



**Tors Cove, NL Seal Processing Plant – Environmental Preview Report**  
Pursuant to the Newfoundland and Labrador Environmental Protection Act

Submitted by:  
Ár n-oileán Resources Ltd.

Date: March 4<sup>th</sup>, 2022

## EXECUTIVE SUMMARY

Ár n-oileán Resources Ltd is proposing the repurposing and restoration of the former Tors Cove Fisheries plant in the service district of Tors Cove, Newfoundland into an Omega-3 seal oil production facility.

Through multiple years of research and development Ár n-oileán has developed a new cold process for refining pinniped, vascularized, adipose tissue (seal fat) into pharmaceutical grade omega-3 oil; a process that has been 3<sup>rd</sup> party tested by the National Research Council (NRC).

In contrast to traditional seal plant tannery's, Ár n-oileáns' planned nutraceutical facility will focus on the production of the Omega-3 oil under the GMP (Good Manufacturing Practices), ISO 9001:2015, and CFIA (Canadian Food Inspection Agency) guidelines to wholesale internationally

The skins received while purchasing the seal fat will not be chemically tanned but cleaned and processed for sale as protein.

About half of the companies' partners are fishermen and will be bringing in the majority of the raw material during the winter and spring harvests each year. Approximately 200,000kgs of adipose tissue will be purchased during the company's first harvest with the potential of ramping up to 2 million kilograms harvested during subsequent seasons.

The company will also be purchasing limited volumes of seal backstraps and organs from harvesters to determine the viability of developing an international seal meat market. If the economic viability of a large-scale seal meat market shows promise, such processing will require a separate location at a later date.

Initial renovations and upgrades to the buildings and property to bring the facility back into Canadian Food Inspection Agency compliance will take three to six months with potential to extend to six to nine months with supply chain constraints.

Operations are seasonal with seal harvest times beginning in January and finishing up by May. The company will have approximately 10 – 12 year-round full-time positions though most jobs will be seasonal, corresponding with the seal harvest months. At peak employment there will be an estimated 40 - 50 positions.

Ár n-oileán has designed this project with sharp consideration towards environmental impact. The refinery technology uses a chemical free, mechanical cold process for separation of the adipose tissue with clean water the only effluent. All by-product obtained by the company in the purchasing of raw material for the primary product process is 100% utilized and processed without the use of chemicals. All wash downs are done with CFIA approved **environmentally safe** detergents in consultation with Canadian Wildlife Service Environment and Climate Change Canada to ensure no

adverse impacts to the environment, in particular, on the neighbouring Witless Bay Ecological Reserve. The use of custom designed, 3 stage air filtration units including pharmaceutical grade high efficiency HEPA filtration, used throughout the plant, will handle potential particulate and/or odorous gas generated during operations.

The company has already removed 30 tonnes of garbage and debris that was present on the property at the time of purchase and is working on the removal of an additional 20-30 tonnes that remains at the rear exterior of the buildings.

Ár n-oileán initially submitted this Project to the Environmental Assessment Division (EAD) for review in July 2021. On September 10<sup>th</sup> the Minister advised Ár n-oileán an Environmental Preview Report (EPR) would be required. EPR guidelines were issued on November 3<sup>rd</sup>, 2021 and this document has been written to address issues identified in those guidelines.

## **HISTORY OF OMEGA-3 SEAL OIL**

In the late 1960s Danish scientists were performing health studies comparing people with a diet that includes meat versus people with a strict vegetarian diet. Since Greenland was a part of Denmark the indigenous peoples there, who consumed almost entirely an ocean mammal diet, were included in the study as a control.

The results were surprising. Though there were differences between the meat consuming subjects and the vegetarian subjects, by far the most dramatic results came from the indigenous peoples. These subjects had no traces of heart disease and arteries clear and devoid of plaque.

By the early 70s it was determined that the omega 3 fatty acids found in the blubber of marine mammals, ie: seals and walrus, were responsible for the incredible health in the indigenous subjects, and the world wanted omega 3 oil. Though marine mammals were not accessible to most of the world's population, the omega 3 oils were also found in another very abundant source; fish. For the next 25 years the popularity of fish oil grew exponentially, unfortunately the results recorded with the peoples of Greenland were never replicated and funding for omega 3 studies dried up.

In the early 2000s ago, Japanese scientists revealed that there was a major difference between the fatty acids of marine mammals and those found in fish. Fish oils contain the fatty acids docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). Marine mammals contain these and a third, clupanodonic acid (DPA). DPA is the important acid, of the three it harbours the most health benefits and its presence on the outside of the fat molecules gives it far greater body absorption capabilities. Where the omega 3 oils of fish could reproduce the results found in Greenland, the DPA present omega 3 oils found in seals were proving successful.

As the research of seal oil and DPA continues, studies have demonstrated that the benefits go far beyond the cardiovascular and actually have been found to enhance mental and cognitive function, relieve inflammation, boost the immune system and aid in fetal and infant development.

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**1. PROJECT NAME:**

**TORS COVE SEAL PROCESSING PLANT**

**2. PROPONENT INFORMATION**

Ár n-oileán Resources Ltd. is an Omega-3 seal oil nutraceutical production company located in the Local Service District of Tors Cove, NL.

<b>Name of Corporate Body:</b>	Ár n-oileán Resources Ltd.
<b>Corporate Address:</b>	4 Hebbard Pl, St. John's, NL A1A 5J6
<b>Chief Executive Officer:</b>	Kendall Flood President and CEO Email: <a href="mailto:info@nlseal.com">info@nlseal.com</a>
<b>Principal Contact Person for the Purpose of EA:</b>	Kendall Flood President and CEO Email: <a href="mailto:info@nlseal.com">info@nlseal.com</a>

### **3. THE UNDERTAKING**

#### **3.1. Nature of the Undertaking**

Ár n-oileán Resources is proposing the development and operation of a nutraceutical omega-3 oil production facility in the Local Service District of Tors Cove.

Using a newly developed mechanical separation process for refining the Pinniped Vascularized Adipose Tissue (seal fat) the company will be able to refine a high-quality omega-3 oil without the use of chemicals or heat and as such, the only effluent released from the refining process is clean water.

The company will purchase Harp Seal skins directly from the seal harvesters to obtain the adipose tissue attached. It will be primarily the adult skins that are purchased due to their high volume of fat per skin, but bedlamer and beater stage skins will also be purchased, albeit in lesser quantities.

The harvesting season for adult and bedlamer Harp seals begins in January and the beater harvesting season will begin in April. The entirety of the Harp seal harvesting season closes in May.

In the first year of operations an estimated 5,000 – 10,000 seal skins will be purchased from harvesters, producing up to 350,000 liters of refined omega-3 oil. The oil will travel straight from the refinery into sealed Intermediate Bulk Containers (IBCs) and then shipped to the mainland for encapsulation and bottling. 350,000 liters is enough oil to yield nearly 8 million bottles of seal oil capsules.

In successive years Ár n-oileán aims to purchase between 20,000 – 30,000 skins per year yielding up to 1 million liters of oil, 20 million bottles of capsules.

The harvesters will land their catch at various locations around the island, predominately in St. John's, and the company will truck their payload to the proposed processing facility in Tors Cove.

The facility was purchased from Tors Cove Fisheries in 2021. The facility was operated for decades as a fish plant processing groundfish, shellfish and pelagics. The fish plant ceased operations in 2007 and remained vacant and unmaintained in subsequent years. The condition of the buildings has dramatically deteriorated with large roof sections and both interior and exterior walls severely compromised and requiring significant electrical and plumbing repairs/upgrades.

The company intends to restore this facility with structural, electrical, plumbing and equipment renovations and upgrades. The construction phase to bring the facility back into CFIA compliance is projected to take three to six months barring supply chain issues that could cause delays.

Ár n-oileán registered the Project for environmental assessment (EA) in July 2021 under Newfoundland Environmental Protection Act (NL EPA) (GNL 2002). Following public and governmental review of the EA Registration, the Minister of the Department of Environment, Climate Change and Municipalities (DECCM), Bernard Davis, issued a decision on September 10<sup>th</sup>, 2021 calling for further review of the Project in the form of an Environmental Preview Report (EPR).

This EPR process included discussions and formal feedback from multiple NL Government divisions as well as Federal departments including:

- Provincial
  - Department of Environment and Climate Change
    - Environmental Assessment Division
    - Pollution Prevention Division
    - Water Resources Management Division
    - Policy, Planning, and Natural Areas Division
  - Department of Municipal and Provincial Affairs
    - Local Governance and Land Use Planning Division
  - Department of Fisheries, Forestry and Agriculture
    - Policy and Planning Division
  - Department of Tourism, Culture, Arts and Recreation
    - Tourism Division
  - Department of Health and Community Services
    - Environmental Public Health
  - Office of Women and Gender Equality
- Federal
  - Health Canada
    - Environmental Health Program
  - Environment and Climate Change Canada
    - Canadian Wildlife Service

In addition, two public meetings (one virtual and one in person) were held with members of the public and government officials.

### **3.2. Purpose / Rationale / Need for the Undertaking**

Ár n-oileán Resources plans to operate a nutraceutical plant at the site of the former Tors Cove Fisheries plant.

Omega-3 rich seal oil has been predominantly a by-product to the seal fur tannery industry and as such very little advancements have been attempted resulting in an inefficiently generated crude product. As research began into new methods of separating oil customers sought out Ár n-oileán, desperate for a high-quality product to satisfy hungry markets. In some cases, customers stated they were seeking as much as 24 times the volume of oil that they were actively able to procure from Newfoundland suppliers.

The new methods developed by the company will produce the value-added pharmaceutical grade oil sought after by customers at volumes sufficient to fulfill and grow current market demands. In doing so, Ár n-oileán is confident this will create sustainable economic growth in the region and a positive return on investment for its shareholders without adverse environmental effects.

## 4. DESCRIPTION OF THE UNDERTAKING

The project involves the restoration of the deteriorating former Tors Cove Fisheries fish plant and its conversion into a high-end omega-3 nutraceutical facility.

This facility's primary operation will be the separation of pinniped, vascularized, adipose tissue producing pharmaceutical grade, omega-3 seal oil and the fat solid by-products which will be distributed to international and local markets.

The high quality, refined, omega-3 oil produced will be trucked to the mainland where it will be encapsulated and bottled. The plant is capable of refining enough oil to produce 8 – 20 million bottles of seal oil capsules annually.

Other utilized raw materials include preparing seal skins for protein markets and exploring the economic feasibility of developing a large-scale, value-added, seal meat production. If the viability of establishing a seal meat production plant of this nature is established it will be developed at a later stage in a different location.

### 4.1. Geographic Location

The seal processing facility is located on the harbour of the Local Service District of Tors Cove, occupying the former Tors Cove Fisheries plant established in 1960 and operated until 2007.

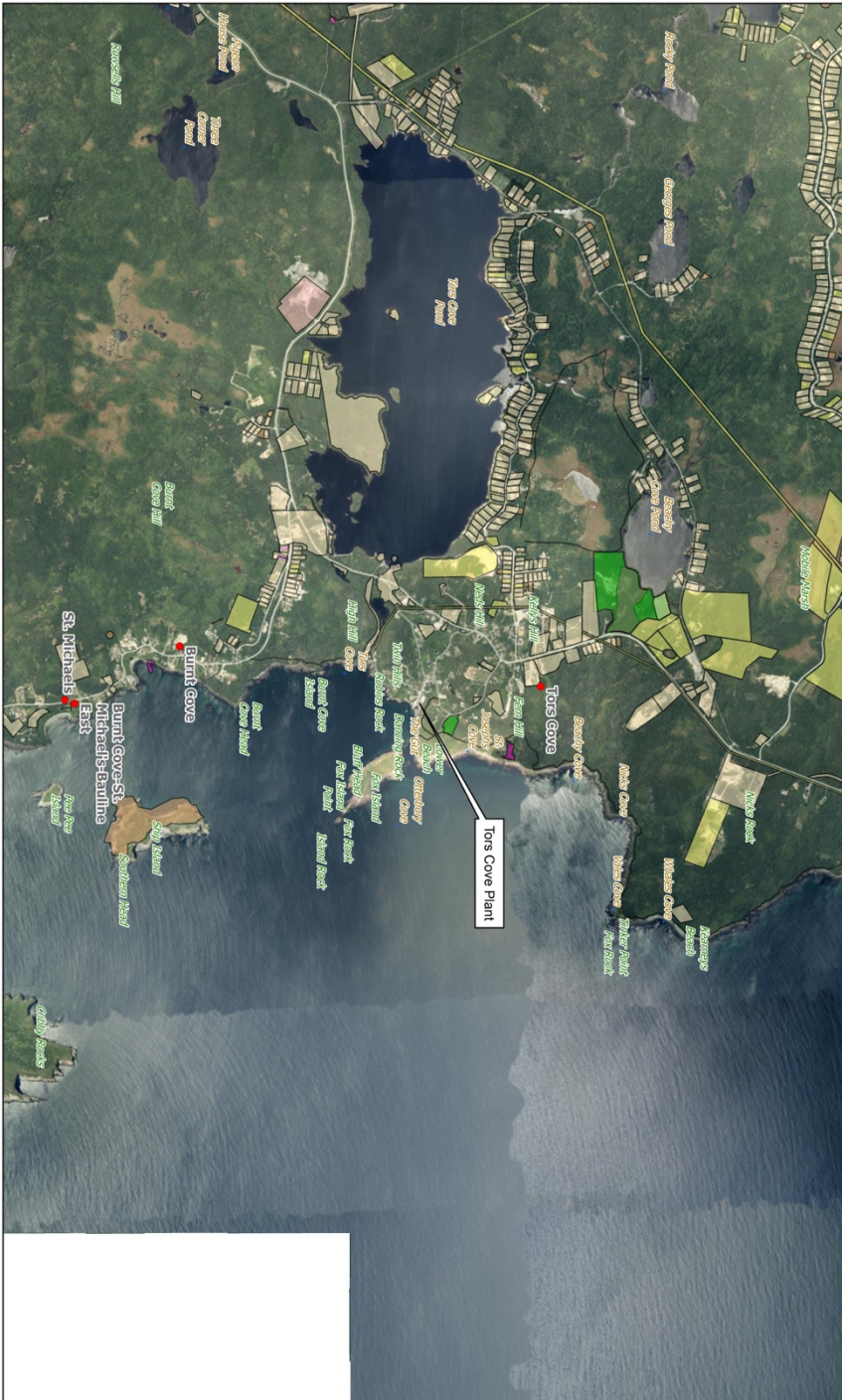
Raw material transported to the plant will travel along Highway 10 South, turning left onto Power's Road then left onto Long Run Road to access the property. *(Note: Power's Road is displayed as Long Run Road on Google Maps and Google Earth)*

The Witless Bay Ecological Reserve, shown in **Figure 2** below, is located a little more than 2kms from the harbour and the former fish plant. This area has been designated protected due to the migrating birds that nest within its boundaries, and is made up of a group of four islands and their surrounding waters: Gull Island, Green Island, Great Island, and Pee Pee Island.

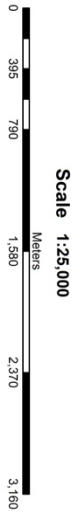
There is a section of the East Coast Trail system, displayed on **Figure 3**, that travels through the community of Tors Cove and directly behind the plant, traversing atop a hill overlooking the ocean.

Figure 1 - 1:25,000 Map 47°12'48.68" N 52°50'43.32" W elevation 9m

**Department of Fisheries, Forestry and Agriculture  
Crown Lands Division**



Compiled on December 09, 2021  
Coordinate System: NAD 1983 MTM 1



**NOTE TO USERS**

The information on this map was prepared in the Crown Lands Registry.  
Since the Registry does not contain information on the Province, the information contained cannot be considered correct.  
The boundary lines shown are intended to be used as a guide to the accuracy of the land in not sufficient for measurement purposes.  
Users, finding any errors or omissions on the map sheet are invited to contact the Crown Lands Registry at 1-833-891-3249 or by email at [ServiceUsers@gov.nl.ca](mailto:ServiceUsers@gov.nl.ca).  
The user hereby indemnifies and agrees to hold the Crown Lands Registry harmless from and against all claims, demands, actions, damages, injury, or demands for any violation of copyright or intellectual property) in the Crown Lands Registry, and employees and agents shall not be liable for any loss of profit or kind as a result.

For inquiries please contact the Crown Lands Inquiries Line by telephoning at 1-833-891-3249 or [CrownLandsInfo@gov.nl.ca](mailto:CrownLandsInfo@gov.nl.ca). Or visit the nearest Regional Department office at [http://www.fir.gov.nl.ca/department/contact\\_Lands.html](http://www.fir.gov.nl.ca/department/contact_Lands.html)



Figure 2 - Witless Bay Ecological Reserve

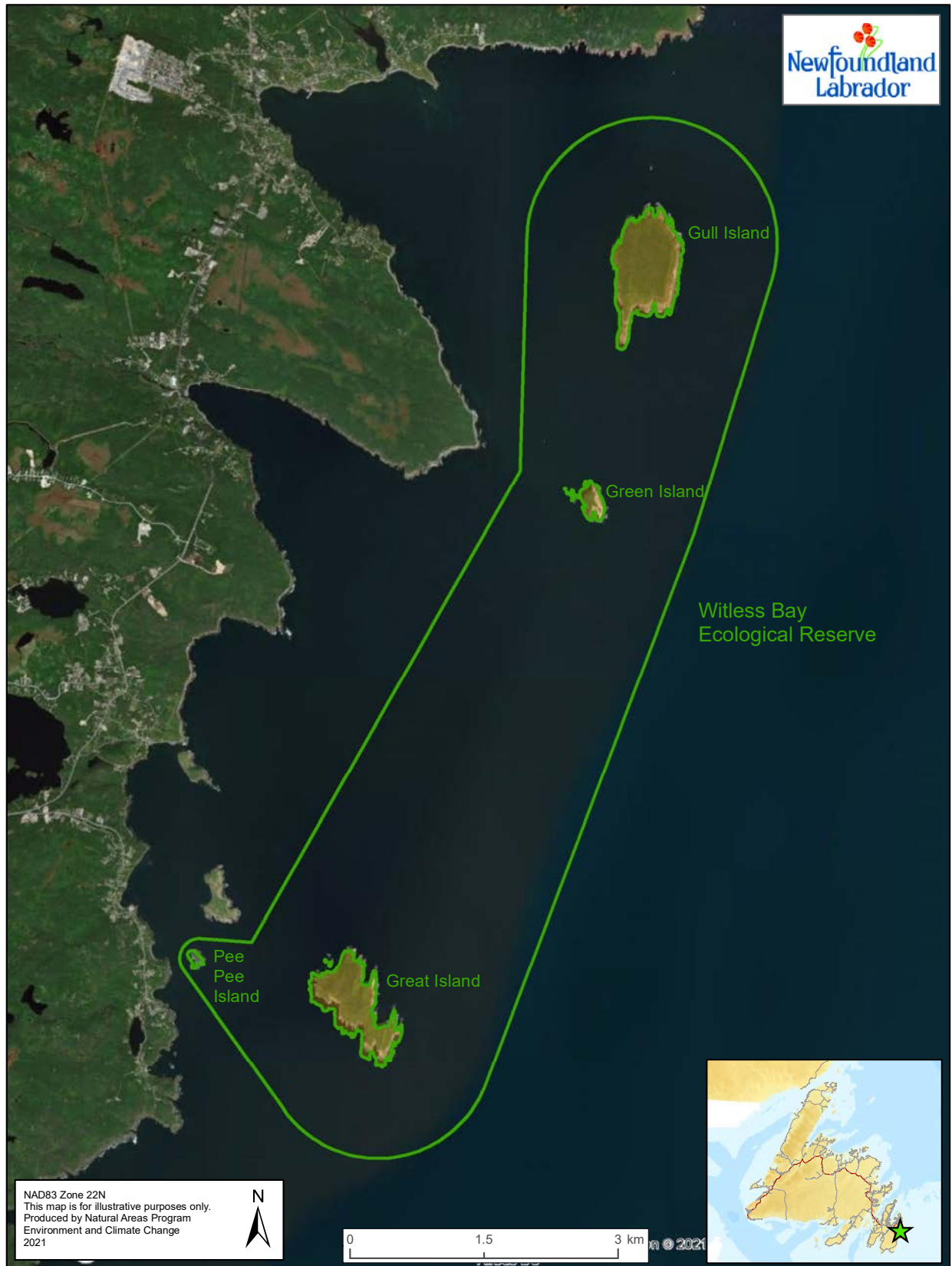


Figure 3 - East Coast Trail (Tors Cove section)



**4.2. Physical Features**

The former Tors Cove Fisheries fish plant was built in 1960 and over the years, as expansion required, an additional six structures have been built onto the plant. An administration building and a bunk house trailer were also added to the center of the two-acre, fenced in lot.

Figure 4 - Former Tors Cove Fisheries Plant (satellite view)





The plant is located directly on the shore of Tors Cove Harbour adjacent to an old wharf and recreational beach area. It is just over 2kms away from the offshore boundary of the Witless Bay Ecological Reserve and as the crow flies, is about 7.5km away from the Barry Group Inc. (BGI) Crab Plant.

Figure 5 - Witless Bay Ecological Reserve (satellite view)



Tors Cove Pond is the primary source of water to the plant, pumped through a six-inch water main buried underground along Mall Road. In addition to Tors Cove Pond, there is also a drinking well on the North / West section of the property that provides clean drinking water to the facility.

The plant supplies the community's sole fire hydrant, delivering water to the hydrant's location on Mall Road.

Figure 6 - Tors Cove Pond Water Supply Route



Figure 7 - Fire Hydrant Supply Route



More detail is provided on section 4.5 Annual Water Use pg. 39



The plant's existing offal discharge infrastructure releases its effluent more than 200 feet North East of the wharf with currents drawing discharge away from the beach. With the company's primary operating months comes the added benefit of increased sea states and tidal movements within the harbour which increases the recycle flush rate of the area.

*More detail is provided on Section 4.4 Offal Discharge pg. 36*

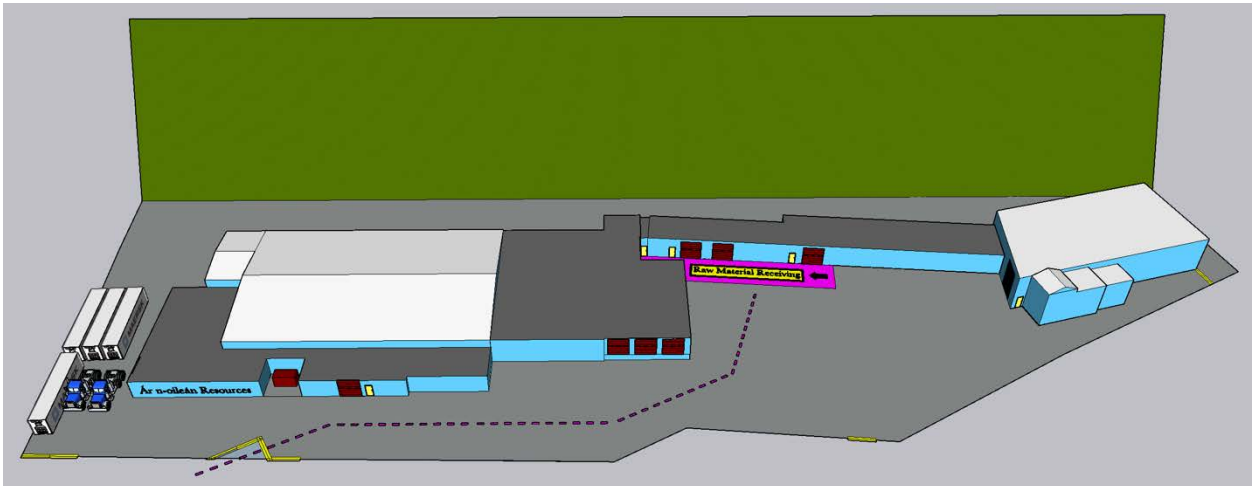
*Figure 8 - Facility's Discharge Outflow (satellite view)*



The plant's receiving area is situated at building four on the North West corner of the main yard.

*More detail is provided on Section 4.9.3 Raw Material Receiving Process pg. 66*

*Figure 9 - Raw Material Receiving*



Raw material is trucked to the plant travelling along Highway 10 South and turning onto Power's Road and then onto Long Run Road. This route is of sufficient size and span to adequately cover the demands and turning radius of tractor trailers.

*(Note: Power's Road is displayed as Long Run Road on Google Maps and Google Earth)*

*Figure 10 - Raw Material Transportation Route*





There are 40 employee parking places within the fenced perimeter and the company has secured off-street parking from a local resident. Transport trucks and reefer containers will be parked on the West side of the facility.

At no time will employees or trucks need to park on the road outside of the fenced property and will not occupy parking spaces used by residents and visitors using the beach.

Figure 11 - Employee Parking Designations

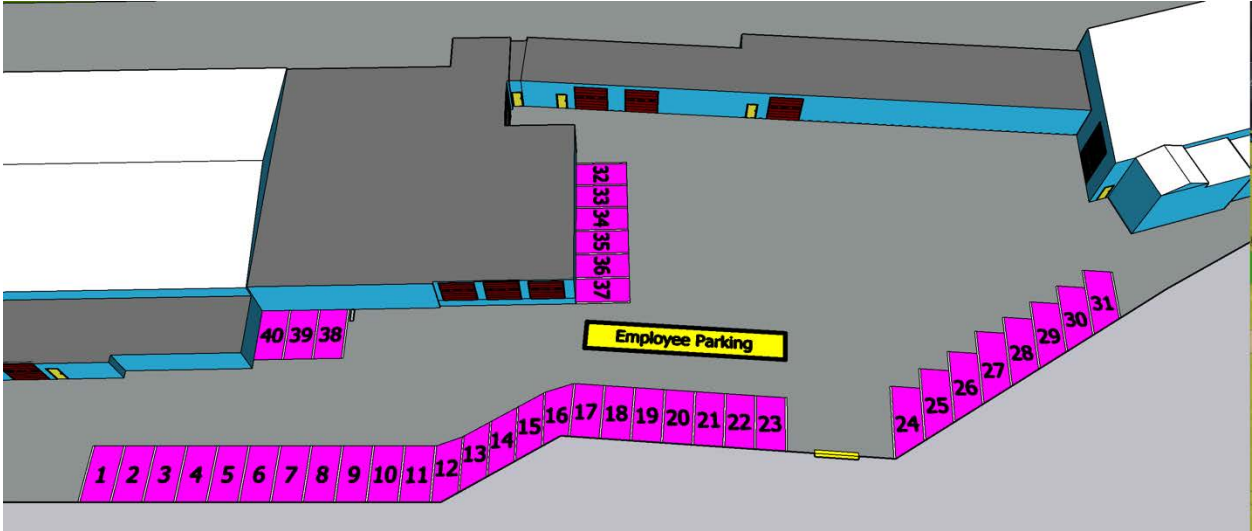
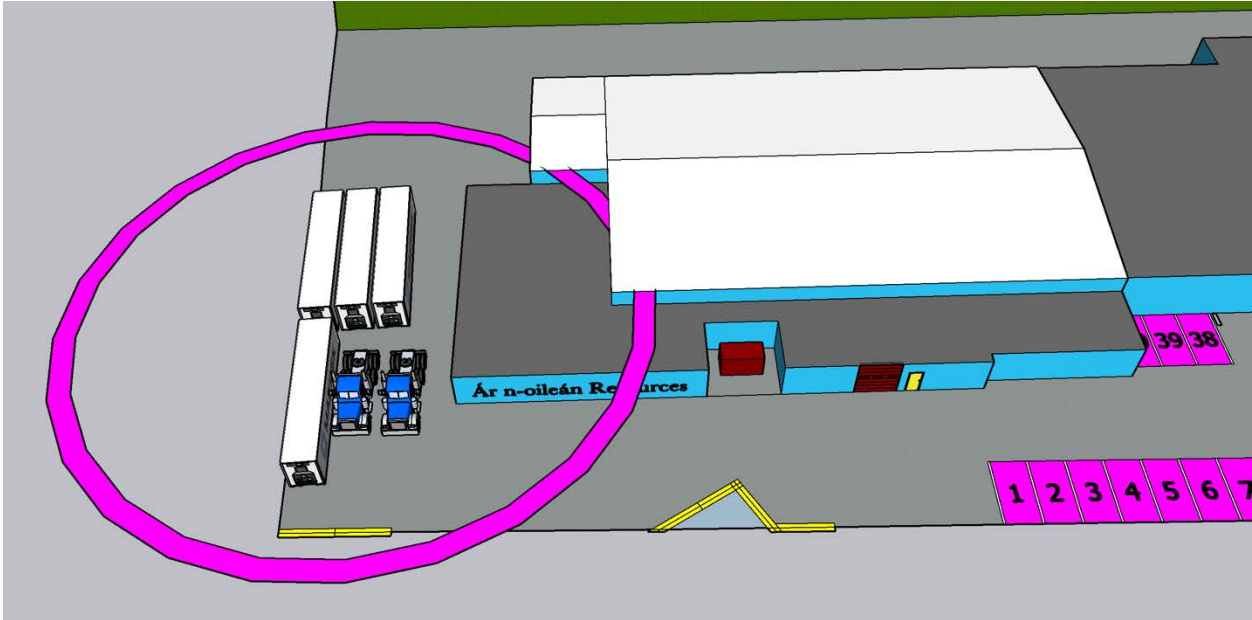
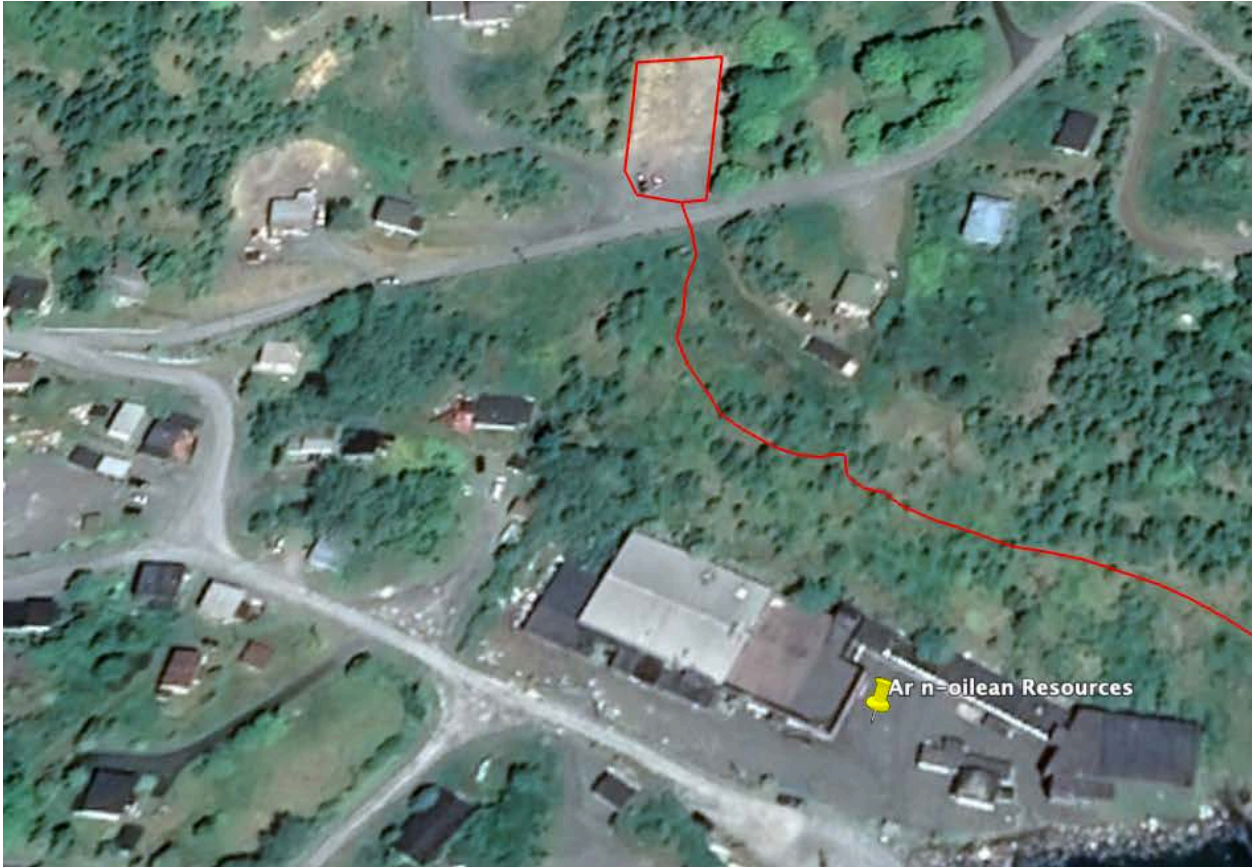


Figure 12 - Transport Trucks & Reefer Container Parking Designations



East Coast Trail users are encouraged by the ECT association to use the lot at the site of the former church on Cove Road across from the trailhead and North of the plant. Ár n-oileán associated vehicles will not be present in this area to occupy potential trail users parking.

Figure 13 - East Coast Trail Tors Cove Parking

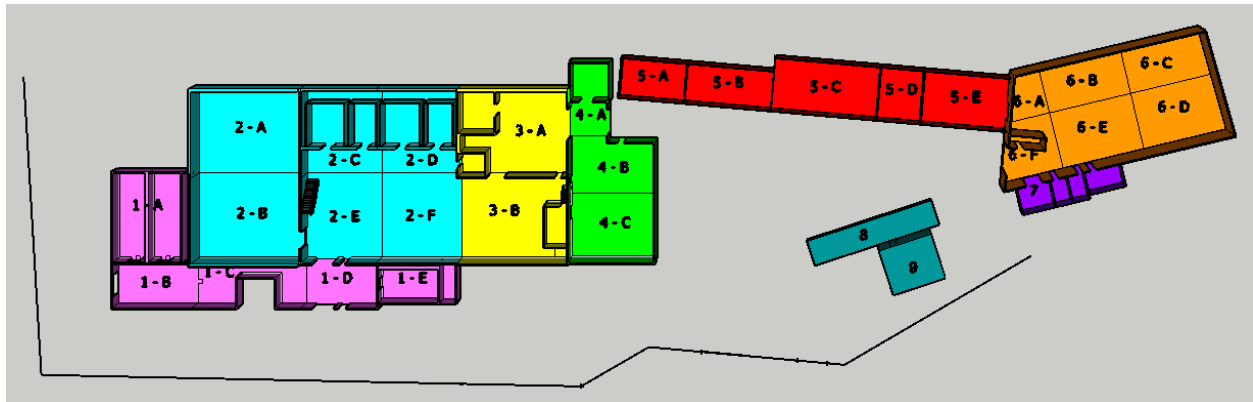


Ár n-oileán shares a fence-line with a neighbour’s driveway on the West side of the property and there is a house up on top of a hill, across the street from the plant. Beneath this house, level with the plant, is a shed used by local fishermen.

As all of the commercial activities will be performed within the fenced property, there will be very limited interaction between these residents and company vehicles. Ár n-oileán will also work towards mitigating any and all other potential interferences generated by plant operations.



Figure 14 - Ár n-oileán Resources Facility Building Area Codes



### 4.3. Construction

The recently purchased fish plant requires extensive renovations and upgrades to repurpose the dilapidating structures into the CFIA compliant, nutraceutical facility that Ár n-oileán intends to complete. The plant currently consists of 7 structures built onto each other over the years and an administration building and bunk house in the center of the yard.

The walls of the plant are aerated, non-insulated, concrete blocks. Upon purchase of the property Ár n-oileán received confirmation from the previous owners that at no time were Asbestos or Urea Formaldehyde Foam Insulation (UFFI) used in any part of the property.

Some of the overall upgrades and renovations to the plant are listed below:

- New plumbing will be attached to run along the walls.
- Plumbing in the water intake room will be repaired and control valves installed for water supplied by the plant to the community's sole fire hydrant.
- The drinking well will be reactivated, tested and treated for the facility's potable water.
- Electrical conduit running new electrical cables will be attached to the walls.
- All existing lighting will be replaced with energy efficient, industrial LED lighting.
- Floors will be coated with CFIA approved, non-slip sealant.
- Interior walls will be sealed with CFIA approved coatings for washdowns

- In blast freezers and meat handling rooms CFIA approved washdown panels will be installed.
- HVAC air filtration units (NOT air conditioning units – no CFCs present) will be installed throughout the plant.
- Sections of compromised roofing will be replaced or repaired as necessary
- Old freezer equipment will be removed and new equipment will be installed.
- The cold storage room will have a fresh coating of poly-urethane insulation sprayed on its walls.
- Insulated metal siding will be installed on the exterior of the buildings.
- The plants septic system will be examined and depending on results:
  - Maintain and repair existing system
  - Install new septic fields as per governmental regulations on the North West section of the property.
  - *More detail is provided on Section 4.3.11 Septic System pg. 34*

### 4.3.1. Building 1

Figure 15 - Building 1 Highlighted in Pink

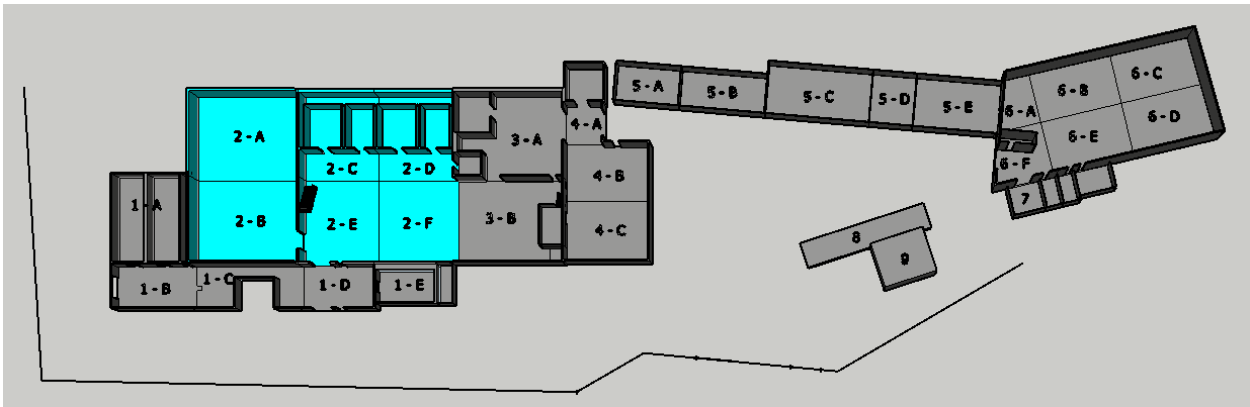


The roof of building one will receive the most immediate attention. The flat torch-on roof is currently very compromised seemingly from years of unremoved snow accumulation. It is currently sagging heavily with multiple severe leaks. This roof will be stripped and completely replaced.

Sections 1-A and 1-E house the three blast freezer rooms that Á r n-oileán will continue to use. The rooms themselves will have new CFIA approved wall panels installed and new freezer doors attached. All freezer equipment; ammonia evaporators, condensers and compressors, will be purchased from, installed and maintained by Youngs Refrigeration.

### 4.3.2. Building 2

Figure 16 - Building 2 Highlighted in Aqua



Building sections 2-A and 2-B comprise the cold storage room. Like the blast freezers in building one, all ammonia powered equipment will be purchased from, installed and maintained by Youngs Refrigeration.

The room is coated with spray-on polyurethane insulation and will be recoated with more of the same insulation and the floor coated with a CFIA approved freezer grade coating. New cold storage doors will be installed.

Sections 2-C and 2-D were previously four blast freezer rooms that are to be decommissioned and removed to create one large room. This room will be the meat handling area and test kitchen. As such all of the walls will have CFIA approved wash down panels installed and the floor covered with CFIA approved coatings.

Sections 2-E and 2-F are the skin/fat separating sections. As this area is the initial raw material handling sections the walls, floor and ceiling will be sealed with CFIA approved coatings.

Hanging HVAC air filtration units, custom designed by HVAC Specialties, will be installed in sections 2-C, 2-D, 2-E and 2-F to filter particulate and gases from the air including mitigating potential odours. These units have 3 stage filtration including High Efficiency 4V HEPA filters which are 99.99% effective at 0.3 microns and far exceeds CSA standards for hospital operating rooms. They are also equipped with Needlepoint Bipolar Ionization Equipment (GPS NPBI), devices that neutralize pathogens such as moulds and viruses including COVID-19.

*[More detail on HVAC air filtration units provided on Appendix 10.1 pg. 128](#)*

A new, non-slip metal staircase leading to the 2<sup>nd</sup> floor will be installed, replacing the rusted staircase missing multiple treads and a hand rail that is presently there.

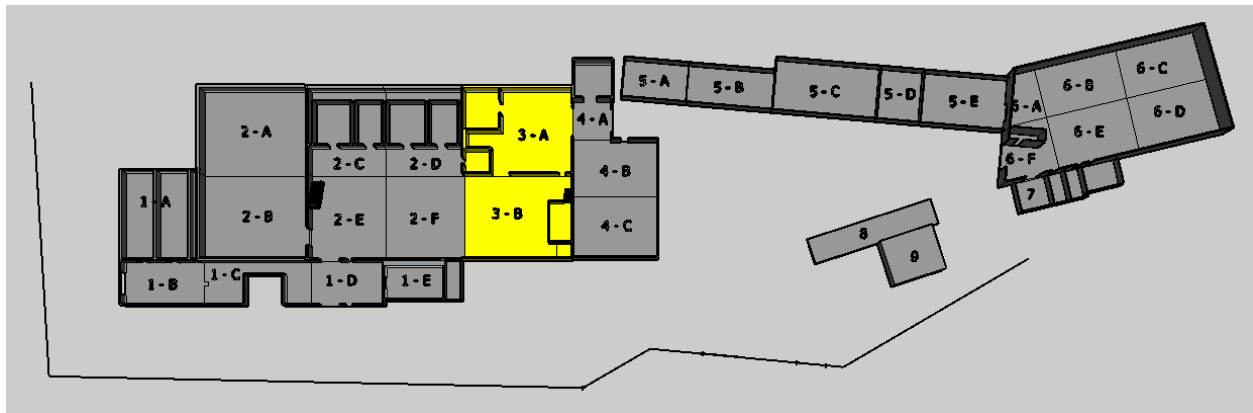
The 2<sup>nd</sup> floor directly above sections 2-C, 2-D, 2-E and 2-F also requires immediate attention. The wooden floor has many broken sections with holes hastily covered with plywood sheets. The entirety of this flooring will be replaced.

The north wall facing the rear of the building, opposite a section of the East Coast Trail has many holes up to 8' \* 4' in size cut through the siding. These holes were cut instead of adding ductwork to ventilate heat drawn from four blast freezers in sections 2-C and 2-D. As previously stated, these rooms will no longer house blast freezers and this section of siding will be repaired.

The electrical rooms in 2-E and 2-F will have panels replaced and new doors installed.

### 4.3.3. Building 3

Figure 17 - Building 3 Highlighted in Yellow



Section 3-A is the skin processing area also referred to as the wet room. In this room skins are washed and dehydrated. All walls, ceiling and floor will be sealed with CFIA approved coatings.

Plumbing will be added to supply the water to the cleaning drums, and for gray water expelled from the drums to be directed to the batch water holding tank for analysis.

With the drums and dehydration equipment in use in the “Wet Room” dehumidification units will be installed in this section to remove excess air humidity.

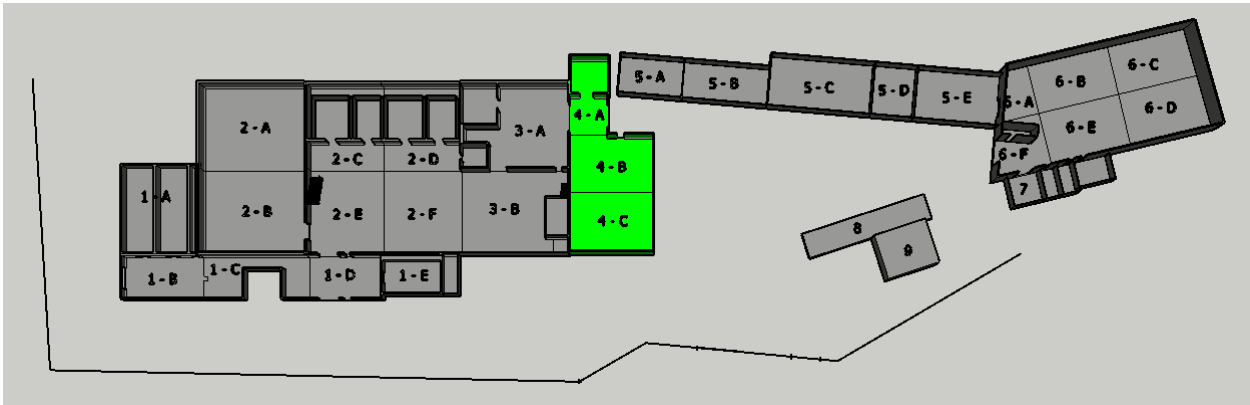
The water intake room is located in section 3-B. In addition to upgrading plumbing in this room, valves will be installed to isolate water being fed from the plant to the community fire hydrant on Mall Road from the water that supplies the facility itself. This installation is to ensure an uninterrupted supply of water to the hydrant at all times.

Hanging HVAC air filtration units, custom designed by HVAC Specialties, will be installed in sections 3-A and 3-B to filter particulate and gases from the air including mitigating potential odours. These units have 3 stage filtration including High Efficiency 4V HEPA filters which are 99.99% effective at 0.3 microns and far exceeds CSA standards for hospital operating rooms. They are also equipped with Needlepoint Bipolar Ionization Equipment (GPS NPBI), devices that neutralize pathogens such as moulds and viruses including COVID-19.

*[More detail on HVAC air filtration units provided on Appendix 10.1 pg. 128](#)*

### 4.3.4. Building 4

Figure 18 - Building 4 Highlighted in Green

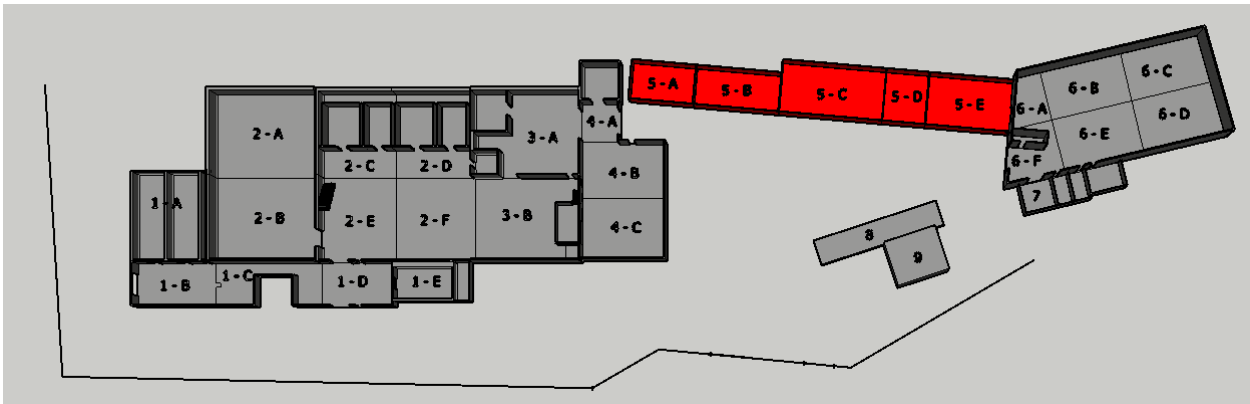


Building four is the raw material receiving area. The inside of this section is floored in concrete and the outside finished with asphalt. A new automated overhead door will be installed at section 4-A.

The South wall of building 4, composed of the same aerated cinder block as the majority of the plant, is compromised, with a large section beginning to separate and fall out and away from the building. This section is being removed, the remaining wall reinforced and overhead doors added.

### 4.3.5. Building 5

Figure 19 - Building 5 Highlighted in Red

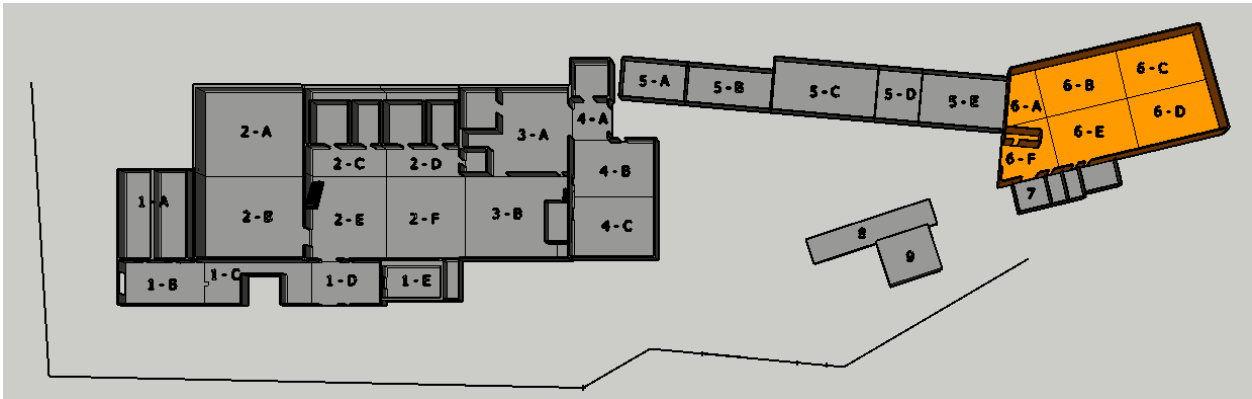


Building five is a long narrow section connecting Building Four to Building Six and will be used for snow clearing and maintenance storage. Unnecessary electrical, plumbing and piping used previously for the crab plant operating in this building will be removed, and new overhead and man doors installed.

This building has a flat torch-on roof similar to building one, and also like building one the roof is actively caving in presumably from unremoved snow accumulation. The entire roof will be removed and replaced.

### 4.3.6. Building 6

Figure 20 - Building 6 Highlighted in Orange



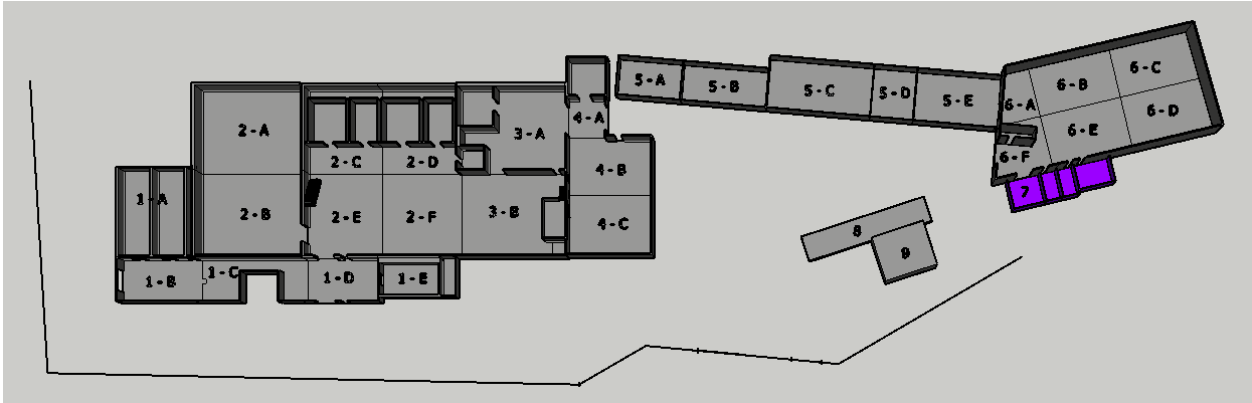
The omega-3 oil refinery will be located in this building. The walls, ceiling and floor will be sealed with CFIA approved coatings.

Hanging HVAC air filtration units, custom designed by HVAC Specialties, will be installed in Building Six to filter particulate and gases from the air including mitigating potential odours. These units have 3 stage filtration including High Efficiency 4V HEPA filters which are 99.99% effective at 0.3 microns and far exceeds CSA standards for hospital operating rooms. They are also equipped with Needlepoint Bipolar Ionization Equipment (GPS NPBI), devices that neutralize pathogens such as moulds and viruses including COVID-19.

[More detail on HVAC air filtration units provided on Appendix 10.1 pg. 128](#)

4.3.7. Building 7

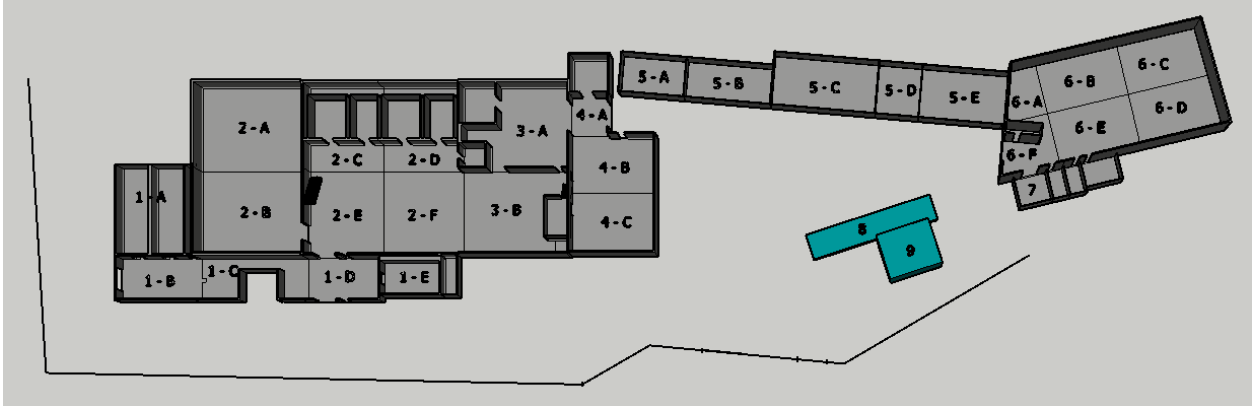
Figure 21 - Building 7 Highlighted in Purple



Building Seven houses the washrooms, lunchroom and an electrical room. All of the aforementioned will be refurbished and brought up to code.

4.3.8. Buildings 8 & 9

Figure 22 - Buildings 8 & 9 Highlighted in Turquoise



Building Eight, the bunk house trailer, and Building Nine, the administration building, are both condemned, succumbing to severe deterioration and thus will be completely removed from the premises.



#### 4.3.9. Yard Improvements

Any damage done to the substrate beneath the demolished structures will be repaved.

Upon purchase of the former fish plant, there was enormous amounts of garbage, scrap metal and refuse within the fenced perimeter of the property. On the west side of the plant alone the company had to employ an excavator to extract alders that had grown up through the debris so that approximately 30 tonnes of the aforementioned debris could be removed.

There still remains an estimated 20 tonnes of debris and old fish tubs dropped behind the plant itself that the company will remove.

#### 4.3.10. Refrigeration

All of the plant's old ammonia and freon refrigeration equipment and piping is being stripped and removed with four of the seven blast freezers being fully decommissioned. New equipment is being supplied and installed by Young's Refrigeration.

Ár n-oileán's new ammonia powered refrigeration system will consist of an 80,000 ft<sup>3</sup> cold storage room, two 4,000 ft<sup>3</sup> and one 2,600 ft<sup>3</sup> blast freezers. The system is powered by two 100HP compressors; one compressor to power the cold storage and one to power the blast freezers. An exhaust fan and fresh air intake louvers will be installed in the compressor room.

#### 4.3.11. Septic System

The plant has an existing septic system that the company plans to utilize based on successful verification, hookup and testing. If this system is not functioning it will be decommissioned, and a new system will be installed.

The new system will be governed by provincial government sewage standards: <https://www.gov.nl.ca/dgsnl/files/publications-private-sewage-disposal-and-water-supply-standards.pdf>.

This process requires an application with the following information provided:

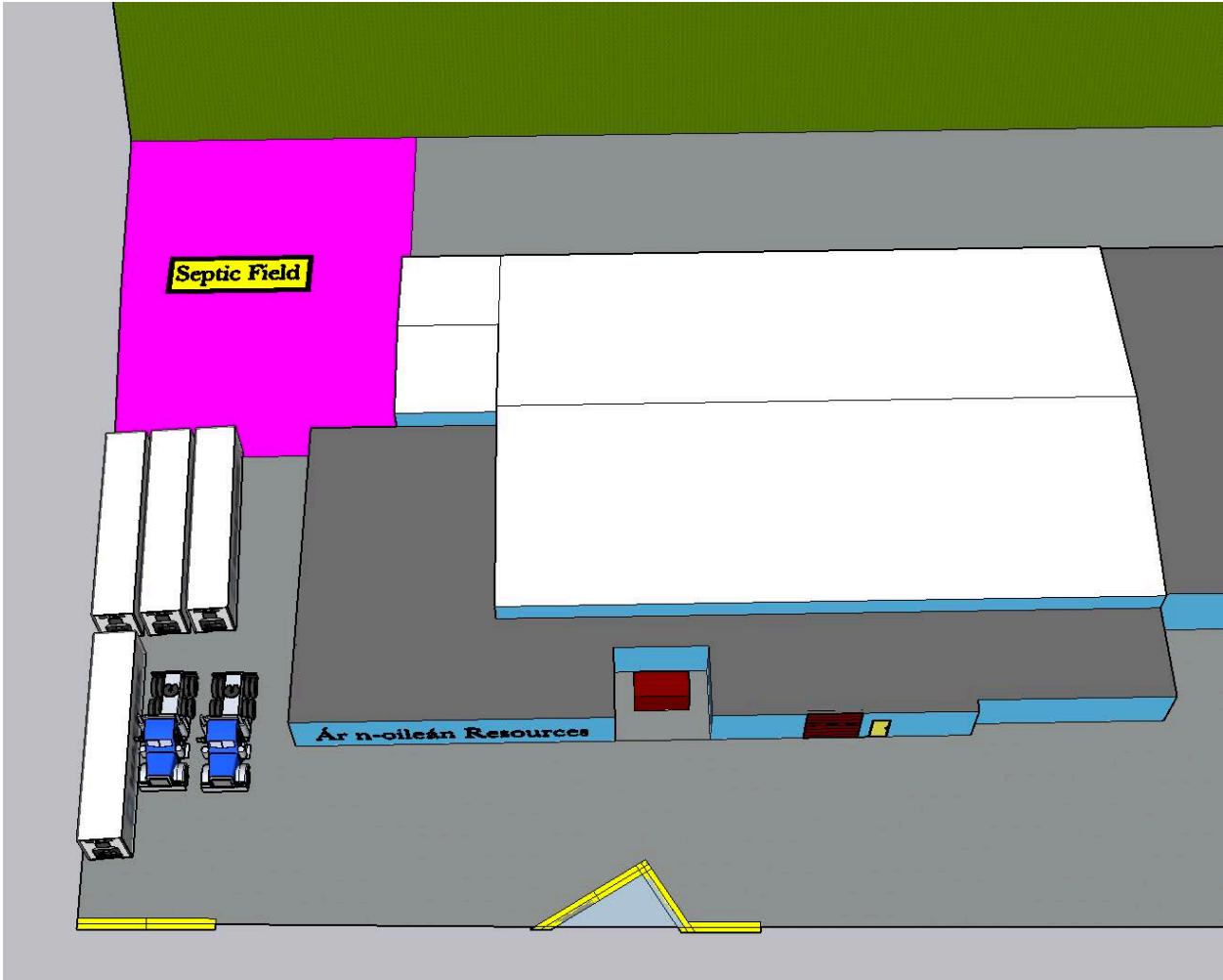
- Detailed site plan.
- Floor plan of proposed dwelling/establishment.
- Percolation test results.
- Depth of ground water table.
- Design calculations for the design of the Septic System.
- Detailed construction drawings.
- Profile of the land in the general area of where the septic system is to be installed.
- Description of the general ground conditions in the area where the system is to be installed.
- Municipal approval (if applicable).

If a new system is required the application, design and installation will be completed by a government approved engineering contractor and inspected as per guidelines by Government officials.

<https://www.gov.nl.ca/dgsnl/files/Approved-Designers-Provincial.pdf>

In the event that a new system is required the company plans to utilize the land shaded in drawing below.

Figure 23 - Septic Field Designated Area Highlighted in Pink



#### 4.3.12. Removal Process of Hazardous Substances during Renovations

The walls of the plant are aerated, non-insulated, concrete blocks. Upon purchase of the property Ár n-oileán received confirmation from the previous owners that at no time were Asbestos or Urea Formaldehyde Foam Insulation (UFFI) used in any part of the property.

Refrigerants including freon and ammonia had been drained from the equipment and removed from the premises before the plant was purchased by Ár n-oileán. There were two old freon cylinders found in a shed attached to the administration building that may or may not contain remnants of freon refrigerant. These cylinders have been moved into a secure part of the building with concrete floors. When renovations commence the cylinders will be removed by a third-party company certified in the handling and transporting of dangerous goods.

At this time, it is believed there are no other hazardous materials within the building or upon the property. If at any time such materials are discovered all work in that area will be suspended until persons certified in the handling, removal and transportation of hazardous goods have cleared the premises of the material and the site deemed safe to continue work.

#### 4.4. Offal Discharge

The plant's existing offal discharge outflow is located approximately 200 feet North East of the beach. For decades Tors Cove Fisheries utilized this infrastructure to discharge its offal from processing its shellfish, pelagics and groundfish. The currents in this area carried any and all discharge further North East and away from the beach including heavy, discharged offal such as streams of cod heads.

Ár n-oileán's offal discharge will not contain similar solids; the company is estimating approximately 600,000 – 1,000,000 gallons of effluents will be discharged annually and will be composed entirely of grey water from skin washing drums, water separated from the seal fat and grey water from general plant and equipment wash downs. Detergents used during skin washing and general washdowns will strictly be CFIA approved, **environmentally safe**, and the same or similar to the detergents used by the nearby Barry Group Inc (BGI) crab plant in Witless Bay.

One such option for Ár n-oileán is Oxyl Clean Pro, a detergent that is not toxic to birds or any other wildlife and has NSF/ANSI 60 certification.

Information on NSF/ANSI 60 certification can be found at [https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI\\_60\\_watermarked.pdf?mtime=20200716160320&focal=none](https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI_60_watermarked.pdf?mtime=20200716160320&focal=none)

*Oxyl Clean Pro NSF certification is provided on Appendix 10.7 pg. 134  
More information on Oxyl Clean Pro detergent is provided on Appendix 10.8 pg. 135*

The company will be purchasing pinniped, vascularized, adipose tissue (seal fat), attached to seal skins, from seal harvesters. The adipose tissue will be refined into omega-3 oil by mechanically separating the fat into three parts: the omega-3 oil, fat solids and clean water. The oil and fat solids are both sold in their entirety. The skins acquired purchasing the fat will be processed and sold as a food grade protein.

Once the fat has been removed from the skins, they are washed in large drums with nothing but the aforementioned CFIA approved detergents. The wash drums are equipped with self-cleaning pumps that will capture any hair removed from the skins during the washing process, where it will be collected, bagged and disposed of at the Robin Hood Bay Waste Management Facility pending final approval from Eastern Regional Landfill. Grey water from this process will be tested to ensure it is within acceptable limits for release as defined by Schedule A of the Environmental Control Water and Sewage Regulations.

The fat that is removed from the skins is fed into the pharmaceutical grade, hermetically sealed oil refinery. Here the fat is mechanically separated during a cold process into three parts: Omega-3 oil, fat solids and water. The oil is pumped directly into sealed IBCs (Intermediate Bulk Containers) and shipped for encapsulation. The fat solids are also pumped directly into sealed IBCs. These containers are sold to both international and Newfoundland buyers.

Samples from each batch of separated water and from the grey water will be collected and transported to an external laboratory that meets the requirements of the Accredited Laboratory Policy for testing to ensure it is within acceptable government limits as per Schedule A of the Environmental Control Water and Sewage Regulations before release through the plant's existing offal discharge system into the harbour. This outlet is located about 200 feet North East of the wharf with currents drawing discharge away from the beach and with the company's primary operating months comes the added benefit of increased sea states and tidal movements within the harbour which increases the recycle flush rate of the area.

The Accredited Laboratory policy can be found at: [Pollution Prevention - Environment and Climate Change \(gov.nl.ca\)](#).

*Schedule A provided on Appendix 10.11 pg. 151 and at <https://www.assembly.nl.ca/Legislation/sr/Regulations/rc030065.htm>*

Ár n-oileán plans to produce relatively small quantities of value-added meat products such as seal jerky and other charcuteries. For this purpose, some harp seal backstraps and organs will be purchased from seal harvesters. Full seal carcasses and entrails will not be collected from the harvesters and will not be brought into the plant.

The meat processing equipment used to produce these products are on a commercial scale but not industrial. Daily testing of meat and surfaces will be conducted for pathogens such as salmonella, listeria & Escherichia coli.

At the end of every shift meat, skin and oil processing equipment, along with all surfaces, will be washed down with the CFIA approved, **environmentally safe** detergents. The washdown grey water will be released through the plants existing offal discharge system.

One such option for Ár n-oileán is Oxyl Clean Pro, a detergent that is not toxic to birds or any other wildlife and has NSF/ANSI 60 certification.

Information on NSF/ANSI 60 certification can be found at [https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI\\_60\\_watemarked.pdf?mtime=20200716160320&focal=none](https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI_60_watemarked.pdf?mtime=20200716160320&focal=none)

*Oxyl Clean Pro NSF certification is provided on Appendix 10.7 pg. 134*  
*More information on Oxyl Clean Pro detergent is provided on Appendix 10.8 pg. 135*

Figure 24 - Effluent Discharge Location

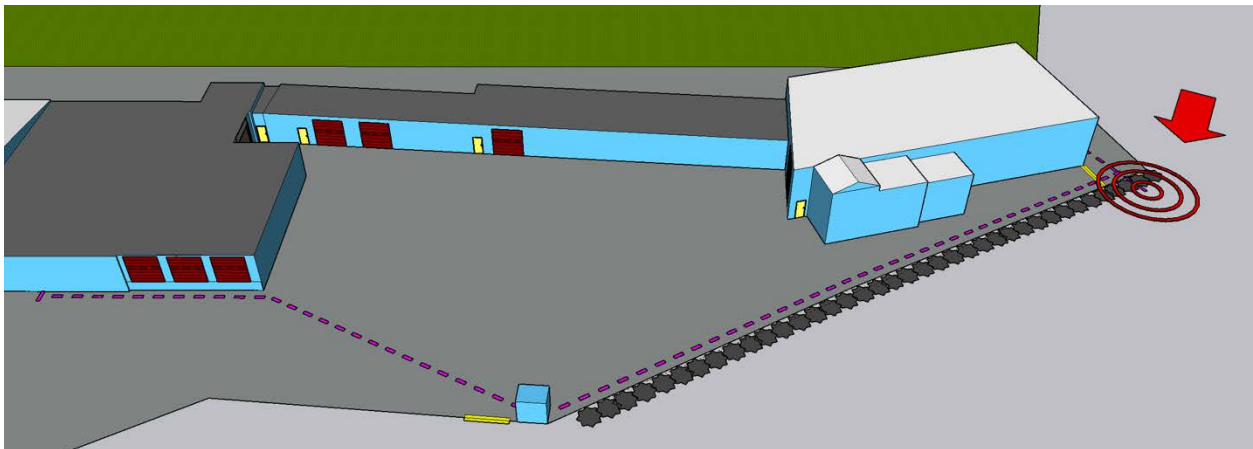




Figure 25 - Effluent Discharge Location Distance to Wharf



### 4.5. Annual Water Usage

Figure 26 - Tors Cove Pond Water Supply Route



Ár n-oileán will be using Tors Cove Pond for its primary water supply and will continue to utilize the infrastructure used by Tors Cove Fisheries to bring water to the facility by means of a six-inch water main.

There will not be a negative effect on community residential, commercial or fire hydrant water pressure do to Ár n-oileán operations. It is the company's understanding that no local residents or businesses besides Newfoundland Power and Tors Cove Fisheries have been drawing water from Tors Cove Pond. The water for the community's sole fire hydrant is supplied by the former fish plant

The company is estimating water usage of up to 540,000 gallons per year and has received a water use permit from the Newfoundland Government Department of Environment and Climate Change, Water Resources Management Division, to extract up to 1,000,000 gallons per year from Tors Cove Pond.

For many years a burst six-inch pipe in the facility's water intake room has been expelling water from Tors Cove Pond onto the floor of the building at a rate of approximately 4.75 liters / second, or just below 40 million gallons per year, 74 times that of the company's expected usage. When Ár n-oileán is in full operation there will be up to a 99% reduction in water extracted from the pond to the plant from previous years.

In addition to the pond, the company will utilize an existing drinking well, established on the North side of the property, immediately behind building two. The well will link directly to the facilities drinking water and as such will be closely monitored and maintained having regular water samples tested for pathogens including but not limited to total coliforms and Escherichia coli (E. coli)

[Water Use Licence provided on Appendix 10.2 pg. 129](#)

Below is a breakdown of water usage during operations:

- **Seal Oil Processing**
  - The Omega-3 Refinery will use approximately 200ml of water for every liter of oil produced.
  - *25,000 - 50,000 gallons per year*
  
- **Washing Skins**
  - The skins are washed in large drums and use approximately 5 gallons of water per skin.
  - *100,000 - 200,000 gallons per year*
  
- **Plant / Equipment Washdowns**
  - All walls, floors and equipment including the oil refinery, splitters and meat test kitchen will be cleaned and sanitized daily.
  - *125,000 - 250,000 gallons per year*



- **Kitchen & Washroom**
  - There could be up to 30-40 people at a time throughout the plant with kitchens and washrooms located in buildings two and six.
  - 20,000 - 40,000 gallons per year
- **Fire Hydrant**
  - The fire hydrant is located on Mall Road, just off of Cove Road
  - The fire hydrant is a “Dead-End Main”, meaning it gets its supply from only one source, in this case the former Tors Cove Fisheries fish plant.
  - The supply line running approximately 375’ from the plant to the fire hydrant is a 6-inch water main transferring 150 gallons of water per 100 feet with a flow rate up to 800 gallons per minute

Figure 27 - Tors Cove Fire Hydrant

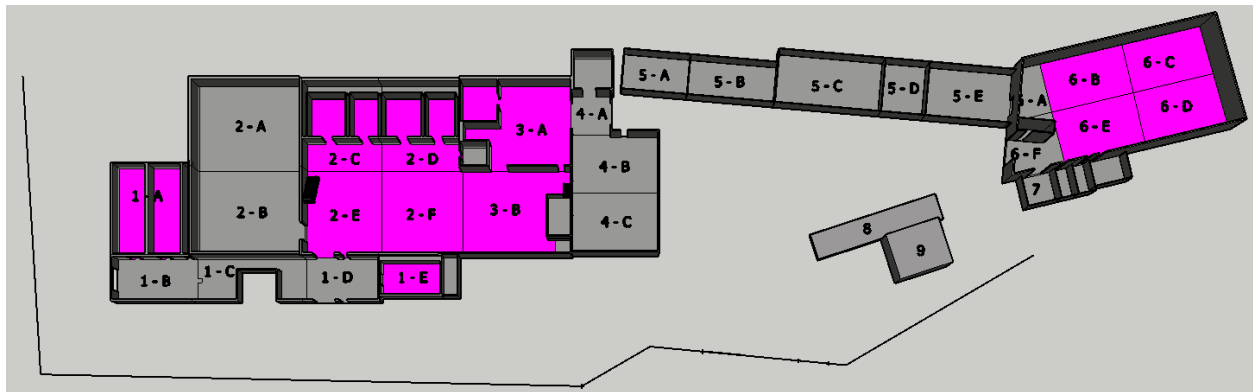


Figure 28 - Fire Hydrant Supply Route



## 4.6. Storage, Processing & Waste Disposal Areas

Figure 29 - Processing Zones Highlighted in Pink



The processing zones are highlighted pink in the figure above.

The first level of processing begins with the raw material mustering area in building section 3-B. Skins are brought here in 1000L fish tubs before they are fed through splitters and fleshers in 2-E and 2-F to have the fat removed.

Removed fat is injected into pipes to be fed into the oil refinery in building six where it is mechanically separated into three parts: omega-3 oil, fat solids and water.

After passing through the splitter and flesher the skins are transported to 3-A, the “Wet Room”, where they are washed, dehydrated and packaged for blast freezing in sections 1-A and 1-E.

Meat and organs received are brought into 2-C where they are sorted and boxed before freezing in sections 1-A and 1-E. After the harvesting season has concluded meat will be taken from cold storage and brought to the test kitchen in 2-D where it will be processed into value added products such as sausages, jerky and other charcuteries.

Figure 30 - Storage Zones Highlighted in Pink



The storage zones are highlighted pink in the figure above.

The separated fat solids and the processed skins are stored in the cold storage room located in sections 2-A and 2-B. Refined oil is either loaded directly onto trucks to be shipped for encapsulation or stored in building five until shipped. Dry goods, including but not limited to, boxes and fish tubs are also stored in building five.

There is a very limited volume of solid waste generated during processing mostly limited to PPE, packaging materials and cleaning products. Such waste will be disposed of in covered dumpsters and/or garbage skips located outside of the facility and replaced when needed by third party garbage haulers.

Any hair separated from the skins during the washing process are collected by a self-cleaning filter, bagged and disposed of at the Robin Hood Bay Waste Management Facility.

#### 4.7. Construction Phase Employment

The construction phase is predicted to run approximately three to six months with potential to extend to six to nine months with supply chain constraints. There will be three primary divisions of renovations and upgrades: Refrigeration, HVAC and general contracting. Each of these three components are contracted to separate companies with their own supervisors and employees to carry out the work.

At this time, it is believed there will be approximately three supervisors, three professionals, ten semi-professional and technicians, ten skilled trade persons and twelve labourers employed to complete the quoted tasks.

Ár n-oileán has a company policy to attempt to employ at least 15% women during its operations and we strongly encourage all contractors we bring on site to strive for the same.

*More detail is provided on Section 4.9.10. Number of Employees & NOCs pg. 80*

## 4.8. Women's Employment Plan

This Women's Employment Plan (WEP) has been prepared as a conditional requirement by the Government of Newfoundland and Labrador. It describes the gender-equity goals and initiatives that Ár n-oileán plans to implement by working collaboratively with our contractors and relevant community stakeholder organizations to help ensure a diverse and inclusive workforce during the various phases of the proposed project.

Ár n-oileáns' is committed to establishing qualitative and quantitative goals for gender equity in order to improve employment outcomes for women in Newfoundland and Labrador. Ár n-oileán has developed this Women's Employment Plan (WEP) to establish a proactive approach toward a workplace environment with policies and practices that help ensure a work environment free from harassment and discrimination.

The company strives to have 15% of our workforce women with many of them with traditionally male-dominated positions. As with many employers the availability of experienced workers may not yield the ratios planned but will remain as one of the companies' main objectives.

### 4.8.1. Project Timeframes and Workforce Estimates

The project is scheduled to begin in 2022 upon approval from the Department of Environment and Climate Change and has no defined end date. At its construction phase peak, it is estimated that the Project will employ 50 people directly and indirectly.

There is a significant scope of work in the Construction Phase which include but not limited to the following:

- Full Electrical upgrade to all buildings
  - including replacing existing interior lighting with commercial LED lighting
  - installation of motion detection exterior security lighting above doors
- Full Plumbing upgrade to old infrastructure
- All concrete walls in buildings prepared, repaired and painted with CFIA approved coating and all concrete floors, resurfaced with slip resistant coating and laid out with zone markings.
- All Exterior walls repaired. A further upgrade to insulated siding to follow in year two of operations.
- All roofs evaluated, repaired and if required replaced.

- Installation of custom designed HVAC air filtration units with 3 stage filtration throughout the facility
- All man doors are to be replaced with new metal doors with required push bars and Emergency Exit signs.
- All overhead doors are to be replaced with commercial grade doors.
- Refrigeration equipment for 3 blast freezers and main cold storage installed by Young's Refrigeration
- Floor and wall studding removed and redone on second floor of building 2.
- Four old blast freezers will be decommissioned and the equipment removed from building 2 and the area repurposed into meat processing / test kitchen location.
- Installation of security system in all buildings

*More detail is provided on Section 4.3 Construction pg. 25*

The workforce requirements and estimated number of workers required for Construction Phase are outlined in **Figure 31**.

Figure 31 - Construction Phase Employment & NOC Table

Occupation	NOC	Duration of Work	Number of Employees	CH/DE
Senior Managers	0016	Full Time	4	DE
Administrative Managers	0114	Full Time	1	DE
Supervisors	9213	Full Time	1	DE
Labourers	9618	6 months	3	DE
Supervisors	9213	6 months	3	CH
Professionals	9241	6 months	3	CH
Semi-Professionals and Technicians	9421	6 months	10	CH
Skilled Trades	1521 / J163 / 9462 / 9463 / 7452	6 months	10	CH
Labourers	9618	6 months	12	CH

Figure 31: Estimated Full-time Contractor-Hired (CH) or Direct Employee (DE) Hires, Construction Phase, by Occupation/NOC



The scope of work during the operations phase is summarized as follows:

As the vast majority of seals being purchased from harvesters will be adults, it is estimated that about 70% of Ár n-oileán operations will occur throughout the months of January to February. 25% of operations will occur from March to May, with the remaining 5% of operations taking part from June to December.

The harvesters will be landing their catch primarily in St. John's harbour with some being landed in Trinity Bay North. The harvesters will unload skins with fat slabs attached into tubs that will be sealed and transported to the plant on board refrigerated trailers. Backstraps and organs kept in shrimp bags will also be unloaded into sealed tubs for transport.

It would take 1 – 3 trailers to carry the sealing vessel payload. There would be 1 – 2 boats landed in a single week and an expected 6 - 20 landings per season. An expected 25 – 50 trailers delivering raw material to the plant annually. These trailers will be unloaded on the day they arrive at the plant during normal receiving and processing hours 8am – 5pm. Once unloaded, the sealed raw material tubs are brought to the raw material staging zone within building section 4 to await processing.

When processing in building sections 2-F and 3-B, the skins are fed through a splitter, separating the fat from the skins. The skins are placed into sealed tubs and moved to the protein prep room while the fat is fed into pipes.

Since this will be a nutraceutical plant rather than a seal tannery or fish plant, the facility will have an array of sixteen custom designed, self-contained, HVAC air filtration units provided by HVAC Specialties. These are suspended from the ceiling to circulate and filter air within the building. These units have 3 stage filtration including High Efficiency 4V HEPA filters which are 99.99% effective at 0.3 microns and far exceeds CSA standards for hospital operating rooms. Airborne particulates and gases including odors are captured in these filters before they can exit the building. They are also equipped with Needlepoint Bipolar Ionization Equipment (GPS NPBI), devices that neutralize pathogens such as moulds and viruses including COVID-19.

*[More detail on HVAC air filtration units provided on Appendix 10.1 pg. 128](#)*

The fat is fed into the pharmaceutical grade, hermetically sealed oil refinery in building section 6, which is also equipped internally with the same rated HEPA and carbon filtration as used throughout the plant. Here the fat is mechanically separated during a cold process into three parts: Omega-3 oil, fat solids and water.

The oil is pumped directly into sealed IBCs (Intermediate Bulks Containers) and shipped for encapsulation.

The fat solids are also pumped directly into sealed IBCs. These containers are sold to both international and Newfoundland buyers.

Water separated from the fat will be tested and once it is determined to be within acceptable limits for release as defined by Schedule A of the Environmental Control Water and Sewage Regulations it will be discharged through the plants existing offal release system into the harbour.

After the fat has been removed, the skins are transported in sealed tubs to section 3-A where the skins are washed in large drums, dehydrated, packaged and frozen for sale as protein. The wash drums are equipped with self-cleaning pumps that will capture any hair removed from the skins during the washing process, where it will be collected, bagged and disposed of at the Robin Hood Bay Waste Management Facility pending final approval from Eastern Regional Landfill. Grey water from this process will be tested to ensure it is within acceptable limits for release as defined by Schedule A of the Environmental Control Water and Sewage Regulations before release through the plants existing offal discharge system.

The policy can be found at: [Pollution Prevention - Environment and Climate Change \(gov.nl.ca\)](#).

*Schedule A provided on Appendix 10.11 pg. 151 and at <https://www.assembly.nl.ca/Legislation/sr/Regulations/rc030065.htm>*

Meat and organs once transported to the plant are boxed in building section 2-C, frozen and stored in cold storage until processing in section 2-D. Á n-oileán plans to produce relatively small quantities of value-added meat products such as seal jerky and other charcuteries.



The workforce requirements and estimated number of workers required for Operational Phase are outlined in **Figure 32**.

Figure 32 – Operational Employment & NOC Table

<b>Occupation</b>	<b>NOC</b>	<b>Duration of Work</b>	<b>Number of Employees</b>	<b>CH/DE</b>
<b>Senior Managers</b>	<b>0016</b>	<b>Full Time</b>	<b>4</b>	<b>DE</b>
<b>Administrative Managers</b>	<b>0114</b>	<b>Full Time</b>	<b>1</b>	<b>DE</b>
<b>Supervisors</b>	<b>9213</b>	<b>Full Time</b>	<b>1</b>	<b>DE</b>
<b>Professionals</b>	<b>9241</b>	<b>Seasonal / Part Time adhoc</b>	<b>3</b>	<b>DE</b>
<b>Semi-Professionals and Technicians</b>	<b>9421</b>	<b>Seasonal / Part Time adhoc</b>	<b>8</b>	<b>DE</b>
<b>Skilled Trades</b>	<b>1521 / J163 / 9462 / 9463 / 7452</b>	<b>Full Time</b>	<b>6</b>	<b>DE</b>
<b>Skilled Trades</b>	<b>1521 / J163 / 9462 / 9463 / 7452</b>	<b>Seasonal / Part Time adhoc</b>	<b>15</b>	<b>DE</b>
<b>Labourers</b>	<b>9618</b>	<b>Seasonal</b>	<b>10</b>	<b>DE</b>
<b>Professionals</b>	<b>9241</b>	<b>Q1 2022 – no defined end</b>	<b>3</b>	<b>CH</b>
<b>Skilled Trades</b>	<b>1521 / J163 / 9462 / 9463 / 7452</b>	<b>Q1 2022 – no defined end</b>	<b>10</b>	<b>CH</b>

**Figure 32:** Estimated Contractor-Hired (CH) or Direct Employee (DE) for the Operations Phase

#### 4.8.2. Employment Diversity Commitments & Practices

Ár n-oileán makes the following commitments to advance gender equity in employment and smooth the transition of women into leadership roles:

- Establish senior executive responsibilities for gender equality, develop capabilities and lines of accountability among senior management;
- Develop and communicate an executive-level vision statement to all staff and contractors, including commitments and goals;
- Communicate policies and practices related to recruitment, orientation, hiring, remuneration, retention, promotion, complaint resolution and termination;
- Establish targets and timeframes to increase the number of women in leadership roles and occupations where women are under-represented;
- Provide training and other supports to develop an inclusive workplace culture; and
- Implement a monitoring system for gender equity as part of general HR systems and project planning/implementation.

#### 4.8.3. Recruitment and Employment

Ár n-oileán commits to the following measures to reduce the barriers to women's participation and improve their employment on this project:

- Pre-employment outreach to the Office to Advance Women Apprentices (OAWA) and Women in Resource Development Corporation (WRDC) to improve recruitment of women;
- Internal employment equity processes including:
  - assigned lines of accountability for the Women's Employment Plan;
  - delivery of mandatory Respectful Workplace training for all employees;
  - the review of HR policies and practices for gender bias;
  - workplace accommodation policies and practices, including opportunities for women to mentor other tradeswomen

#### 4.8.4. Communication

To assist with maximizing opportunities for women, Ár n-oileán is committed to outreach with a range of stakeholder organizations and institutions to improve opportunities for women through the following activities:

- Use appropriate language and imagery in all job advertisements and other communications to encourage women to apply for all job opportunities. A gender equity and diversity statement will be included in any such promotional materials related to the development of Tors Cove Seal Oil Refinery (The Project).
- Outreach to organizations supporting women in science, trades and technical occupations such as the Office to Advance Women Apprentices (OAWA), Women in Resource Development Corporation (WRDC), Women in Science and Engineering Newfoundland and Labrador (WISE), the NL Department of Advanced Education, Skills and Labour (AES-L) and the Office for the Status of Women (OSW);
- Work with education and training institutions and relevant industry and stakeholder organizations to provide awareness of job opportunities and the necessary skills required associated with Ár n-oileán;
- Participate in information sessions at the community level in collaboration with government and non-government stakeholders;
- Outreach to women business owners and business organizations such as the Newfoundland and Labrador Organization for Women Entrepreneurs (NLOWE) to share information about procurement processes;
- Include statements in tender documents to inform potential contractors of their obligation to comply with Ár n-oileáns Women's Employment Plan through the employment and retention of women and in reporting the results of such efforts and outcomes with regard to their employment, particularly in non-traditional occupations; and
- Develop and maintain a corporate culture and work environment within Ár n-oileán that facilitates the achievement of the career goals of women and provides them with the training and support they need to assist them in meeting their goals and the goals of the company.

#### 4.8.5. Monitoring

Ár n-oileán will work closely with its main contractor(s)/sub-contractors to ensure compliance with the Women's Employment Plan. During the first three months of project start up, biweekly meetings will be held with contractors/subcontractors to clarify and address any issues with implementation of the Women's Employment Plan. Ár n-oileán will submit a quarterly report to the Minister responsible for the Status of Women. Quarterly reports will include quantitative and qualitative descriptions of the following:

- The representation (number and percentages) of workers (by gender), location and NOC Code (See Appendix C) according to each occupational group;
- The duration of work (hours) broken down by gender and location;
- An update of qualitative supports/initiatives undertaken to encourage the employment of qualified women and to ensure a respectful workplace.

The company will work with the department to create a new template or make changes to existing ones to fit the company reporting requirements.

#### 4.9. Operation and Maintenance

The adult Harp harvesting season typically runs from January to May, though closed for about two weeks during whelping. The beater Harp seal harvesting season runs from April to May. As such about 95% of the company's operations are conducted in this five-month period beginning with the first raw material purchase from harvesters.

One to three trailers will be required to unload a sealing vessel depending on the payload and there will typically be one to two boats landed in a week with sealers staying at sea for up to ten to fourteen days at a time.

It is estimated there will be six to twenty landings per year with twenty-five to fifty trailers of raw material entering the plant annually. These trailers will be unloaded on the day that they arrive at the plant during normal processing hours in the vicinity of ~ 8am – 5pm.

As the raw material is received it is transported in covered fish tubs into the plants holding zone and as needed brought to the mustering station to be processed. The seal fat is separated from the skins and then injected into pipes that will feed the fat into the oil refinery where it will be mechanically separated into three parts: omega-3 oil, fat solids and water.

The skins are transported to the “wet room” where they are washed, dehydrated and packaged before being frozen and placed in cold storage to await sale as a food grade protein.

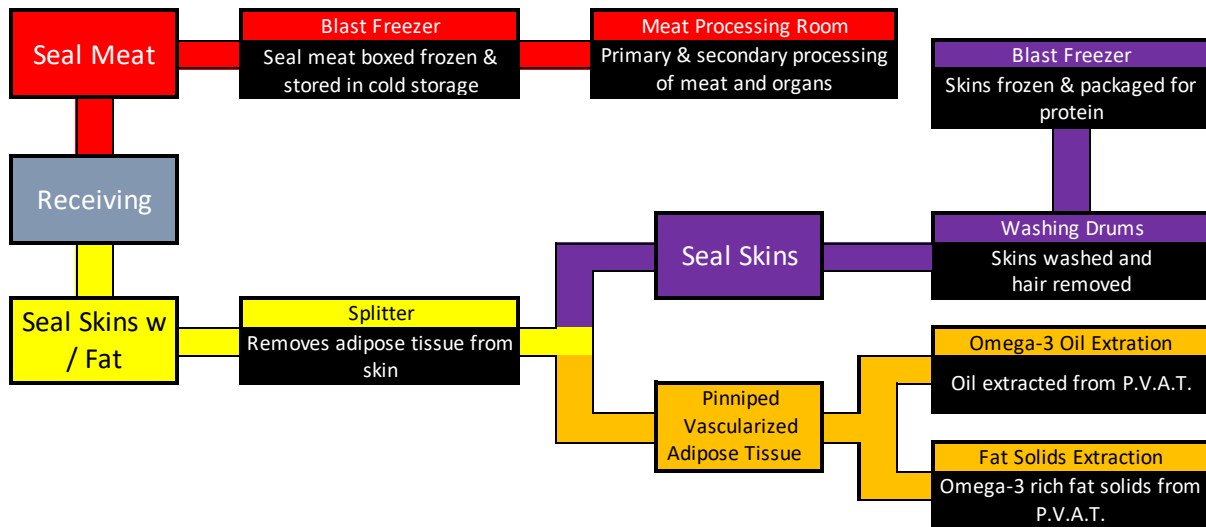
Seal meat, the backstraps and organs, when received are brought directly to the meat handling zone to be boxed for blast freezing. After freezing the meat will be held in cold storage until the harvest season is over. During the summer months seal meat will be brought into the experimental kitchen where it is made into value added products such as sausages, jerky, and other charcuteries.

When a vessel is being unloaded and the plant is receiving the raw material, all attention is upon processing the payload as quickly as possible and storing the final product. Depending on the volumes purchased from harvesters at any given time, it could take three to five days to process all of the fat and the skins from a single landing.

During periods between vessel landings when all of the raw material has been processed the attention temporarily shifts to maintenance. Major maintenance such as stripping down machines and replacing worn parts as well as cleaning out and maintaining the water pipeline and debris screens which feeds the plant and subsequently the fire hydrant which the plant feeds, will take place during the summer months when there is very little activity in the plant. General repairs and upkeep are implemented whenever there is a lull in processing activity.

#### 4.9.1. Operational Flow Through

Figure 33 - Raw Material Processing Flowchart





Seal harvesters land their catch in numerous locations across the province depending on multiple factors including harbour ice and weather conditions, though the vast majority will be landed at St. John's Harbour.

The seal skins with fat slabs attached are loaded into watertight 1000L insulated fish tubs, the tubs then in turn are loaded onto reefer trailers. Any seal meat or organs harvested are loaded into separate fish tubs to be loaded onto reefer trailers.

These trailers are trucked 45kms travelling along Highway 10 South to Tors Cove before turning down Power's Road and then onto Long Run Road to enter the processing facility. This route is capable of accommodating large tractor trailers and their required turning radius. This was the route used for tractor trailers coming and going to the plant when it was owned and operated by Tors Cove Fisheries for decades.

*(Note: Power's Road is displayed as Long Run Road on Google Maps and Google Earth)*

Figure 34 - Raw Material Transportation Route



Figure 35 - Raw Material Receiving



Figure 36 – Building 4 Highlighted in Green



The yard approaching the loading zone is a paved natural grade sloped away from the plant with grade increasing as it approaches the loading entrance. These natural, paved grades prevent the absorption of any spills or truck runoff into the ground or pooling of liquids. The trailers are backed up this grade into a receiving overhead door in building section 4-A as shown in **Figure 36** above.

The paved yard surrounding the loading zone continues to slope away from the facility towards the fence line. This area is washed down regularly to ensure they are free from material that could attract wildlife or insects.

Figure 37 - 1,000L Insulated Fish Tub



The sealed fish tubs are removed from the reefer trailers by forklift and moved into the holding zone in building sections 4-B and 4-C. At no time are the tubs opened or raw material removed from the tubs outside of the facility preventing any transporting slush, or blood-water from being released beyond the designated processing area in building 2 which is equipped with internal drainage systems.

When the unloading has finished at shifts end the loading zone at building 4, are thoroughly washed down and sanitized using CFIA approved **Environmentally Safe** detergents. One such option for Ár n-oileán is Oxyl Clean Pro, a detergent that is not toxic to birds or any other wildlife and has NSF/ANSI 60 certification.

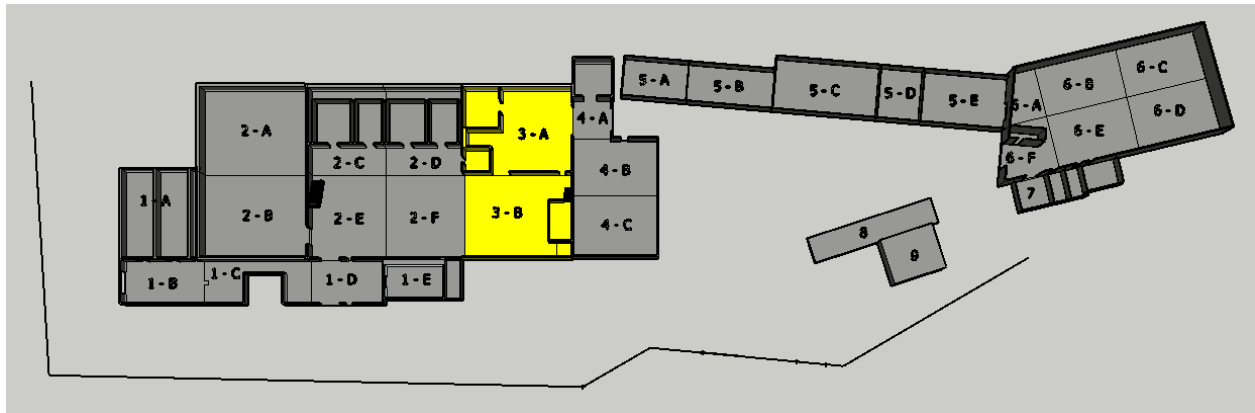
*Information on NSF/ANSI 60 certification can be found at [https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI\\_60\\_watermarked.pdf?mtime=20200716160320&focal=none](https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI_60_watermarked.pdf?mtime=20200716160320&focal=none)*

*Oxyl Clean Pro NSF certification is provided on Appendix 10.7 pg. 134  
More information on Oxyl Clean Pro detergent is provided on Appendix 10.8 pg. 135*

Transport trucks and trailers will be brought to the South section of building 4 and the emptied fish tubs are brought to building 5 where they are washed down and sanitized with the same aforementioned CFIA approved **Environmentally Safe** detergent.



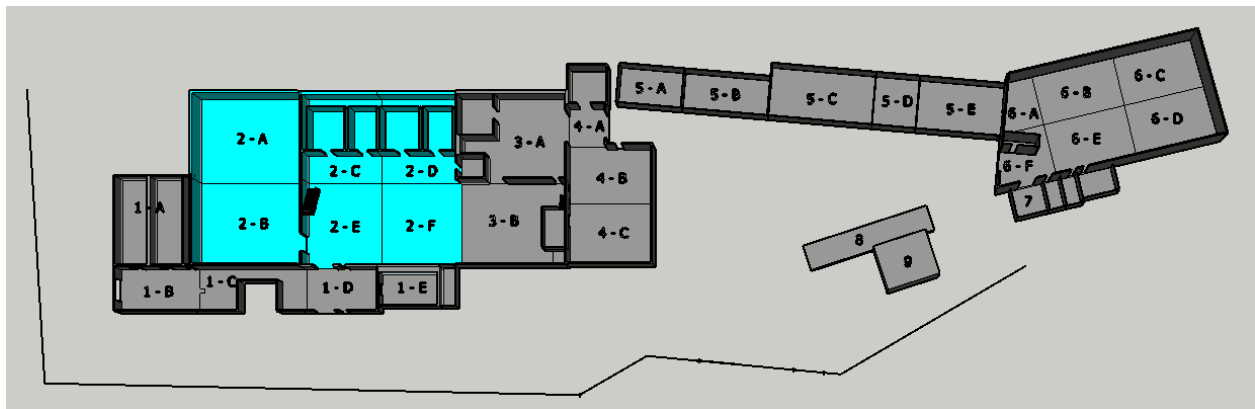
Figure 38 - Building 3 Highlighted in Yellow



Tubs are brought from the holding zone section 4-B into the mustering section of 3-B to await processing.

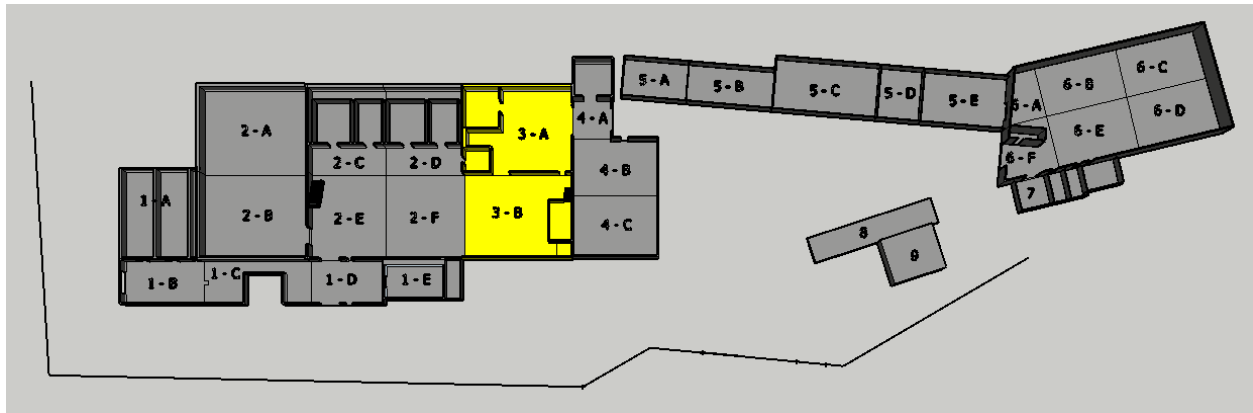
There is a second-floor office overlooking the holding and mustering zones to manage the raw material logistics preventing bottle necks during the unloading operations.

Figure 39 - Building 2 Highlighted in Aqua



Workers bring the tubs as needed into the processing zone in building sections 2-E and 2-F. The skins are removed from the tubs and hand fed into the splitters and fleshers which remove the seal fat slab and surrounding fat from the skins. Suspended vinyl curtains enclose these sections, segregating the initial primary processing area.

Figure 40 - Building 3 Highlighted in Yellow



The skins are then placed back into covered fish tubs and transported into building section 3-A, the “Wet Room”. Here the skins are again removed from the tubs and placed into large washing drums, thoroughly cleaning the skins using only water and a CFIA approved **Environmentally Safe** detergent.

One such option for Ár n-oileán is Oxyl Clean Pro, a detergent that is not toxic to birds or any other wildlife and has NSF/ANSI 60 certification.

Information on NSF/ANSI 60 certification can be found at [https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI\\_60\\_watermarked.pdf?mtime=20200716160320&focal=none](https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI_60_watermarked.pdf?mtime=20200716160320&focal=none)

*Oxyl Clean Pro NSF certification is provided on Appendix 10.7 pg. 134*

*More information on Oxyl Clean Pro detergent is provided on Appendix 10.8 pg. 135*

Once washed, the skins are dehydrated, packaged and placed in cold storage ready to be sold as protein.

Figure 41 - Building 6 Highlighted in Orange



The fat is pumped into pipes that will be fed directly into the oil refinery in building 6. The oil refinery is housed within two hermetically sealed, custom designed, pharmaceutical grade shipping containers.

These containers are equipped with pharmaceutical grade HEPA filtration, which is 99.99% effective at 0.3 microns, filtration levels exceeding CSA standards for hospital operating rooms. This filtration captures particulates and gasses mitigating any potential for the release of odours.

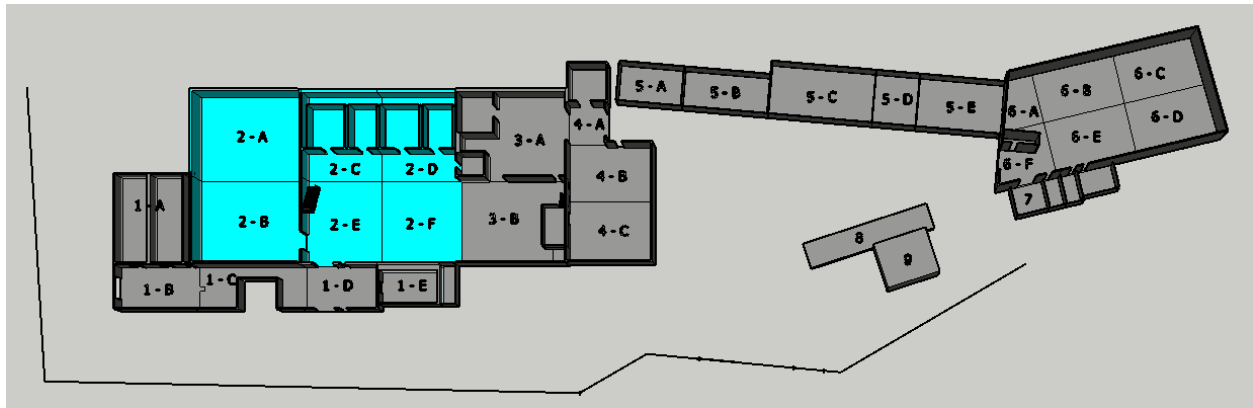
[More detail on HVAC air filtration units provided on Appendix 10.1 pg. 128](#)

The refinery mechanically separates the pinniped, vascularized, tissue without the use of chemicals or heat into three parts:

- Omega-3 seal oil
- Fat solids
- Clean water

The omega-3 oil and the fat solids are respectively pumped directly into sealed intermediate bulk containers (IBCs). The IBCs containing the seal oil are immediately loaded onto awaiting tractor trailers.

Figure 42 - Building 2 Highlighted in Aqua



The IBCs containing fat solids are brought to the cold storage room in building sections 2-A and 2-B to await shipping.

Figure 43 - Building 7 Highlighted in Purple



Samples from each batch of separated water and grey water will be collected and transported to an external laboratory that meets the requirements of the Accredited Laboratory Policy for testing. The company commits to ensuring any and all effluent released from the plant will be within acceptable limits as defined by Schedule A of the Environmental Control Water and Sewage Regulations.

The policy can be found at: [Pollution Prevention - Environment and Climate Change \(gov.nl.ca\)](https://www.gov.nl.ca).

Schedule A provided on Appendix 10.11 pg. 151 and at <https://www.assembly.nl.ca/Legislation/sr/Regulations/rc030065.htm>

Once the refinery batch water has been established to be Schedule A compliant the separated water is discharged from the plants existing offal discharge system located approximately 200 feet North East from the wharf as shown in **Figure 44**, **Figure 45** and **Figure 46** below. Ocean currents draw discharge away from the beach and with the company's primary operating months comes the added benefit of increased sea states and tidal movements within the harbour which increases the recycle flush rate of the area.

Figure 44 - Effluent Discharge Location

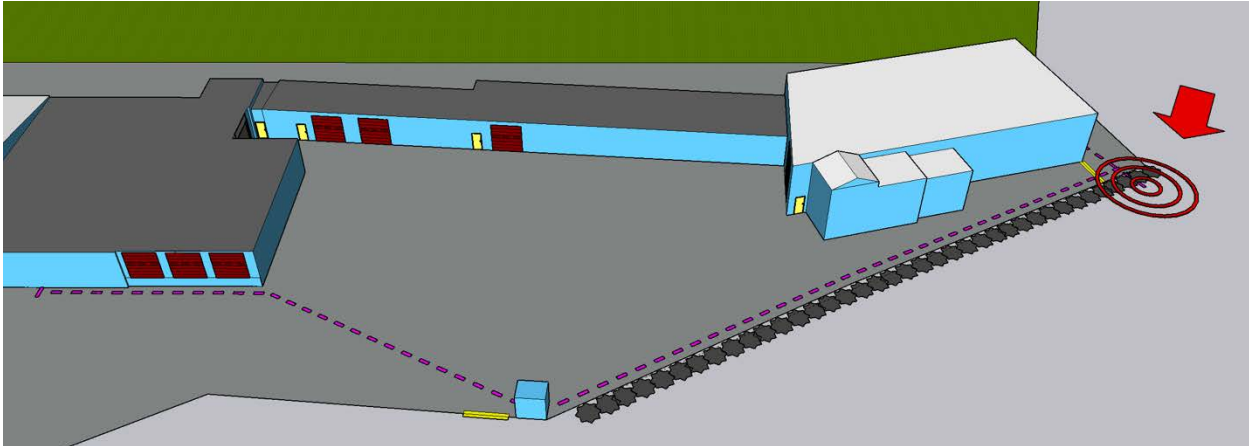


Figure 45 - Effluent Discharge Location

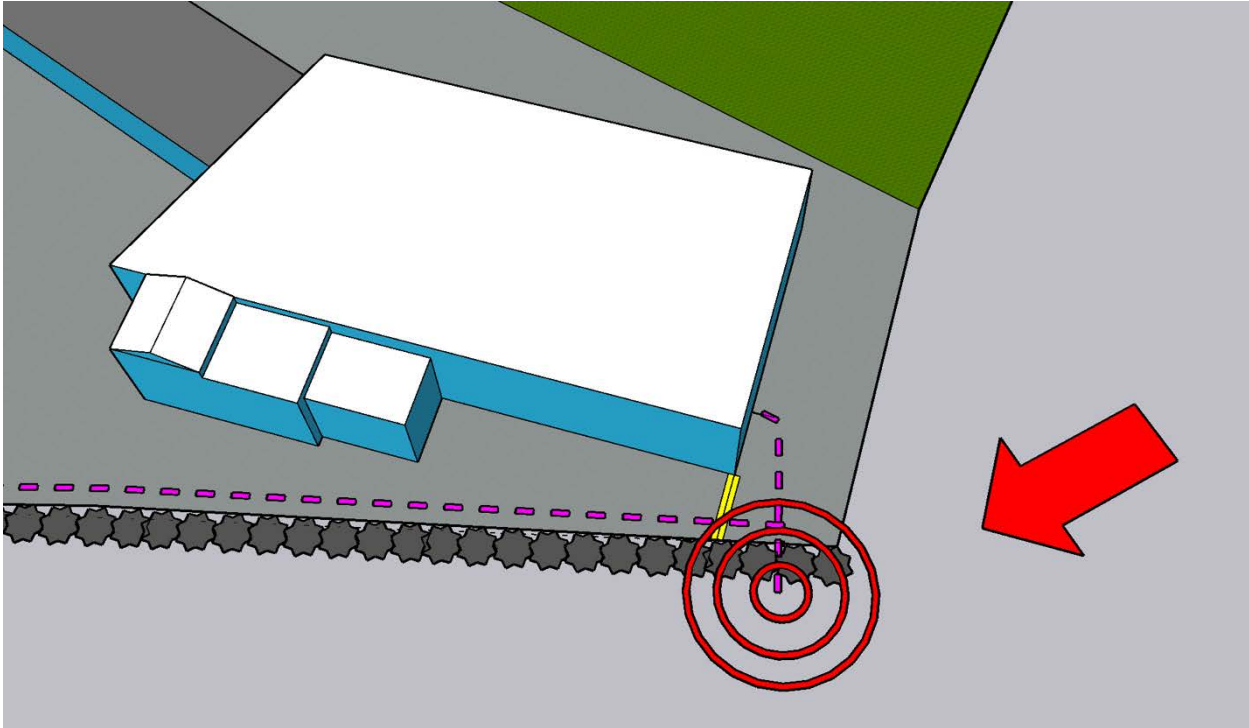




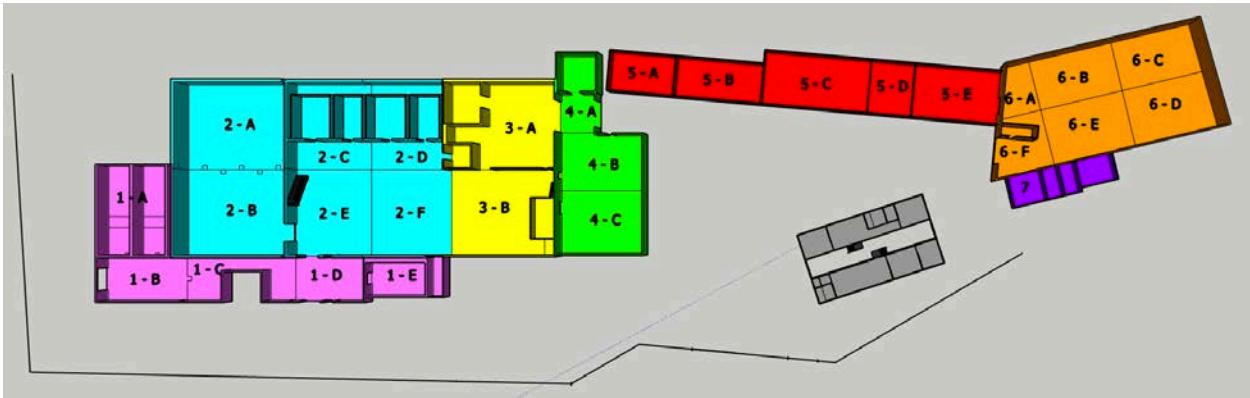
Figure 46 - Effluent Discharge Location Distance to Wharf



Figure 47 - Raw Material Receiving



Figure 48 - Ár n-oileán Resources Facility Building Area Codes



The receiving zone in building section 4-A accepts meat such as seal backstraps and organs with the same methods as accepting the skins; The covered fish tubs containing the seal meat are unloaded from the trucks by forklift on the graded pavement preventing the absorption of spills and the averting of pooling liquid.

The tubs are then brought to building section 2-C where the raw material is unpacked, sorted and boxed.

Once the raw material has been boxed, the cartons are placed on the specially designed freezer racks and wheeled into one of the blast freezers in either building section 1-A or 1-E

After freezing the boxes are removed from the racks and palleted in section 1-B and then brought into the cold storage room in sections 2-A and 2-B.

After all of the skins and fat have been processed and shipped to market the attention will be turned to the meat and organs. In an effort to determine the economic viability of developing a large-scale, seal meat market the company will be experimenting with creating various secondary value-added products such as sausages, jerky and other charcuteries in its test kitchen section in 2-D.

As required, boxes of meat will be brought into the test kitchen which has a variety of commercial grade equipment such as slicers, canners and dehydrators. As this is a very small area and processing a relatively small volume of meat industrial sized equipment is not necessary nor used at all.

#### 4.9.2. Washdowns

At the end of each shift when the unloading has finished, and operations completed, all walls and floors will be thoroughly washed and sanitized. Special attention will be placed on washing and sanitizing any and all machinery used during processing including splitters, fleshers, forklifts, etc.

The refinery has a built-in self-cleaning apparatus that uses steam to clean out and sanitize the entire system.

Trucks are parked at the South-side of section 4-C where they are thoroughly washed down and sanitized.

Fish tubs are brought to building section 5-C where they too are thoroughly washed down and sanitized.

All washdowns are performed using CFIA approved **Environmentally Safe** detergents.

One such option for Ár n-oileán is Oxyl Clean Pro, a detergent that is not toxic to birds or any other wildlife and has NSF/ANSI 60 certification.

*Information on NSF/ANSI 60 certification can be found at*  
[https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI\\_60\\_watemarked.pdf?mtime=20200716160320&focal=none](https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI_60_watemarked.pdf?mtime=20200716160320&focal=none)

*Oxyl Clean Pro NSF certification is provided on Appendix 10.7 pg. 134  
More information on Oxyl Clean Pro detergent is provided on Appendix 10.8 pg. 135*

Grey water will be released through the plants existing offal discharge system located approximately 200 feet North East from the wharf. Ocean currents draw the discharge away from the beach and with the company's primary operating months comes the added benefit of increased sea states and tidal movements within the harbour which increases the recycle flush rate of the area.

The company commits to ensuring any and all effluent released from the plant will be within acceptable limits as defined by Schedule A of the Environmental Control Water and Sewage Regulations.

*Schedule A provided on Appendix 10.11 pg. 151 and at  
<https://www.assembly.nl.ca/Legislation/sr/Regulations/rc030065.htm>*

*Figure 49 - Effluent Discharge Location Distance to Wharf*



### 4.9.3. Raw Material Receiving Process

Figure 50 - Raw Material Receiving



Figure 51 - Building 4 Highlighted in Green



Tractors trailers transporting raw material to the plant will enter the main gate at the center of the property and back the payload into the receiving area at building section 4-A.

This entire area is paved preventing absorption of any spills, and the pavement leading directly up to section 4-A is on a strong grade eliminating pooling from liquids.



A forklift within the plant will unload the 1000L covered fish tubs from the reefer trailers. The tubs containing skins will be brought to the holding zone in building sections 4-B and 4-C. Tubs containing meat and organs will be transported to building section 2-C for boxing.

The entirety of the facility, building sections 1-7 have concrete sealed with a non-slip, protective coating on their main floors. These floors are easily washed down using CFIA approved **Environmentally Safe** detergents.

One such option for Áir n-oileán is Oxyl Clean Pro, a detergent that is not toxic to birds or any other wildlife and has NSF/ANSI 60 certification.

*Information on NSF/ANSI 60 certification can be found at*  
[https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI\\_60\\_watemarked.pdf?mtime=20200716160320&focal=none](https://d2evkimvhatqav.cloudfront.net/documents/NSF-ANSI_60_watemarked.pdf?mtime=20200716160320&focal=none)

*Oxyl Clean Pro NSF certification is provided on Appendix 10.7 pg. 134*  
*More information on Oxyl Clean Pro detergent is provided on Appendix 10.8 pg. 135*

After unloading, the reefer trailers are parked on the south side of section 4-C to be thoroughly washed and sanitized using the same aforementioned CFIA approved detergents.

#### 4.9.4. Separation, Collection, Disposal & Transportation of Waste Materials

The oil refinery mechanically separates the pinniped vascularized adipose tissue into 3 parts:

- Omega-3 oil
- Fat Solids
- Clean Water

The Omega-3 oil and fat solids, collected in 1000L IBCs, are sold and shipped from the plant. Water from every batch is collected for quality testing.

The company acknowledges that certain contaminants have been found to attach to the pinniped vascularized adipose tissue due to habitat pollution and environmental bioaccumulation. Below is a list of some of the contaminants that have been found:

- Organochlorine Pesticides (OCPs)
- Polychlorinated dibenzodioxins (PCDDs)
- Polychlorinated biphenyl (PCBs)
- Hexachlorobenzene (HCB)
- Tris(4-chlorophenyl) methane (TCPMe)
- Tris(4-chlorophenyl) methanol (TCPMOH)
- Heavy Metals

It is the company's understanding that none of the existing seal plants in Newfoundland have detected these contaminants in the water separated from the fat solids beyond the acceptable limits as defined by Schedule A of the Environmental Control Water and Sewage Regulations.

Samples from each batch of separated water and grey water will be collected and transported to an external laboratory that meets the requirements of the Accredited Laboratory Policy for testing.

The policy can be found at: [Pollution Prevention - Environment and Climate Change \(gov.nl.ca\)](#).

The company commits to ensuring any and all effluent released from the plant will be within acceptable limits as defined by Schedule A of the Environmental Control Water and Sewage Regulations which includes but not limited to PH, BODs, TSS, and heavy metals and to utilize a 3<sup>rd</sup> party to monitor the receiving environment annually.

[Schedule A provided on Appendix 10.11 pg. 151 and at <https://www.assembly.nl.ca/Legislation/sr/Regulations/rc030065.htm>](#)

Any hair separated from the skins during the washing process are collected by a self-cleaning filter, bagged and disposed of at the Robin Hood Bay Waste Management Facility pending final approval from Eastern Regional Landfill.

Company representatives have had discussions with the Waste Management Engineer Waste & Recycling Division, Department of Public Work, city of St. John's and have been advised that seal hair, not full pelts, collected in garbage bags could be accepted at the Robin Hood Bay facility provided that the waste is free from other seal parts and does not have a strong smell. Final approval will be reserved until inspection of first waste collected.

There is a very limited volume of solid waste generated during processing mostly limited to PPE, packaging materials and cleaning products. Such waste will be disposed of in covered dumpsters and/or garbage skips located outside of the facility and replaced when needed by third party garbage haulers.

Carboard and other recyclable material ready for disposal will be segregated in clearly labeled skips and collected by Eastern Waste Management as required.

Figure 52 – Garbage & Recycling Bins



#### 4.9.5. List of Chemicals & Quantities Stored at Site

The company will strive to keep a minimum amount of chemicals on site but those that are required will be held in specially designed containers. At this time the following chemicals will be used and stored:

- CFIA approved, NSF / ANSI certified detergent
  - Oxyl-Pro Clean
  - 275 - 550 Gallons will be on site in 55 – 150 5gl pails
  - *SDS is available in Appendix 10.9 pg. 137*

Figure 53 - Oxyl-Pro Clean Detergent



- Ammonia
  - < 1,000kgs
  - Contained within the closed refrigeration system
  - *SDS is available in Appendix 10.5 pg. 132*
- Propane tanks for forklifts
  - 4 – 6 33lb cylinders
  - Exterior acid and rust resistant metal locked storage cabinet
  - *SDS is available in Appendix 10.6 pg. 133*

Figure 54 - 33lb Forklift Propane Cylinder & Cage



#### 4.9.6. Quality & Proposed Monitoring of Effluents

As operations have not yet begun at the Tors Cove facility there are many unknowns as to the initial water quality of effluents including PH levels and BODs. Upon start-up of operations the waste water will be analyzed and documented with measures put into place to bring any levels beyond government acceptability as per Schedule A of the Environmental Control Water and Sewage Regulations into compliance.

*Schedule A provided on Appendix 10.11 pg. 151 and at <https://www.assembly.nl.ca/Legislation/sr/Regulations/rc030065.htm>*

These measures include the collecting of samples from each batch of separated water and other effluents to be tested at an external laboratory that meet the requirements of the Accredited Laboratory Policy.

The policy can be found at: *[Pollution Prevention - Environment and Climate Change \(gov.nl.ca\)](#)*.

Testing and analysis will include but are not limited to:

- PH levels
- BOD/COD
- Heavy Metals
- Total Dissolved Solids
- Total Suspended Solids

The company acknowledges that certain contaminants have been found to attach to the pinniped vascularized adipose tissue due to habitat pollution and environmental bioaccumulation. It is the company's understanding that none of the existing seal plants in Newfoundland have detected these contaminants in the water separated from the fat solids beyond the acceptable limits as defined by Schedule A of the Environmental Control Water and Sewage Regulations. Below is a list of some of the contaminants that have been found:

- Organochlorine Pesticides (OCPs)
- Polychlorinated dibenzodioxins (PCDDs)
- Polychlorinated biphenyl (PCBs)
- Hexachlorobenzene (HCB)
- Tris(4-chlorophenyl) methane (TCPMe)
- Tris(4-chlorophenyl) methanol (TCPMOH)
- Heavy Metals

The company commits to ensuring that any and all effluent released from the plant will be within acceptable limits as defined by Schedule A of the Environmental Control Water and Sewage Regulations and to utilize a 3<sup>rd</sup> party to monitor the receiving environment annually.



The plant's existing offal discharge system is located about 200 feet North East of the wharf as shown in **Figure 55**, **Figure 56** and **Figure 57** below. Ocean currents draw discharge away from the beach and with the company's primary operating months comes the added benefit of increased sea states and tidal movements within the harbour which increases the recycle flush rate of the area.

Figure 55 - Effluent Discharge Location

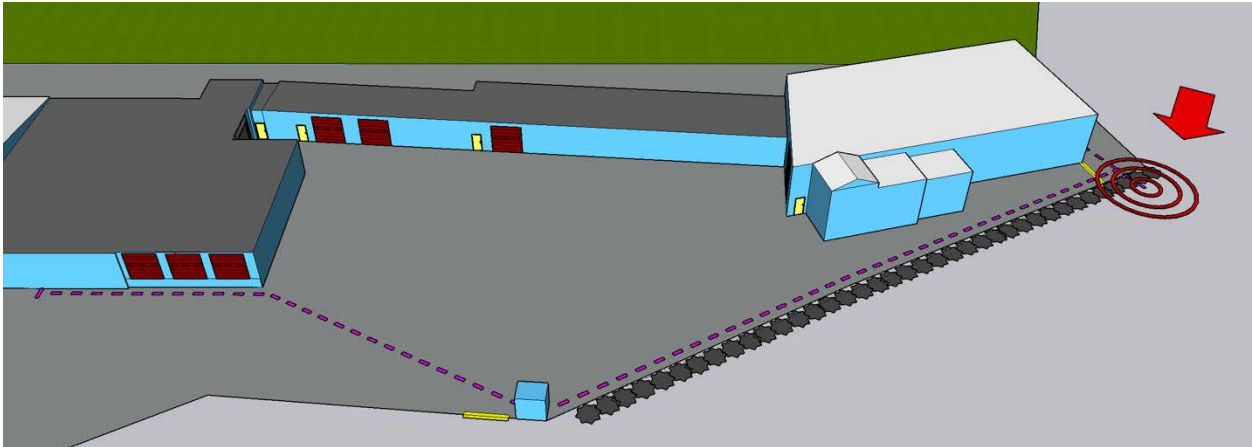


Figure 56 - Effluent Discharge Location

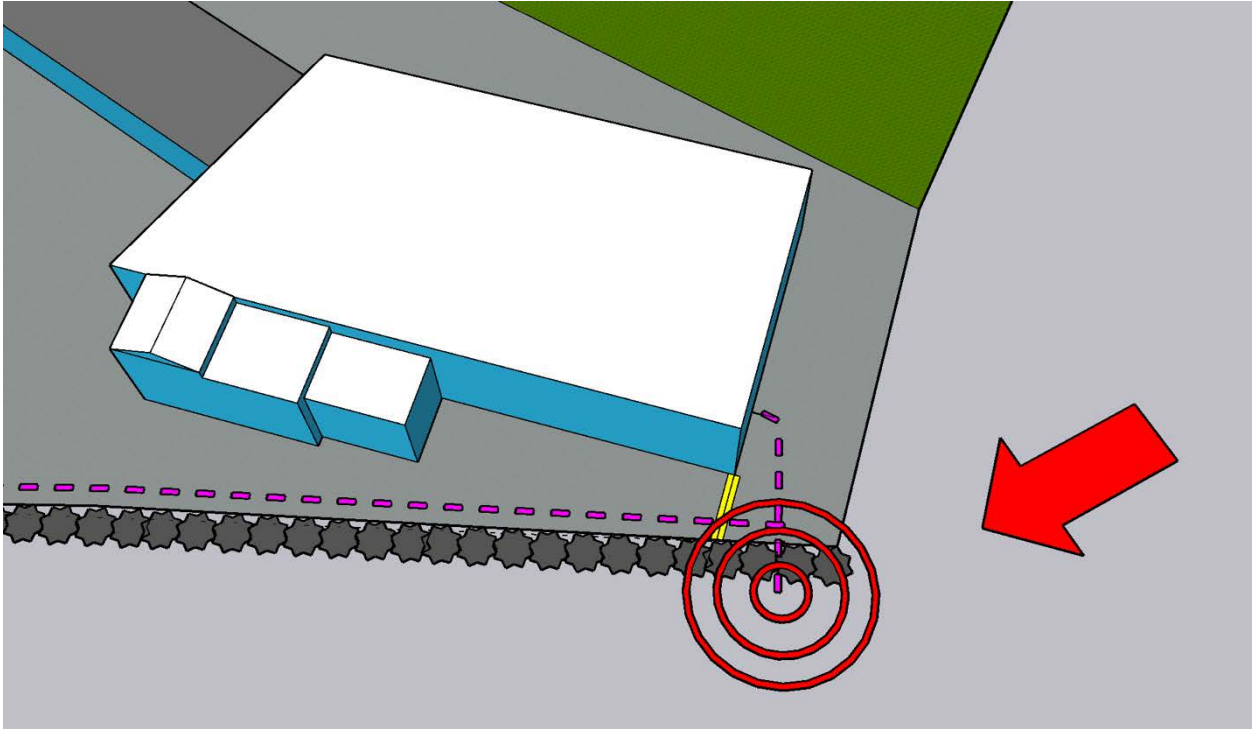
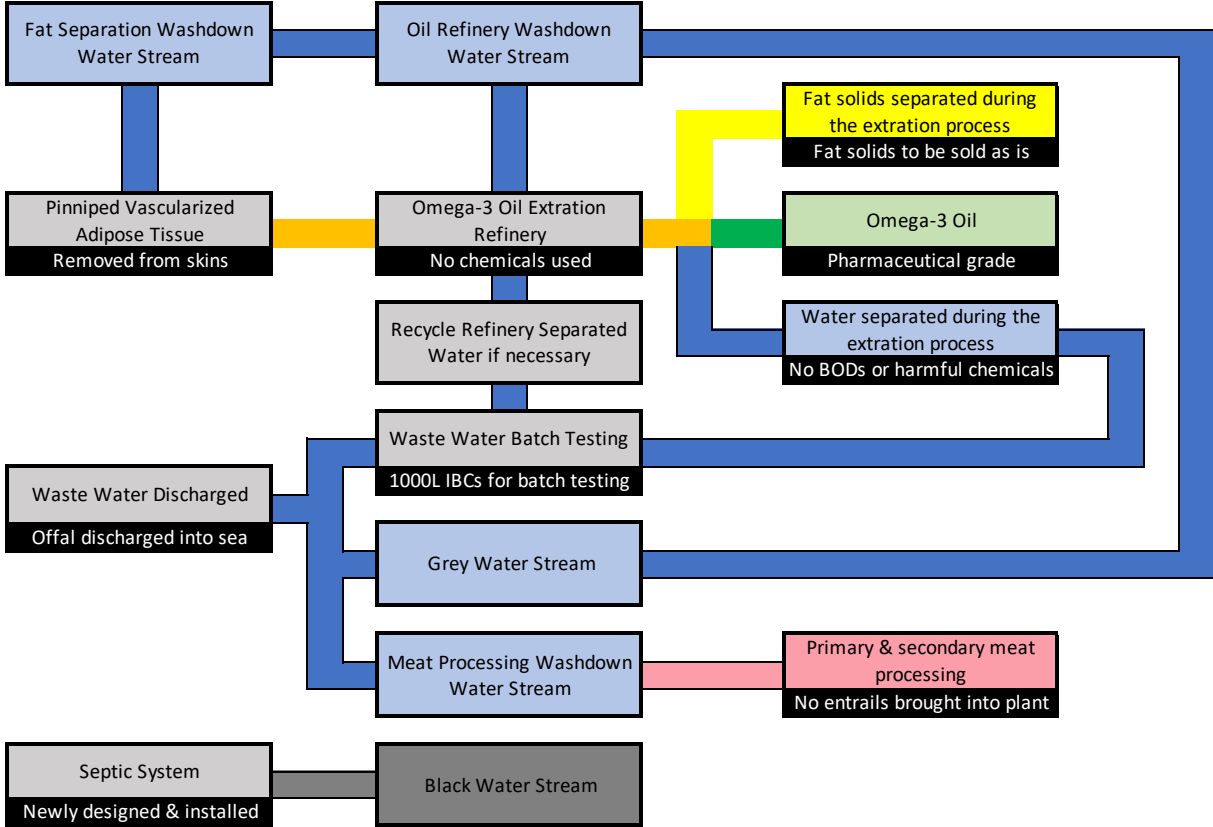


Figure 57 - Effluent Discharge Location Distance from Wharf



### 4.9.7. Wastewater Flow Chart

Figure 58 - Waste Water Stream Flowchart



#### 4.9.8. Traffic – Car / Truck / Heavy Equipment / Forklifts

The adult seal harvesting season begins in January and the beater seal season runs from March-May, therefore the vast majority of traffic whether it be employee or transport truck, will occur from the months of January through May.

One to three trailers will be required to unload a sealing vessel depending on the payload and there will typically be one to two boats landed in a week with sealers staying at sea up to ten to fourteen days at a time. It is estimated there will be six to twenty landings per year with twenty-five to fifty trailers of raw material entering the plant annually.

These trailers will be unloaded on the day that they arrive at the plant during normal processing hours in the vicinity of~ 8am – 5pm. Finished product leaving the plant would require fewer trucks than the raw material brought in and would be exiting during the same aforementioned processing hours.

Trucks travel along Highway 10 South to Tors Cove before turning down Power's Road onto Long Run Road to enter the processing facility. This route is capable of accommodating large tractor trailers and their required turning radius. This was the route used for tractor trailers coming and going to the plant when it was owned and operated by Tors Cove Fisheries for decades.

At peak operations there will be an estimated 50 employees with less than 40 actively present during any given shift. Parking will be provided for employees both within the fenced perimeter of the plant and upon secured off-street parking.

There will be designated parking areas for transport trucks and reefer containers on the West side of the fenced yard.

With the garnered interest for employment the company has received so far it is accurate to believe that the majority of the employees will reside in Tors Cove and others still hailing from nearby communities such as Burnt Cove, Bauline, Witless Bay and Bay Bulls. With such close proximity to the plant the period of time for employee related traffic both at the start and end of shifts will be a matter of minutes.

Beyond tractor trailers the only heavy equipment that would be frequently used on the premises would be snow clearing equipment more often than not commissioned from local providers to move snow during heavy snow falls.

Forklift use will be strictly confined to within the fenced perimeter of the property or within the facility itself. There will be little to no forklift activity within the yard beyond the normal business hours.



*(Note: Power's Road is displayed as Long Run Road on Google Maps and Google Earth)*

*Figure 59 - Raw Material Transportation Route*



Figure 60 - Employee Parking Designations

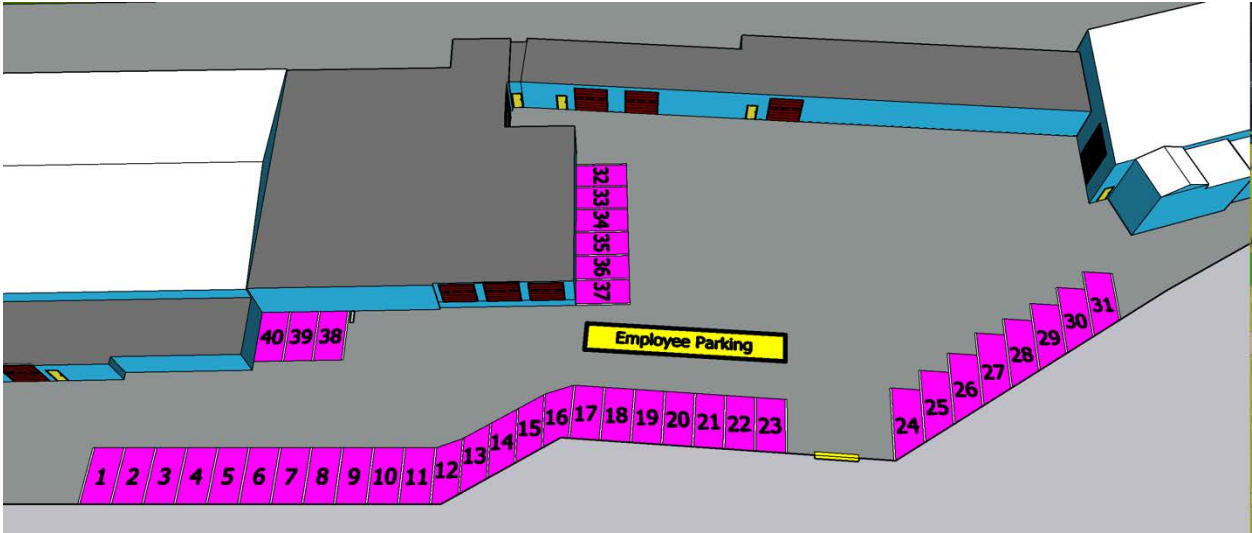
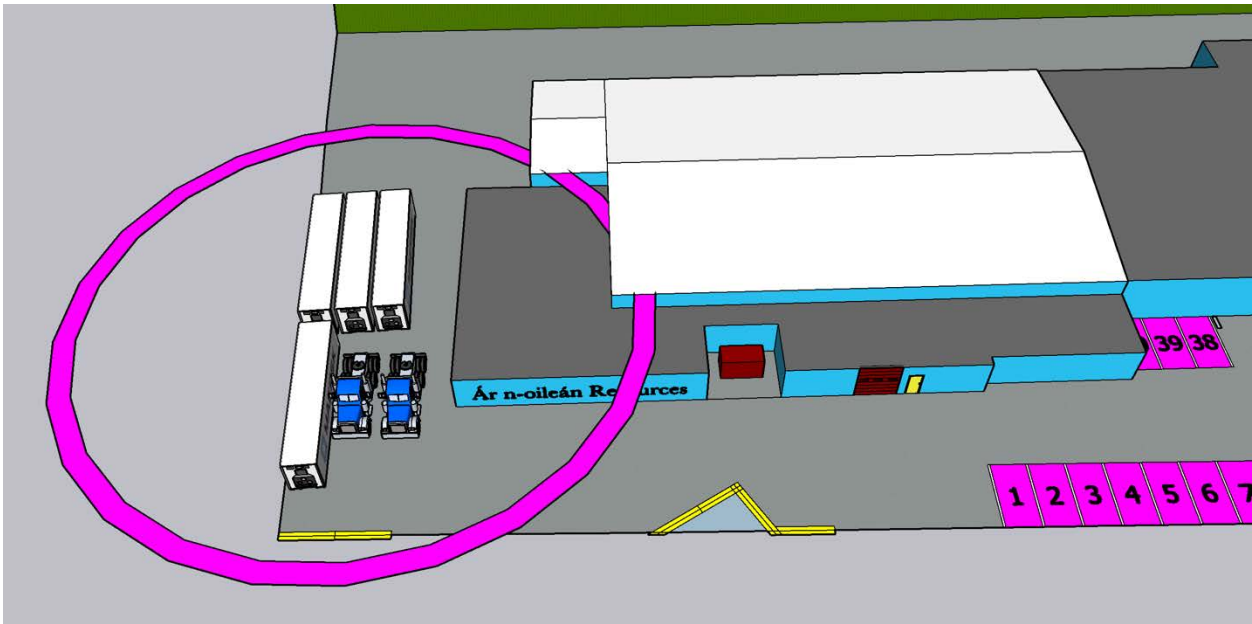


Figure 61 - Transport Trucks & Reefer Container Parking Designations





4.9.9. External Lighting Requirements

As there will be very little activity after dark at the plant the amount of external lighting required will be minimal.

Just behind the south fence, bordering on Cove Rd leading to the beach, there is an existing street light which illuminates a portion of the lot inside of the fence.

Figure 62 - Tors Cove Beach Street Light



Figure 63 - Tors Cove Beach Street Light



Figure 64 - Tors Cove Beach Street Light



The only other external lighting used on the premises would be security lighting used directly above all of the doors of the building.

Ár n-oileán has had consultation with the Environmental Assessment, Canadian Wildlife Service, Environment and Climate Change Canada and the coordinator has communicated to the company that it is not believed the lighting to be used will adversely affect migratory birds in the area. As an added precaution the company will follow a suggestion of making sure security lights are aimed downwards whenever possible.

Company representatives further enquired with the Wildlife Service coordinator if any particular type or colour of bulb was less disruptive to the birds than others but was told at this time, they could not suggest one form over another.



4.9.10. Number of Employees & National Occupation Codes (NOCs)

As the vast majority of seals being purchased from harvesters will be adults, it is estimated that about 70% of Ár n-oileán operations will commence throughout the months of January and February. 25% of operations will commence from March to May, with the remaining 5% of operations taking part from June to December. As such, the required employment durations will be in direct correspondence:

- Approximately 40 – 50 positions at peak operations
  - 10 – 12 will be year-round full time
  - 20 – 25 will be employed for 26 weeks / year
  - 10 – 15 will be employed for 12 – 16 weeks / year

Figure 65 - Annual Operations Employment Pie Chart



Figure 66 - Employment & NOC Table

<b>Occupation</b>	<b>NOC</b>	<b>Duration of Work</b>	<b>Number of Employees</b>	<b>CH/DE</b>
<b>Senior Managers</b>	<b>0016</b>	<b>Full Time</b>	<b>4</b>	<b>DE</b>
<b>Administrative Managers</b>	<b>0114</b>	<b>Full Time</b>	<b>1</b>	<b>DE</b>
<b>Supervisors</b>	<b>9213</b>	<b>Full Time</b>	<b>1</b>	<b>DE</b>
<b>Professionals</b>	<b>9241</b>	<b>Seasonal / Part Time adhoc</b>	<b>3</b>	<b>DE</b>
<b>Semi-Professionals and Technicians</b>	<b>9421</b>	<b>Seasonal / Part Time adhoc</b>	<b>8</b>	<b>DE</b>
<b>Skilled Trades</b>	<b>1521 / J163 / 9462 / 9463 / 7452</b>	<b>Full Time</b>	<b>6</b>	<b>DE</b>
<b>Skilled Trades</b>	<b>1521 / J163 / 9462 / 9463 / 7452</b>	<b>Seasonal / Part Time adhoc</b>	<b>15</b>	<b>DE</b>
<b>Labourers</b>	<b>9618</b>	<b>Seasonal</b>	<b>10</b>	<b>DE</b>
<b>Supervisors</b>	<b>9213</b>	<b>Q1 2022 – no defined end</b>	<b>3</b>	<b>CH</b>
<b>Professionals</b>	<b>9241</b>	<b>Q1 2022 – no defined end</b>	<b>3</b>	<b>CH</b>
<b>Semi-Professionals and Technicians</b>	<b>9421</b>	<b>Q1 2022 – no defined end</b>	<b>10</b>	<b>CH</b>
<b>Skilled Trades</b>	<b>1521 / J163 / 9462 / 9463 / 7452</b>	<b>Q1 2022 – no defined end</b>	<b>10</b>	<b>CH</b>
<b>Labourers</b>	<b>9618</b>	<b>Q1 2022 – no defined end</b>	<b>12</b>	<b>CH</b>

Employment & NOC Table: Estimated Contractor-Hired (CH) or Direct Employee (DE) for the Operations Phase

- NOC for expected employment positions:
  - **0016 – Senior Managers:** (construction, production & utilities)
    - *CEO, COO, VP of Operations*
  - **0114 – Other Administrative Services Managers:**
    - *Office Manager*
  - **9213 – Supervisors:** (food, beverage & associated products processing)
    - *Plant Manager*
  - **9241 – Power Engineers & Power System Operators:** (Class B Refrigeration Engineer)
    - *Oversees all refrigeration equipment*
  - **1521 – Shippers and receivers**
  - **9421 – Chemical plant machine operators:**
    - *Operating the Omega-3 Oil Refinery*
  - **J163 – Hide and Pelt Processing Workers:**
    - *Splitter & Flesher Operators*
  - **9618 – Labourers in fish & seafood processing:**
    - *Handling Seal Raw Material*
  - **9463 – Fish & Seafood Plant Workers:**
    - *Seal Meat Processing*
  - **9462 – Industrial Butchers & Meat Cutters:**
    - *Seal Meat Cutters*
  - **7452 – Material handlers:**
    - *Forklift Operators*

***Ár n-oileán Resources Ltd. is an Equal Opportunity Employer. All employment is decided on the basis of qualifications, merit, and business need.***

***Every position being offered by Ár n-oileán Resources Ltd will be available to all genders and ages with the qualifications and capabilities of fulfilling the duties therein.***