

Christina Coady

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St. John's, NL  
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January 25, 2018

Honourable Eddie Joyce  
Minister of Municipal Affairs and Environment  
PO Box 8700  
St. John's NL  
A1B 4J6

RE: Landwash Brewery Inc - Microbrewery

Dear Honourable Joyce;

Please accept the attached documents for registration and review of our proposed project through the environmental assessment process. Please contact me at [REDACTED] if you have any questions. I look forward to hearing from you.

Sincerely,  
Christina Coady  
Landwash Brewery Inc.

## Registration:

Pursuant to s. 37(1)(e) of the Environmental  
Protection Act, SNL 2002, cE -14.2

## Undertaking:

Microbrewery

## Location:

181 Commonwealth Ave, Mount Pearl,  
Newfoundland

## Submitted By:

Christina Coady, on behalf of Landwash  
Brewery Inc.

## Submission Date:

January 25, 2018

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## Name of Undertaking

Landwash Brewery Inc.

## Proponent

Landwash Brewery Inc.

### **Name of Corporate Body:**

- Landwash Brewery Inc.
- 80698 - Newfoundland and Labrador

### **Address:**

- 181 Commonwealth Ave, Mount Pearl, A1E 6J5, Newfoundland

### **Corporate Organization Structure:**

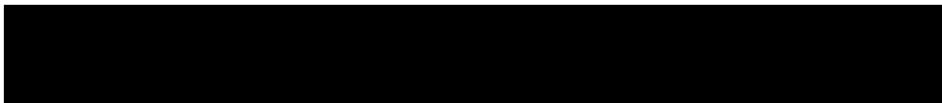
- Name: Jennifer Defreyne
- Official Title: Chief Executive Officer, Chairperson, and General Manager



- Name: Christina Coady
- Official Title: President and Head Brewer



- Name: Chris Conway
- Official Title: Secretary Treasurer and Brewery Operations Manager



### **Principal Contact Person for the Purpose of Environmental Assessment:**

- Name: Christina Coady
- Official Title: President and Head Brewer



## 1.0 The Undertaking

### 1.1 Nature of the Undertaking

Christina Coady, Chris Conway, and Jennifer Defreyne, the owners of Landwash Brewery Inc., are seeking approval to re-develop the building at 181 Commonwealth Ave located in Mount Pearl, Newfoundland to operate a 17.6 hectolitre capacity microbrewery, taproom, and retail area.

The beer produced will be made with all natural ingredients (water, malted barley, hops and yeast) with no added preservatives or pasteurization. The microbrewery operations, including production, packaging, storage, taproom and retail area, will take up approximately 6000 sq. ft. of the 7500 sq. ft. of the building.

A microbrewery is a small brewery, often defined as producing less than 15,000 hectolitres per year. While in year one of operations Landwash Brewery will produce up to 1050 hectolitres per year, by the fifth year it will produce just over 3000 hectolitres per year. As of 2017, Quidi Vidi Brewery in St. John's produced just over 7000 hectolitres, making them more than twice the size of Landwash Brewery. In addition to brewing beer, patrons visiting Landwash Brewery will be able to sample and drink beer brewed on site, purchase beer in a to-go format (can or growler), and purchase souvenir merchandise. Brewery tours, educational seminars explaining how beer is brewed and best enjoyed, and community events at the taproom will be optional to patrons of Landwash Brewery.

### 1.2 Purpose/Rationale/Need for the Undertaking

Newfoundland has seen significant growth in the beer industry over the past two years with the planning and opening of new, small breweries across the island. For many years, Newfoundland's craft beer industry consisted of three businesses (Quidi Vidi Brewery, Yellowbelly Brewpub, and Storm Brewing NL). However, in the last two years, three small locally owned breweries have opened in Newfoundland (Port Rexton Brewery, Split Rock Brewing Co, and Western Newfoundland Brewing Co) and one corporately owned small brewery has opened (Mill Street Brewpub). At the time of writing, there are over fifteen other breweries in various stages of planning.

This recent activity of small, independent breweries opening with much support from their local communities indicates a great opportunity to build a brewery and taproom with a modern focus in Mount Pearl, Newfoundland. Landwash Brewery's attention to education and high quality products provides opportunities to reach out to "new to craft" beer consumers and encourage purchasing beer that tastes great, is approachable, and is made locally. For those already familiar with craft beer, Landwash Brewery will leverage two of its founders' knowledge and

expertise in creating critically acclaimed experimental beers. Located at 181 Commonwealth Avenue in Mount Pearl, Landwash Brewery will operate as a production brewery with a taproom with both direct sales at the brewery in retail and consume on premises (on site) as well as distributed retail via the NLC.

## 2.0 Description of the Undertaking

### 2.1 Geographic Location

Landwash Brewery will be located at 181 Commonwealth Drive in Mount Pearl, Newfoundland. A map of the location can be found in the Appendix in section 6.4. The location is currently an empty warehouse space with 27' ceilings and 6000 sq. ft. of working space to allow for a 17.6 hectolitre brewhouse system as well as a taproom and brewery retail store. After 5 years, Landwash will take over an additional 1500 sq. ft. to further expand the business. The owners team have already been in touch with the City of Mount Pearl to confirm that zoning is suitable for brewing, taproom sales, and retail. The city is very excited to work with us on this development.

### 2.2 Physical Features

Landwash Brewery will be located at 181 Commonwealth Avenue in Mount Pearl, a commercially zoned and empty warehouse. Site plans for the warehouse can be seen in the Appendix in section 6.1. Opening the brewery in a more industrial feeling property that is close to residential areas in a high traffic flow environment would allow consumers the opportunity to visit the Landwash Brewery taproom and retail store in a convenient manner to both sample beers and purchase beer to take home. Currently there are very few places in Mount Pearl to go for a social drink, and therefore Landwash will be well positioned as a place of destination.

The site of Landwash Brewery is equipped with the following features:

- Commercial/industrial zoned property
- High ceilings for fermenting and conditioning vessels
- Fire alarm system
- Wheelchair accessible bathrooms as per Newfoundland building code
- Parking lot
- Concrete industrial weight ready floors
- Additional room for expansion

No new roads, transmission lines, or pipelines will need to be constructed for the brewery. There has been no industrial use of the property (nor any in the area) and no kerosene or oil tanks on the property, the affected area or underground.

## 2.3 Construction

It is expected to take all of 2018 to complete the project, including permitting, licensing, construction and start-up. First production of beer will be in January 2019. The project schedule is outlined in the Appendix in section 6.3.

The building was designed with accessibility and fire safety in mind, so there is already an existing fire system, adequate parking and several bathrooms with wheelchair accessibility. However, in order to transform this space into a well-designed, low cost and easily operated craft brewery, the following modifications must be made:

- Installation and electrical hook-up of the brewery equipment
- Installation of drainage trenches and sloped concrete in wet area
- Installation of a 16' overhead door
- Installation of a walk-in cold storage room
- Low-pressure (15 psi) boiler hook-up
- Hook-up plumbing to tap room bar

A simple drawing of the intended floorplan is attached in the Appendix in section 6.2.

## 2.3 Operations

### 2.3.1 Microbrewery Operations

The operation of the microbrewery will consist of: the brewing process, which is carried out once or twice a week with stages taking place over a 2-3 week period, canning, milling grain, and cleaning.

#### 2.3.1.1 The Brewing Process

A simplified flowsheet is seen below.



- Landwash Brewery beer will be brewed using 17.6 hectolitre brew system, with four 17.6 hectolitre fermenters, and one 17.6 hectolitre brite tank, purchased from a manufacturer such as DME, Specific, or Premier Stainless and will be powered by steam or natural gas
- The brew system will consist of three separate kettles; Hot Liquor Tank (HLT), Mash Lauter Tun (MLT), and Boil Kettle (BK)
- The HLT will be used for heating water for brewing and cleaning purposes and will be sized at double the capacity of the boil kettle
- During a brew day, all required water will be heated in the HLT. Once at an appropriate temperature, a portion of water will be transferred from the HLT to the MLT for the mash
- Milled grains are mixed with the warmed water in the MLT until starch conversion occurs, typically 45-60 minutes
- After starch conversion, transfer of wort from MLT to BK begins. Water from HLT is sprinkled over mash to pull additional sweet wort from MLT to BK
- Once required amount of wort is transferred from MLT, BK is set to bring wort to boil for up to 60 minutes
- During 60 minute boil, hops are added for bitterness, flavour, and aromatics. Additional adjuncts such as spices and fruit may be added at this time depending on the beer being brewed
- After 60 minute boil is complete, and all boil additions have been added, wort is transferred to a fermenter through a chiller to rapidly convert high temperature wort to 24 degrees celsius or lower while introducing pure oxygen
- Once all wort is collected in the fermenter, yeast is added to begin fermentation
- Yeast is removed from fermenter once primary fermentation is complete
- After a period of conditioning, which varies depending on beer being produced, beer is cooled to 1 degree celsius and transferred to brite tank for rapid carbonation



- Once required carbonation levels have been achieved, beer will be packaged in either 473 ml can or 30 liter keg format for consumption
- Once in can or keg format, packaged beer will be stored in a cold room to maintain product freshness

#### 2.3.1.2 Canning

Canning is carried out over a couple of hours and consists of transferring beer from the brite tank to a small canning machine that is also connected to a source of CO<sub>2</sub>. The footprint is very small and the canning machine is on castors.

#### 2.3.1.3 Milling 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 750-800 lbs of grain during this time. The grain will be stored and milled in accordance with fire regulations.

#### 2.3.1.4 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.

#### 2.3.2 Water Demand and 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.

#### 2.3.3 Other Operations

Landwash Brewery will also be operating a walk-in cooler in the premises for keg and hop storage. We will also run a taproom, which will be a licensed lounge area where we will have a draft system to offer our beer on tap to the public in pint and sample-sized glasses. We will also have a small retail area where we will offer merchandise and our packaged beer for off-site consumption.

### 2.3.4 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.

### 2.3.5 Possible Sources of Pollutants

#### 2.3.5.1 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 Boil 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 grain will be transferred to the grist case via an enclosed flex auger. There will be a ventilation system near the mill to assist in the emission of grain dust, which will be small in nature, all natural, and will dissipate quickly.

#### 2.3.5.2 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.
  - Waste water will be discharged into the municipal wastewater treatment system via floor drain systems in the warehouse, which are connected to the municipal infrastructure.
- Spent Grain 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.

## 2.4 Occupations

Landwash Brewery will be open to the public year round. The brewery and taproom will be operated by the owners and a small taproom team in year one.

Christina Coady, Chris Conway, and Jennifer Defreyne will fulfill all requirements during startup to ensure Landwash Brewery will open within a timely manner. Upon successful completion of all required assessments and approval of required licenses, Chris Conway will take on business and taproom operations, handling sales and marketing of Landwash Brewery. Christina Coady will take on role of head brewer, producing the product, design of recipes, and working with suppliers for appropriate ordering and delivery of required brewing items.

Should business results allow, the company may hire additional staff in years one and beyond. Estimated employees, their occupations, and status is listed in the table below:

<b>Occupation</b>	<b>Estimated Number</b>	<b>National Occupation Codes</b>	<b>Status</b>
Assistant Brewer	2	9461	Full-Time
Cellar Person	1	9461	Full-Time
Sales Representative	2	6411	Full-Time
Taproom Staff	4	6421/6512	Part-Time

During hiring, with the exception of hiring those over the legal drinking age, Landwash Brewery Inc will ensure no age or gender discrimination during the hiring process. Landwash Brewery is committed to diversity in the workforce.

### 3.0 Approval of the Undertaking

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

#### 3.1 Municipal

- Municipal Approval
  - City of Mount Pearl

#### 3.2 Provincial

- Food Establishment Licence
  - Department of Health
- Environmental Assessment Approval and 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
- Brewer's Agent Licence
  - Newfoundland Liquor Corporation

#### 3.3 Federal

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

### 4.0 Schedule

Should all funding and all permits, applications, and licences be approved, construction will commence during the spring of 2018 with a tentative opening date of December, 2018.

### 5.0 Funding

Financial support for the microbrewery will be provided through various channels.

## 6.0 Appendix - Project Related Documents

Attachments in Appendix includes:

- Site Plan
- Conceptual Floor Plan
- Project Schedule
- Commonwealth Avenue Map

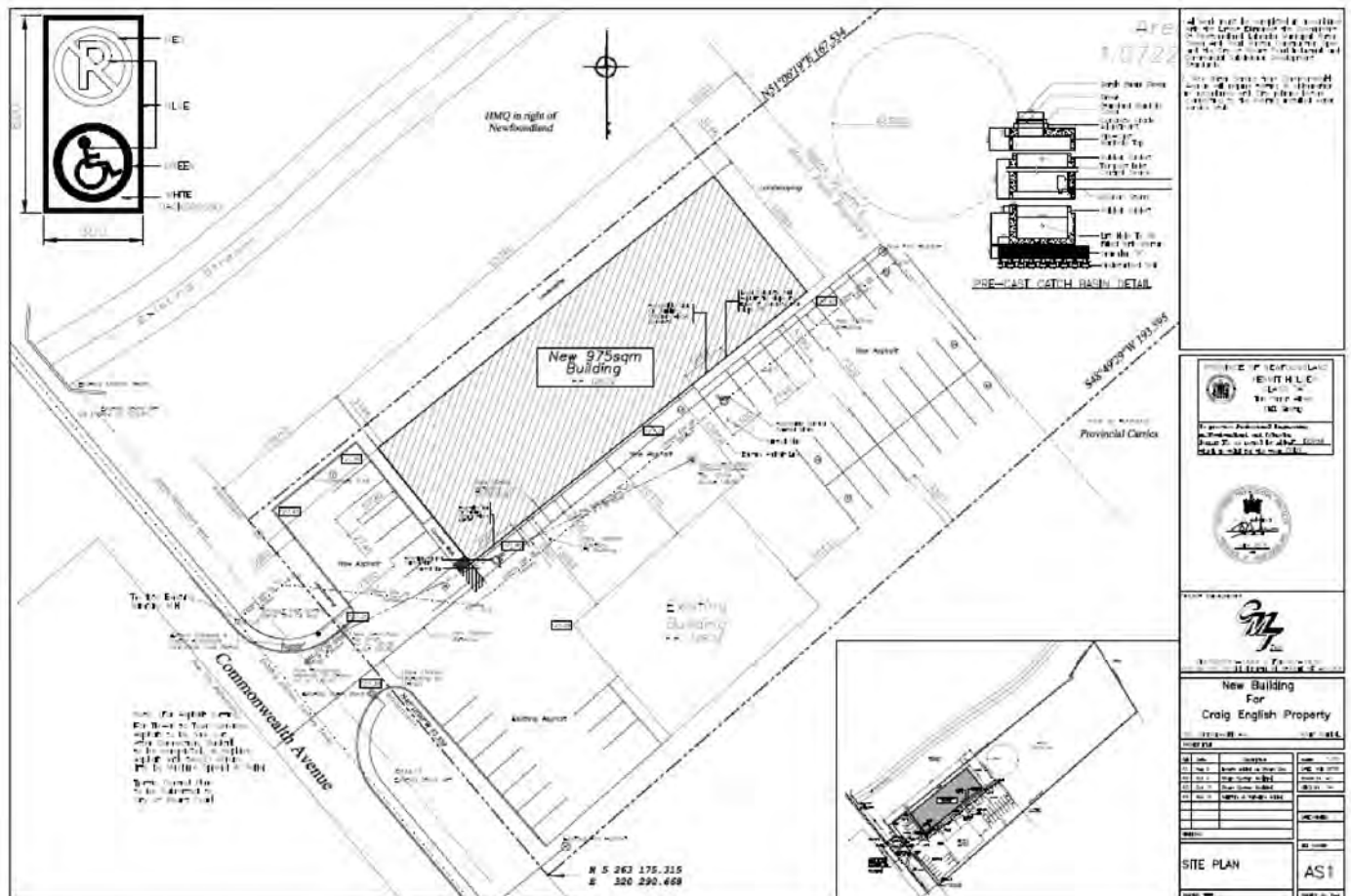
January 18, 2018

Date



Signature of Chief Executive Officer

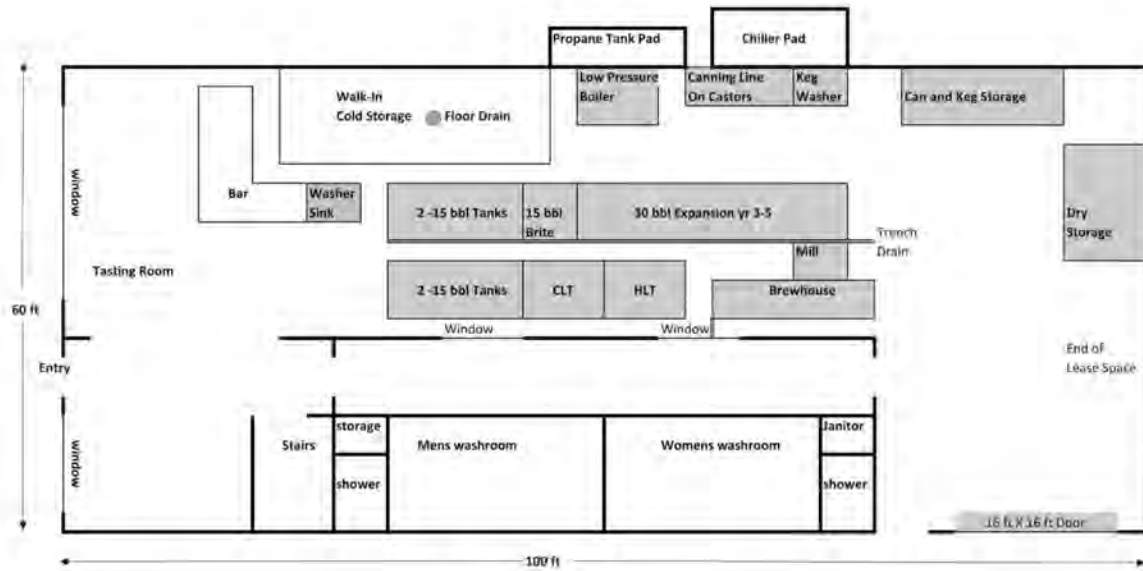
## 6.1 Site Plan



Site plan for 181 Commonwealth Ave.



## 6.2 Conceptual Floor Plan

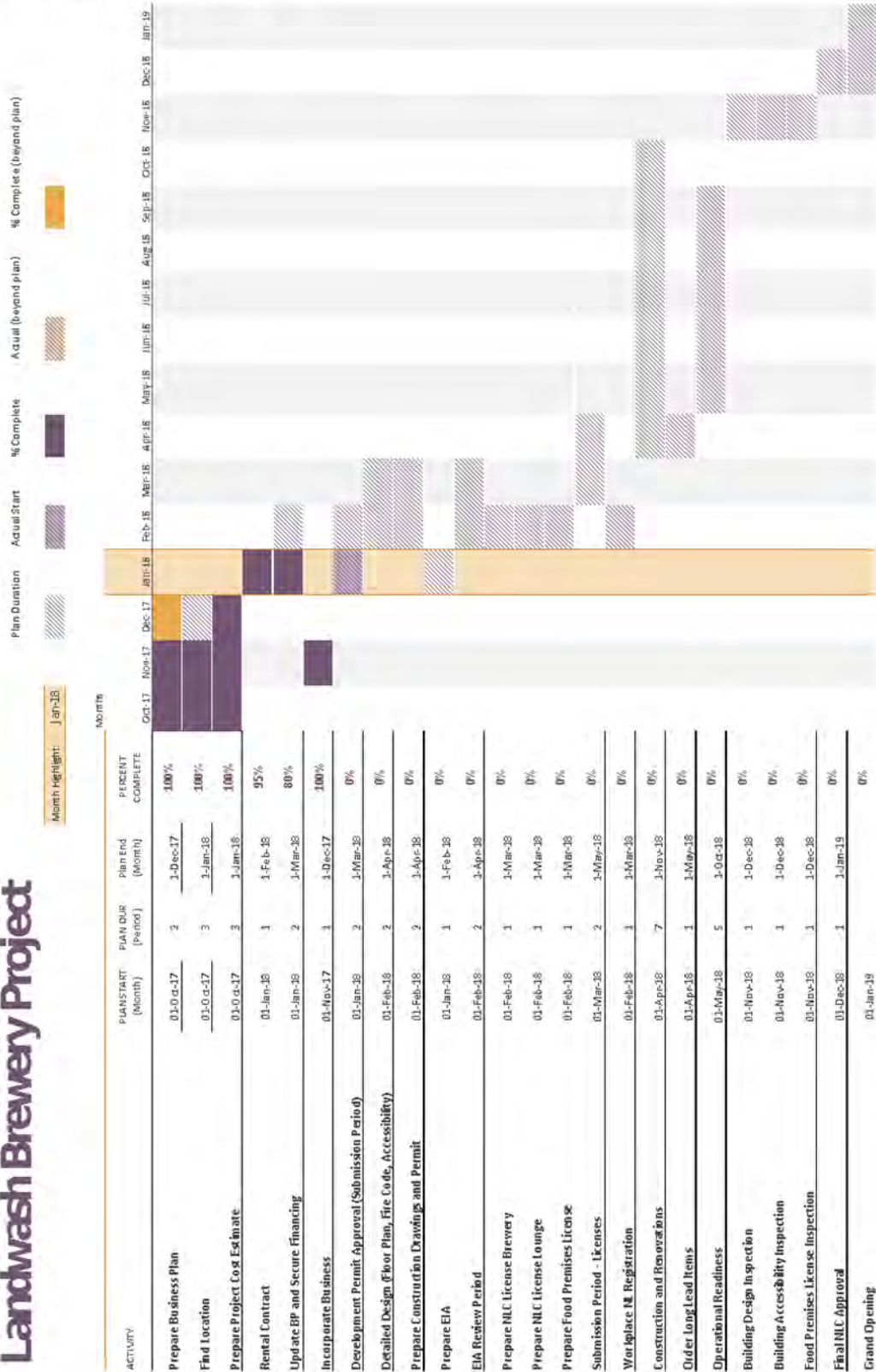


Floor plan designed by Landwash Brewery.



## 6.3 Project Schedule

### Landwash Brewery Project



## 6.4 181 Commonwealth Avenue Map



Map of 181 Commonwealth Ave, Mount Pearl, NL



Map of 181 Commonwealth Ave, Mount Pearl, NL