

## REGISTRATION

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

### UNDERTAKING:

Deer Lake Microbrewery

### LOCATION:

83 Wight's Road, Deer Lake, NL

### SUBMITTED BY:

Christopher Johnson, on behalf of  
Rough Waters Brewing Company Ltd.

### SUBMISSION DATE:

February 15, 2019

NAME OF UNDERTAKING:

Deer Lake Microbrewery

PROPONENT:

(i) Name of Corporate Body:

Rough Waters Brewing Company Ltd.

(ii) Address:

83 Wight's Rd.  
Deer Lake, NL  
A8A 2H8

(iii) Chief Executive Officer:

Name:	Christopher Johnson
Official Title:	Owner/Brewer
Address:	83 Wight's Rd. Deer Lake, NL A8A 2H8
Telephone No.:	(709) 325-1492

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

Name:	Christopher Johnson
Official Title:	Owner/Brewer
Address:	83 Wight's Rd. Deer Lake, NL A8A 2H8

THE UNDERTAKING:

(i) **Nature of the Undertaking:**

Christopher Johnson, the owner of Rough Waters Brewing Company Ltd., is seeking approval to establish a small 4.5 hectoliter capacity microbrewery in Deer Lake, NL. The microbrewery will be

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located in a large industrial building, a portion of that building (approximately 1,500 square feet) containing the brewery. The beer will be made with all-natural 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 500 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 13 microbreweries across the province with 9 more in various stages from planning to construction. This 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.

Deer Lake is a travel hub for Western Newfoundland and the gateway to Gros Morne National Park and the Northern Peninsula. The brewery location is easily accessible from the Trans Canada Highway and is adjacent to Route 430 which is the main point of travel into Gros Morne. The town of Deer Lake also offers a year round sales potential due to its size, proximately to Marble Mountain, and being marketed as the snowmobile hub of Newfoundland.

## DESCRIPTION OF THE UNDERTAKING:

### (i) Geographic Location:

The site (building) is located within the Town of Deer Lake, at 83 Wight's Rd. The property (land and building) that the microbrewery will be located in is commercially zoned. The Town of Deer Lake has written a letter of support for the microbrewery and has advised that there will be no municipal issues preventing the microbrewery from opening (Appendix A).

The building is connected to both municipal water and sewage. This water will be tested by AGAT Laboratories prior to being used in the production and manufacturing of beer.

Attached are geographical maps showing the location of the undertaking (Appendix B).

### (ii) Physical Features:

The site is a portion of the 13,000 square foot building. Rough Waters Brewing Company will be leasing a space of approximately 1500 square feet within this structure. The structure is currently being sub-divided into spaces which will accept additional businesses.

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There will be no new pipelines, transmission lines, roads, etc. constructed for the undertaking of the microbrewery.

### (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 will follow provincial Occupation Health and Safety requirements and provincial environmental standards throughout the construction work.

The construction for the undertaking will be for the installation of equipment. The brewery construction will consist of plumbing and electrical upgrades as required for the equipment.

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

### (iv) Operations:

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



#### (a) The Brewing Process

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

- Heating, via electrical elements, approximately 600 litres of water to a temperature of 75C in a large (700 litre capacity) stainless steel tank called a Hot Liquor Tank (HLT).
- Approximately 300 litres of heated water is transferred via pump and hose 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 175-225 litres) added, over the grains to draw off more starches where possible.

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- 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 electrical elements. 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 flavour 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.
- The Mash/Lauter Tun is cleaned and the process is repeated to allow us to fill our fermenters with 450 litres of wort.
- Brewer’s ale 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 carbonated and conditioned.
- The beer is then held at 4C and carbonated via the addition of carbon dioxide. The carbonated beer is then transferred into bottles.
- During the brewing process, two 1 HP variable frequency drive pumps (one stationary, one mobile) will perform all of the above transfers of liquid via hose.

### *(b) Crushing Grain:*

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 75-125lbs of grain during this time. The grain will be stored and crushed as recommended by 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.

### *Other Operations:*

Rough Waters Brewing Company Ltd will also operate a walk-in cooler for beer and hop storage.

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### Water Demand/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 600 liters for the brewing process. During the cleaning process following a brew day, approximately 150 liters will be used.

This may occur once every four or five days, depending on the brewing schedule. Water will be saved in the HLT and will result in 600 liters of water being available. Therefore, all water does not have to be drawn on the same day.

### Period of Operations:

Rough Waters Brewing Company Ltd. will operate year-round with the greatest production happening seasonally between May and October. The brewery will be open to the public year-round but with less hours during the winter season.

### 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 minuscule 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 as the brewery capacity is 1/20<sup>th</sup> that of Quidi Vidi Brewery when it first opened. There are no chemicals or toxic substances that will be emitted.

There will also be a small amount of airborne grain dust produced while crushing the grains.

### Solid Waste & Liquid Effluents:

Rough Waters Brewing Company Ltd. 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 are water, spent grains, hops, and cleaning products:

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- 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 75-125 lbs. These grains will be given to farmers the same day to feed their livestock.
- Cleaning Products: The microbrewery will do its best to use environmentally friendly cleaning products. As previously mentioned, there will be a need to use a more toxic 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 it in the commercial septic system. 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 and into the commercial septic system.

### (iv) Occupations:

Chris Johnson will work full time as the brewer for Rough Waters Brewing Company Ltd. And will hire an employee to aid in sales and marketing. As demands increase, the company will grow and hire additional workers for sales, deliveries and an assistant brewer. In the future, when hiring workers, there will be no discrimination in the process.

### APPROVAL OF UNDERTAKING:

The following is a list of permits, licences, and approvals required for Rough Waters Brewing Company Ltd.:

#### Municipal

- Municipal Approval – Town of Deer Lake

#### Provincial

- Environmental Assessment Approval and Registration – Department of Environment and Conservation
- Food Establishment License – Service NL
- 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

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### SCHEDULE:

Rough Water Brewing Company Ltd, is tentatively scheduled to open Spring 2019.

### FUNDING:

Loans have been requested from:

Futurpreneur Canada  
133 Richmond Street West, Suite 700  
Toronto, ON  
M5H 2L3

Humber Community Business Development Corporation  
19 Union St  
Corner Brook, NL  
A2H 6G1

Department of Tourism, Culture, Industry and Innovation  
Sir Richard Squires Building, PO Box 2006  
Corner Brook, NL  
A2H 6J8

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Date

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Signature of Chief Executive Officer



Appendix A:



October 19, 2018

To Whom it May Concern:

The Town of Deer Lake is fully supportive of the plans by Rough Waters Brewing Co. to develop a nano-brewery in the Town of Deer Lake.

The Town feels very positively about this initiative given the **many positive developments which are on the horizon**. Currently the Town is enjoying the development of several major properties, including:

- A new Hampton Inn with 85 rooms and a 5,000 square foot conference centre. This \$10 million facility is expected to employ some 35 people;
- A new Orange Store with Tim Horton's and Dairy Queen food outlets, which will employ 45 people at a construction cost of \$2.5 million;
- The Foodland building is being expanded to twice its current size to accommodate a new Dollarama store. This \$750,000 project is expected to employ 15 people;
- An as yet unannounced seniors housing complex valued at \$10 million is planned to start in the community later in 2018. This development will create some 50 jobs;
- Another project to be announced will see the construction of a new restaurant. This \$900,000 initiative will employ some 25 people.

Other positive indicators of the Town's ability to encourage the growth of such large developments is the **strong local housing market**, which indicates the Town of Deer Lake has enjoyed robust growth in the new home and commercial construction sectors. The attached document summarizes housing and other development growth in the Town of Deer Lake since 2000.

The document notes that total development spending in Deer Lake since 2000 total some \$127 million. In that time frame, a total of 533 homes valued at a total of \$91.866 million have been built, an average of 29 new housing starts per year.

The Town of Deer Lake also enjoys a **very strong business sector**, with some 220 established enterprises, with more being added each week. To some degree, this reflects the Town's unique position as a transportation crossroads and regional service centre.

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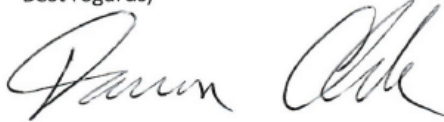


The Town of Deer Lake feels that many factors are aligning which bode well for our future. One indication is **the level of investment that businesses have made in their infrastructure** over the past five years. These upgrades and renovations were completed at major businesses such as Irving Big Stop (\$3.7 million), Noble Resources (\$700 k), Lawton's (\$700 k), Deer Lake Manor (\$500 k), SRT Holdings (\$400 k), Deer Lake Motel (\$350 k), Coleman's (\$350 k), Driftwood Inn (\$350 k), Bella Rae Convenience (\$320 k), Scotiabank (\$250 k) and Fillatre's Funeral Home (\$200 k).

Just as importantly for the Town's economic prospects, it appears that activity in the resource sector and specifically in **the Western Canada oil sands are again picking up steam**, as the price of oil begins to rise. This is important for Deer Lake because for years, the fly-in, fly-out employment sector has generated a lot of high-paying jobs which have had a significant positive economic impact on the Town.

We hope the foregoing demonstrates that the future is bright for Deer Lake. Should you have any further questions, please contact the undersigned at 709-635-0165.

Best regards,

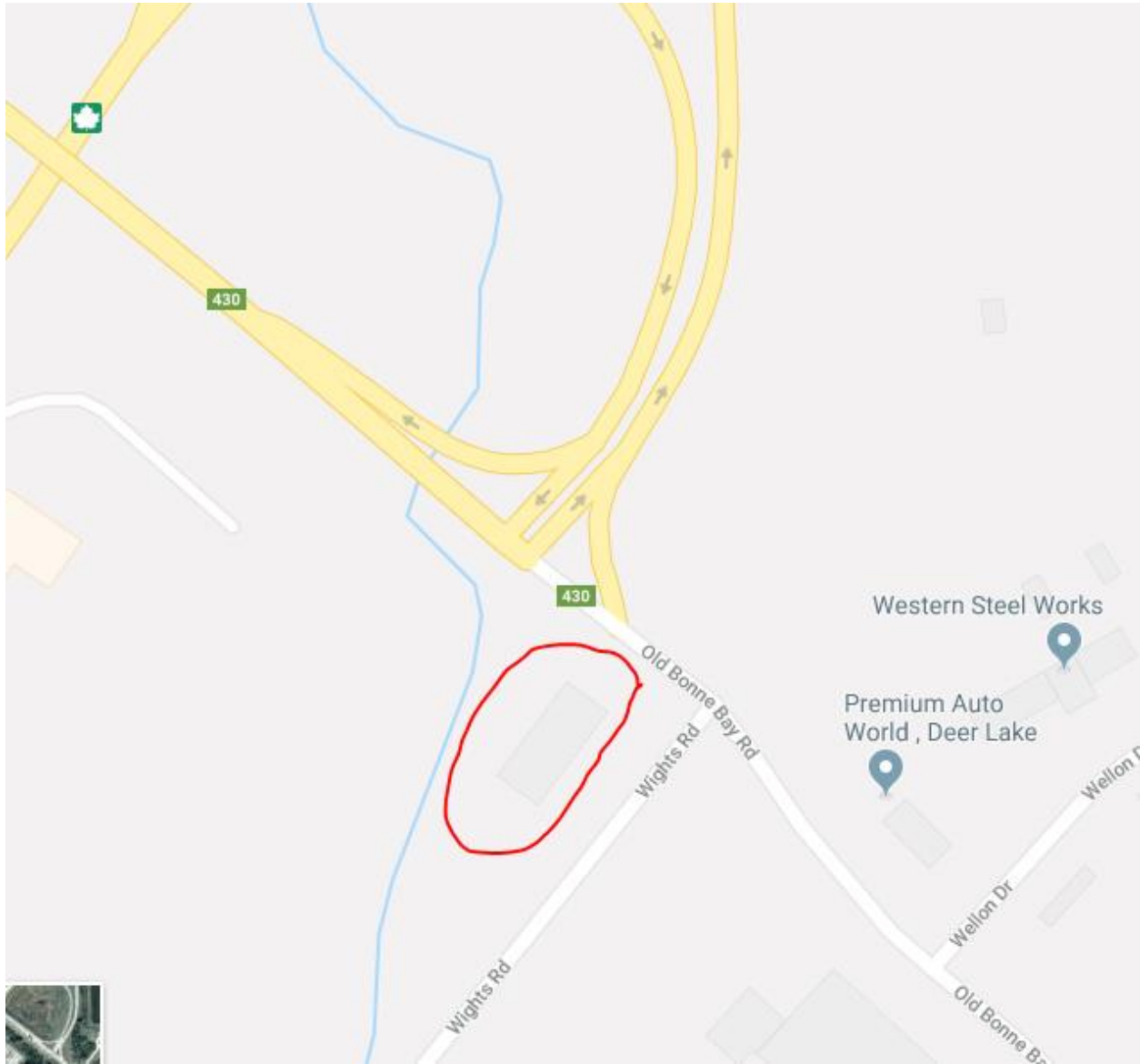


Damon Clarke  
Economic Development Officer/Town Planner

# Registration

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Appendix B:



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