drive,

Paradise, NL

A1L OP2

709-727-5632

(iv) Principal Contact Person for Purposes of Environmental Assessment

Keith Bartlett

President

12 Hollyberry Drive,

Paradise, NL

A1L OP2

709-727-5632

(v) Directors

Glenn Bartlett

Owner / Treasurer

Justin Mayo

Owner / Vice President

Dwayne Moores

Owner / Secretary

THE UNDERTAKING:

(i) Nature of the Undertaking

Ninepenny Brewing Inc., is seeking approval to establish a small 17.6 hectoliter (15 BBL) capacity microbrewery in Conception Bay South, NL. The microbrewery will be located at 75 Conception Bay Highway with a portion of the building (approximately 2,000 square feet) containing the microbrewery. The beer will be made with ingredients (water, malted barley, hops, and yeast) with no added preservatives or pasteurization.

A microbrewery is often defined as a brewery producing less than 15,000 hectoliters per year. In this case, less than 1,000 hectoliters will be produced per year. In comparison, major breweries such as Molson produce roughly 10 million hectoliters per year.

(ii) Purpose/Rationale/Need for the Undertaking

The craft beer industry in Canada has gained a large following and has seen significant growth due to the increased desire for local, all-natural products that differ from major breweries. Newfoundland and Labrador has only 7 microbreweries across the province which pales in comparison to Nova Scotia which has more than 50 microbreweries and New Brunswick with more than 40. Many of those microbreweries operate in rural communities, successfully stimulating the local economy and bringing jobs to labourers and craftsmen.

The Town of Conception Bay South is one of the province's fastest growing communities, with a thriving business community and an active and developing adventure/eco tourism market. A microbrewery will only add to the tourism market as many people are now traveling for the purpose of seeking out small breweries which all offer a unique experience.

A microbrewery will be a great addition to the experience that will be available in Conception Bay South as well as the surrounding area. While visiting Conception Bay South, people will have the opportunity to sample different types of artisan beer, have a brewery tour and purchase merchandise.

DESCRIPTION OF THE UNDERTAKING:

(i) Geographic Location

The site (building) is located within the Town of Conception Bay South, at 75 Conception Bay Highway. The property is bounded on the North by the Conception Bay Highway and on the South by the Newfoundland T' Railway.

The site is serviced by municipal water and sewer.

Attached are geographical maps showing the location of the undertaking as well as plans for the portion of the site that will contain the microbrewery

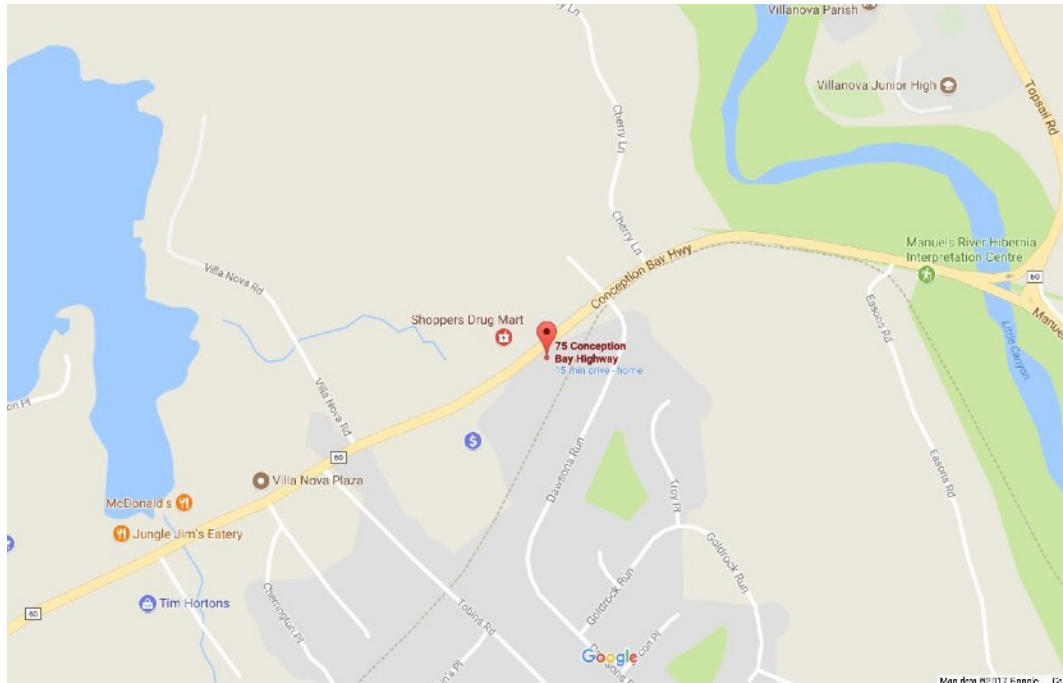


Figure 1 - Map View of Brewery

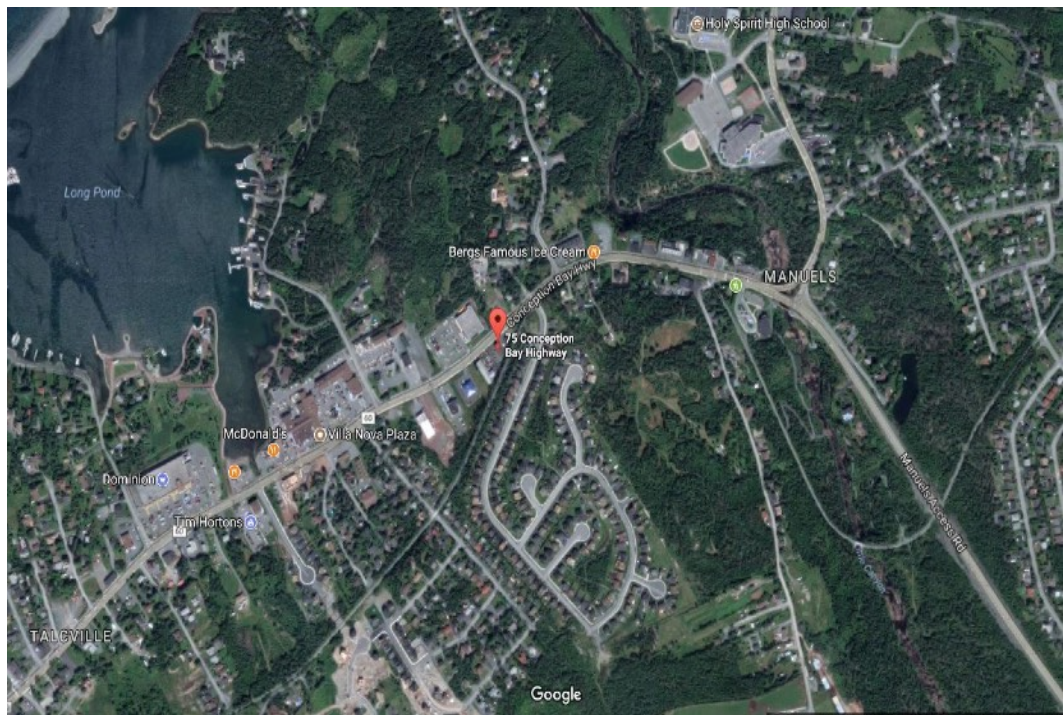


Figure 2 - Satellite View of Brewery



Figure 3 - Street View of Brewery

(ii) Physical Features

The site includes two buildings: a main building with a total floor area of approximately 3,800 sq. ft. and an accessory building approximately 800 st. ft.

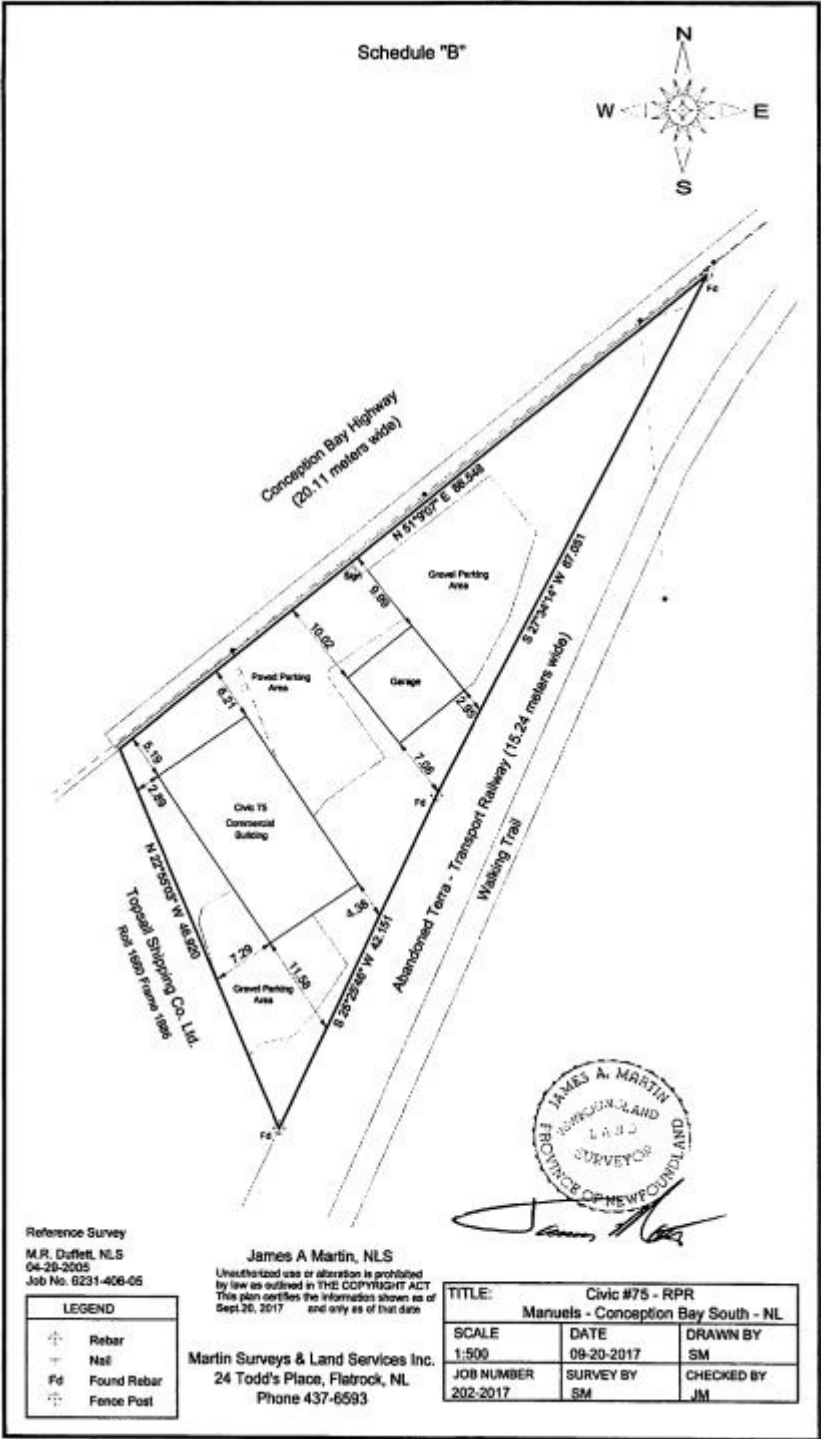


Figure 4 - Legal Survey

Renovations are planned for 2,000 st. ft of the main building, as well as site drainage/parking upgrading required to meet Town zoning requirements.

The project area is located in the main street commercial district of Conception Bay South, and the project undertaking is not projected to have any impact on the physical and biological environment surrounding the project.

(iii) Construction

The building in which the brewery will be operating is a commercial building which will be renovated to house a brewery operation. All contractors involved in the renovations will follow provincial Occupational Health and Safety requirements and provincial environmental standards throughout the construction work.

The construction for the undertaking will include the installation of equipment. The brewery construction will consist of plumbing and electrical upgrades as required for the equipment. The electrical will operate a 600amp service and there will be proper drainage installed in the microbrewery.

The only potential pollutants could be from machinery used for installing the brewing equipment, which would be minimal for the undertaking.

Construction is planned to begin in February of 2018 and complete in May of 2018.

(iv) Operations

The operation of the microbrewery will consist of the following: (a) the brewing process, carried out a maximum of two to three times a week; (b) crushing grains; and (c) cleaning.

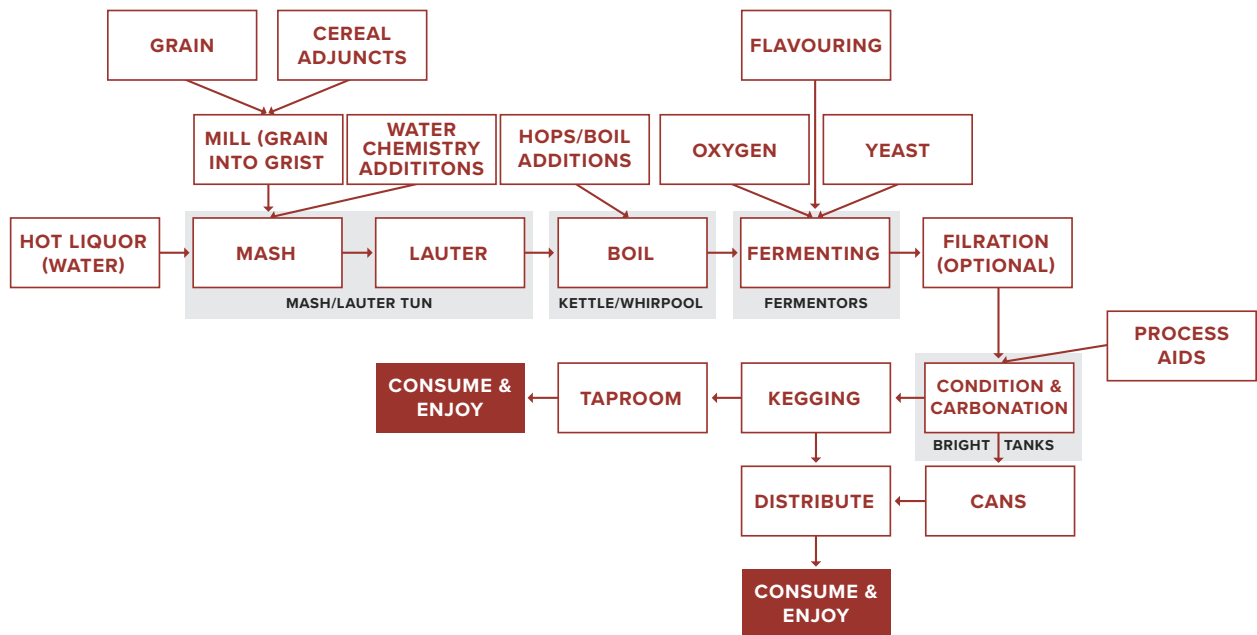
a) The Brewing Process

The brewing process typically runs over an eight-hour period as follows:

- Heating approximately 1,400 liters of water to a temperature of 75C in a large (3,500 liter capacity) stainless steel tank called a Hot Liquor Tank (HLT).
- The heated water is transferred via pump and piping to a second stainless steel insulated tank called the Mash/Lauter Tun. Malted barley/grain is added and steeped in the hot water (65C) for approximately one hour.

Additional water (approximately 750-800 liters) added, over the grains to draw off more starches where possible.

- The liquid (“wort”) is then drawn from the mash/lauter tun and pumped to a stainless steel tank, called the kettle, which is fitted with low pressure steam jackets. The wort is heated to 100C and boils for approximately one hour. During the boil, hops (the female flower of the hop plant, Humulus Lupulus) are added, giving beer bitterness as well as additional flavor and aroma.
- The wort is then drawn off the tank via pump and hose and passes through a plate chiller (heat exchanger) that runs cold water to cool it to room temperature. This water is then used to fill the hot liquor tank.
- The wort leaves the plate chiller and enters the fermentation tank. Brewer’s yeast is added to the tank and held at a temperature between 18-22C for five to seven days. The tank is equipped with a glycol jacket which is used to control the temperature. Glycol is cycled through the jacket and a small chiller to maintain the wort at a consistent temperature.
- After fermentation is completed, the wort is cooled to 4C over a 12 to 24 hour period. Once cooled, the beer is then transferred to a carbonating/conditioning tank, called the Bright Tank, which is also glycol jacketed.
- The beer is then held at 4C and carbonated via the addition of carbon dioxide. The carbonated beer is then transferred into kegs.



b) Crushing Grains

The microbrewery will be crushing a small amount of grains prior to brewing. The amount of dust from this process is not large enough to create a fire or explosion hazard. This process will occur a maximum of three times a week. The mill will operate for only 15 minutes during brew days and crush between 750-800lbs of grain during this time. The grain will be stored and milled in accordance with fire regulations.

c) Cleaning

The tanks and equipment will be cleaned and sanitized after every use, utilizing a clean-in-place (CIP) system with non-caustic (alkaline) cleaner and sanitizer. On an as-needed basis, a caustic cleaner will be required to remove scale and beerstone from the tanks. This cleaner will be highly diluted and used on a minimal bases.

Water Damage/Usage:

The water usage will fluctuate based on the operation being carried out that day. Water will be required: (1) on a brew day and (2) during cleaning. The water demand for a brew day will be approximately 2,200 liters for the brewing process. During the cleaning process following a brew day, approximately 450 liters will be used.

As a water and energy conservation measure, the water that is run through the plate chiller during transfer to fermentation tank will be saved in the HLT, and will be re-used for the washdown water and next brew day as described in the previous paragraph.

Period of Operations:

The brewery will operate year round with the greatest production happening seasonally between May and October. During the winter, the brewery taproom will be open to the public, and additional capacity will supply restaurants and bars.

POTENTIAL SOURCES OF POLLUTANTS

Airborne emissions:

During operations there are only two small opportunities for airborne emissions: (1) vented steam during the brewing and (2) vented grain dust during the milling process. These processes result in minor to non-existent air emissions and all are 100% natural and will contain no chemicals or toxic substances.

The vented steam occurs during boiling in the brewing process. The wort drawn from the Mash Lauter Tun is put into the Kettle and boiled for approximately one hour. During the boil, hops (a natural plant) are added at various stages of the boil. At this point, the wort only contains water, starches from the grains, and flavours drawn from the hops, which are all natural and contain no chemicals or toxic substances. The steam produces a slight odour which will be vented outside. The odour will only be detectable while standing close to the vent. There are no chemicals or toxic substances that will be emitted.

There will also be a small amount of airborne grain dust produced while milling the grains. The milling operations will be contained in a separate mill room with grain transferred to the grist case via an enclosed flex auger. There will be a ventilation system in the mill room to assist in the emission of grain dust, which will be small in nature, all natural, and will dissipate quickly.

Solid Waste & Liquid Effluents:

The brewery will be environmentally friendly and work towards exceeding all environmental standards when possible. Fortunately, the brewing processes uses organic materials that are reusable in nature.

When manufacturing anything, there will be some waste of product. The waste produced in the brewing process for 1,750 litres of finished beer are water, spent grains, hops, and cleaning products:

Water:

There will be approximately 150 litres of water wasted for cleaning purposes. The excess water will be disposed in the floor drain during the cleaning process.

Spent Grains and Hops:

The spent grains and hops will be collected from the Mash Lauter Tun when the brew day is complete. The spent grains can range from 750-800 lbs. These grains will be given to farmers the same day to feed their livestock.

Cleaning Products:

The microbrewery will use environmentally friendly cleaning products at every available opportunity. There will be the occasional need to use a caustic cleaner to dissolve “Beerstone,” which is a buildup of minerals and proteins that accumulates over time. This type of cleaner will not be used often and will be highly diluted (a 2,000:1 ratio) before disposing. The other cleaner used frequently after every brew day will be powdered brewery wash (PBW). This is an environmentally and user-friendly cleaner and will be disposed of through the floor drains.

(v) Occupations:

the brewery and taproom will be open to the public year round. The brewery and taproom will be operated by the owners, an assistant brewer, and a bartender during year 1. Should business results allow, the company may hire 1 to 2 additional staff in years 2 and beyond as brewing assistants, and barkeeps. During hiring, Ninepenny Brewing Co. will ensure no age or gender discrimination during the hiring process. Ninepenny Brewing Co. is committed to diversity in the workforce.

APPROVAL OF UNDERTAKING

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

Municipal

- Municipal Approval – Town of Conception Bay South

Provincial

- Environmental Assessment Approval and Registration – Department of Environment and Conservation
- Building Accessibility and Fire and Life Safety Approval – Service NL
- Manufacturer’s Licence (Brewery) – Newfoundland and Labrador Liquor Corporation

Federal

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

SCHEDULE:

The brewery is tentatively scheduled for opening in the summer of 2018

FUNDING:

Loans have been requested from:

Federal

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

Provincial

Department of Tourism, Culture, Industry and Innovation
2nd Floor, West Block,
Confederation Building
St. John's NL, A1B 4J6