Marshalling Yard Prefeasibility Study
Central Labrador Region
Final Report

Prepared for:
Labrador North Chamber of Commerce

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1.0 INTRODUCTION

This report summarizes the work completed for the Labrador North Chamber of Commerce (LNCC) into the prefeasibility of a lay down/marshalling yard in Central Labrador. The scope of work involved a review of the documents and literature on existing infrastructure and capacity in the region, identification of stakeholders and community consultations. An analysis was also conducted on several sites in order to determine if these sites are favourable locations for the development of a lay down/marshalling facility. The purpose was to assess the adequacy of existing transportation infrastructure and provide input into the functional requirements and locations for a marshalling yard.

Marshalling yards are most commonly related to railway operations. These are typically large rail yards or hump yards that facilitate the assembly of trains. In essence any facility that is involved in assembling freight for a major shipment could be classified as a marshalling yard. This would include marine terminals, rail yards, truck terminals and air cargo facilities. At these facilities transportation vehicles can load and unload cargo. Storage space may also be offered in the form of temporary or long-term storage. The primary design a marshalling yard is to ensure accessibility and safe maneuverability for transport and off-loading of vehicles.

Labrador is experiencing major increases in resource development activity, namely: mineral development/expansion in Labrador West; hydro electric power development on the Lower Churchill; and mineral exploration efforts both in Northern and Southern Labrador. Hence the need to address barriers to the reliable and efficient transportation of goods to support these developments. In light of recent investments in Labrador’s transportation infrastructure, particularly the opening of Phase Three of the Trans Labrador Highway (TLH), a noticeable shift has taken place in transportation patterns, specifically in the movement of commercial/industrial goods.

1.1 Existing Marshalling Facilities

Three existing marshalling facilities are present within the region and service Central Labrador. They are described below.

CAI Nunatsiavut Marine

CAI Nunatsiavut Marine Inc. is a joint venture between Chaulk Air Inc. (CAI) and Labrador Inuit Capital Strategy Trust. The company is a Newfoundland & Labrador based marine transportation company with its head office based in Happy Valley-Goose Bay. CAI Nunatsiavut Marine Inc. operates a freight service from Lewisporte and delivers to Black Tickle, Rigolet, Makkovik, Postville, Hopedale, Natushish and Nain. The vessel operates based on freight demand. There are extensive marshalling and trans-shipment facilities in Lewisporte that have been developed over the years to accommodate the Labrador ferry service.
Woodward Group of Companies

Coastal Shipping Limited, a Division of the Woodwards Group, has a fleet of three tankers that provide fuel deliveries to Labrador and Nunavut communities. Woodwards also operates the passenger and freight services between Blanc Sablon and St. Barbe. This is a year round service that provides several daily crossings in each direction. There are limited storage and parking facilities and services available at Blanc Sablon and St. Barbe as most vehicles and freight travel on the next available vessel with little or no marshalling or distribution operations taking place.

Coastal Shipping Limited is a private company and operates the service under contract to the Newfoundland and Labrador Government.

Department of National Defence (DND) Base

The base contains lay down/marshalling areas, some of which is being used by the Goose Bay Airport Corporation.
2.0 METHODS

2.1 Public Consultation Methods

Our in-person consultations were key in acquiring information relative to the development of a new lay down/marshalling facility as well as key issues that may occur under various growth rate scenarios. Our early efforts focused on the development of a consultation list (see Appendix A) and crafting an interview guide that addressed the information needs of the study. Despite extensive efforts by the team, participation was disappointingly low (no response from 55% of the original contact list and several of these never did provide input). The reasons offered ranged from lack of time and interest to corporate planning not being far enough advanced to make informed comment. Four different questionnaires were customized; for End User Businesses, Sponsors, Operators and Government Regulators.

In total, 23 people filled out the questionnaires (see below), of whom five provided additional comments via personal interviews. Five other respondents were unable to complete the questionnaire but provided comments via interview.

The respondents to the questionnaire were as follows:

- ten end user businesses and organizations (end users) – six private companies and four in the public sphere (airport corporation + aboriginal development corporations);
- six operators – four primarily trucking companies, one airline and one aboriginal development corporation;
- five potential sponsors; and
- two government/regulators.

In this report, we have combined the input generated by the interview process and addressed the questions posed by the study’s Terms of Reference to the extent possible. The material is described in Section 3.1.

2.2 Literature Review Methods

A literature review was conducted on other lay down/marshalling facilities across Canada. Lay down/marshalling facilities were chosen based on their operations and ability to service northern communities in Canada. The review focused on both currently active facilities and facilities currently in development. The review was based on a desktop review of the sites, previous feasibility studies as well as expertise in this subject area. The approaches, features, services and ownership structure of the lay down/marshalling facilities were also examined. The operations described in Section 3.2 are similar in scale and type to what would be expected from a lay down/marshalling facility located in Central Labrador.
2.3 Multiple Constraints Analysis Methods

Seven sites were identified in Section 3.1 as potential locations for a future marshalling yard, however only six were used in the evaluation. Based on the response of the community to development along Kelland Drive, this site was dropped. The remaining five sites located throughout the town of Happy Valley-Goose Bay and one site near Muskrat Falls were examined in order to determine their feasibility for a future marshalling yard. The evaluation was based on a top level review of each of the six potential sites using a Multiple Accounts Analysis (MAA). MAA is a type of evaluation that uses various criteria to weigh the benefits and issues across multiple subjects via a ranking score. The criteria are selected in such a manner that the measurable parameters of the criteria are of equal value and are transparent, thereby allowing for an equal evaluation of each subject based on the total score tabulated from their given ranks. The total scores can then be compared to one another in order to identify the preferred site.

In order to select the most viable option for a future marshalling yard the benefits and issues must be weighed for each site. This involves the following steps:

- Identify the sites to be used in the evaluation based on consultation with various parties;
- Identify the evaluation criteria and measurable parameters by which each site will be analysed;
- Assess each criterion to determine a rank for each;
- Tally total score based on sum of the ranks assigned; and
- Assess the issues for each site and compare these with other sites to develop a list of favourable sites.

As noted in Section 3.1, the six sites identified for evaluation are:

- Near Muskrat Falls;
- Otter Creek;
- Airport North Side;
- Adjacent to the Main Dock;
- Old Tank Farm; and
- Trans Labrador Highway Farmland.

Seven criteria were identified as being relevant for the analysis. These criteria were selected based on their ability to potentially act as a barrier towards the development of a marshalling yard. The seven criteria are:

- Regulatory Status;
- Ownership;
- Site Preparation;
- Site Services;
Regulatory status was selected based on its ability to potentially hinder development depending on which jurisdiction regulates the site. Sites were evaluated in order to determine which form of government controls development on the site (Federal, Provincial or municipal). The Town of Happy Valley-Goose Bay zoning by-laws were also searched in order to determine if the site was zoned, what the zoning designation was, and if the zoning designation would pose a constraint to development. The measurable parameters are:

- 1= Major changes in zoning; major approvals required
- 2= Minor changes in zoning; minor approvals required
- 3= No changes in zoning; no approvals required

Ownership was selected due to the fact that purchasing or leasing the land may pose a constraint to development. Private land owners may be more resistant to selling/leasing land for development versus purchasing/leasing land from the Town or purchasing/leasing Crown land. The measurable parameters are:

- 1= Not available or available at high cost
- 2= Available at market price
- 3= Available at minimal or nominal cost

Site preparation was evaluated based on the current condition the site is in and the amount of work required for it to be made suitable for development. Grading, infilling and clearing were all examined for each site. Topographic maps and satellite imagery were used to determine an approximate amount of site preparation that would be required for each site. The measurable parameters are:

- 1= Extensive site preparation required (located on steep embankment, lots of vegetation present)
- 2= Some site preparation required (mostly level, little vegetation present)
- 3= Minimal site preparation required (level area, previously cleared)

Site service (electricity, water and sewer) was selected as the future marshalling yard will require these services in order for it to properly function. Sites were evaluated based on their distance from these services. A site further away from the services would pose a greater constraint than a site adjacent to or currently connected to municipal services. Satellite imagery
and discussions with the Town of Happy Valley-Goose Bay were used to identify the proximity of municipal services from the sites. The measurable parameters are:

- 1= All services > 1 km away
- 2= Some services available within 1 km
- 3= All services available within 1 km

Accessibility was selected as road access to the marshalling yard will be critical for its operation. The impact of the increased traffic on the Town roads was also evaluated. Topographic maps and satellite imagery was used in order to determine the absence and presence of roads as well as general road condition. The measurable parameters are:

- 1= No roads available or major road upgrades required; major increase to traffic through Town
- 2= Roads available with minor upgrades required; minor increase to traffic through Town
- 3= Adequate road access to the site and no upgrades required; minimal increase to traffic through Town

Proximity to the dock was selected as the distance between the marshalling yard and the dock is anticipated to be a major issue for the users of the marshalling yard. Distance by road from the sites to the dock was calculated using Google Earth. The measurable parameters are:

- 1= site is >10 km from the dock
- 2= site is between 1 – 10 km from the dock
- 3= site is <1 km from the dock

The environmental status of the site was selected as previous land use, or land use in the local area, has the potential to cause issues for development in the form of contamination. A contaminated site would be required to be cleaned up to meet provincial standards for industrial use prior to development. Satellite imagery was used to determine the previous land use, and land use of the surrounding area to determine if future environmental work would be potentially required. Proximity to watercourses and other natural features was also examined. The measurable parameters are:

- 1= Unknown or significant site environmental issues
- 2= Minor (resolved) site environmental issues
- 3= No site environmental issues

Each site was evaluated based on these criteria and measurable parameters. At the end of the analysis the final score for each site was determined by tallying up all the criteria values. A score of 14 (66 %) or less out of 21 was determined to be unviable for the development of a marshalling yard due to the cumulative issues identified in the MAA.
3.0 RESULTS

3.1 Public Consultation

Issue: The condition and availability of infrastructure in Central Labrador that could support a lay down/marshalling facility.

End users were asked whether they were currently using lay down/marshalling facilities. Seven of the 11 who replied stated that both outdoor and indoor space was being used at or near the place of business. When asked more generally whether there is sufficient storage and transshipment capacity to support the movement and storage of goods in the region, five respondents were of the opinion that current needs were being met. However, they indicated that there would be a shortage if major projects go ahead (this response was echoed by two of the operators questioned).

One operator identified the need for both warehouse and yard space in the region. Another said that there is need for a lay down/marshalling facility with parking, refuelling, shower and food services. Another stated that they have no need as they download directly to customer warehouses.

The Goose Bay Airport Corporation representative noted that they developed Otter Creek to help meet future demand. The Town of Happy Valley-Goose Bay has identified other sites for future lay down/marshalling purposes, which will be outlined later.

Issue: Are there areas of concern on Routes 500, 520, 510 & 515 that would impede the movement of consumer/industrial goods via commercial trucking.

Operators identified the following areas of concern. One identified two sections of Route 500; Red Bay to Lodge Bay and Cartwright junction to Crook Lake. Two operators had concerns about the Labrador City to Happy Valley-Goose Bay segment and considered it urgent that the paving project be completed. Another operator stated that Routes 500 and 520 in general need upgrades, including more pull-offs, grading and paving as soon as possible.

When asked about seasonal issues, operators emphasized the difficulty of operating during spring, fall and winter. One identified the Red Bay to Lodge Bay section of Route 500, stating that there were stretches where blasting and widening of rock cuts are required to relieve extreme snow accumulation.

Several attempts were made to obtain data on load-bearing restrictions for highways and bridges in the region, however, no information was supplied to the Study Team.
Issue: Existing commercial capacity to support the movement and trans-shipment of commercial/industrial goods in the region.

The end users who responded to the questionnaire are receiving goods by air, marine and road, as follows:

Table 1  Percentage of Goods, by Mode of Transportation

<table>
<thead>
<tr>
<th># of Users</th>
<th>% of Goods, by Mode to Central Labrador</th>
<th>Marine</th>
<th>Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>10</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>10</td>
<td>20</td>
<td>70</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>80</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Five respondents stated that their need is year-round, two indicated their needs were seasonal and the remainder didn’t provide an answer.

End Users were asked whether the transport of goods on the TLH presented them with challenges. Three responded “no”. Those responding “yes” specified road closures and travel delays due to weather, the cost of fuel (including surcharge) and the need for highway upgrades.

Asked whether the TLH poses any weight and dimension restrictions for business, four answered ‘no’ and three provided no answer. The remaining three cited restrictions around weight (with no detail given), spring conditions and wait times.

Six end users reported annually moving goods to and through the region as follows:

Table 2  Amount of Goods Moved

<table>
<thead>
<tr>
<th>Company #</th>
<th>Goods Moved</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1-52 ft tractor trailer/week</td>
</tr>
<tr>
<td>2</td>
<td>750 tons/annum</td>
</tr>
<tr>
<td>3</td>
<td>10 pallets/week</td>
</tr>
<tr>
<td>4</td>
<td>5 tractor trailers/week</td>
</tr>
<tr>
<td>5</td>
<td>4-6 tractor trailers/week</td>
</tr>
<tr>
<td>6</td>
<td>350 52 ft tractor trailers/annum</td>
</tr>
</tbody>
</table>
Issues: Capacity of current operators to support long-haul trucking to and through Central Labrador.

Current level of commercial/industrial goods being trucked into the region previously shipped via marine transport from Lewisporte.

Current levels of commercial/industrial traffic to/through the Central Labrador region.

The four trucking companies that responded identified their fleets of trucks, trailers, high cube and cargo vans. In addition, Innu Mikun Airlines outlined their fleet of aircraft (four Dash 8s, two Saab 340s, one Metro and four Twin Otters). The companies are all affiliated with companies within and outside the province such as couriers, transport companies and Oceanex. Equipment such as cranes and floats were not identified.

One company operates strictly within Newfoundland and Labrador, with partners feeding to the island, the rest of Canada and beyond (via Oceanex). Another company reported ten trucks or trailers/week on Route 500, 20 – 25 trucks/trailers/year on Route 520 and one to two trucks/week on both 510 and 515. When operators were asked what volume of goods they are currently moving through the region annually, one estimated a weekly load of 40,000 lbs. Another estimated 250 trucks carrying 53 ft. trailers/year. Innu Mikun Airlines estimate that they move 750 tons of goods/year. When asked to estimate the annual volume of goods carried (or received), four operators estimated a combined total of 15.6 million pounds.

Operators were asked to describe the change in volume that has occurred over the past five years. One reported a reduction but all others reported significant increases, with one estimating a tripling. The same question was asked of end users, six of whom responded. They replied “down 50 %” (one), “remaining constant” (one), “5 %” (one), “30 %” (two) and “50 %” (one).

All respondents said they are currently meeting customer needs. One stated “yes, but only because some of the higher volume projects are in the infancy stages”.

Issue: Current road and marine capacity to support the movement of commercial/industrial goods from and to Central Canada via the TLH and the Island of Newfoundland.

Of the ten end users completing the questionnaire, one stated that they transport goods via the TLH to Newfoundland and none of them expect an increased demand for this routing. They were asked to consider the pros of using this route and the ability to deliver fresher products; year-round delivery was seen as the main advantage. The cons included the fact that weather often slows trucks down and that delivery costs would be higher than by the traditional route. Four of the end users have goods transported from Newfoundland via the Strait of Belle Isle ferry and the TLH.
The operators were asked if they thought it was feasible to transport freight to and from Newfoundland on the TLH. Four responded “yes” and two “no”. A reason for answering ‘no’ was that the route couldn’t possibly compete with the more direct access from Québec and Ontario. Those who answered ‘yes’ said that it would need to be year-round (assuming there will be a good road and ferry system).

Operators were asked to comment on the capacity of the current Straits ferry to carry additional freight. Their responses indicate that the vessel operates at capacity during the peak season and that extra crossings and/or a larger vessel would be needed to accommodate an increase in volume.

End Users were asked if they had seen a big change in the transportation of goods since the opening of all phases of the TLH. All except one acknowledged that yes, there has been. The changes noted included quicker, year-round deliveries, fresher products and better movement of both goods and people (residents and tourists). Two of them noted however that there has been no reduction in costs.

A spokesperson for the Department of Works, Services and Transportation (marine division) stated that around 30,000 lbs. of freight is shipped into Labrador from Newfoundland each year and as of 2010, ferry capacity was not an issue.1

**Issue: Mid to long-term forecasting for commercial traffic based on various industrial development scenarios**

Operators were asked what changes they anticipate over the next five years for low, moderate and high growth scenarios. Under low growth, they would see minimal changes to their operations. One noted that good highway maintenance and a ferry service able to accommodate commercial units are important needs.

For a moderate growth scenario (i.e., a large project coming on stream) the needed changes would be paved highways and a larger ferry. Two operators projected a tripling of their business activity. Respondents were hopeful of a high growth scenario (i.e., two or more major projects coming on stream), in anticipation of major business increases. In terms of transportation infrastructure, one commented that the highway system may not be able to handle the volume and therefore some items may need to be brought into the region by ship.

End users were asked if they had plans to expand to meet future demands. Two replied “no” and three “yes”, including one who plans to develop another commercial lot for additional warehousing and storage. They were also asked what changes they would expect under low, moderate and high growth scenarios. Under low growth, no changes are anticipated. Under moderate growth, one respondent expects more consumer demand, with road upgrades and

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1 Consultation with L. Bryant, May, 2011.
easier travel from coastal communities. Another would expect a tripling of their business activity. Under a high growth scenario, expected changes include the need for a lay down area, increased business support services, more frequent delivery of consumer products and fresher goods. One respondent would expect their business to grow five-fold.

SNC Lavalin is planning to undertake a transport study, after which they will be able to better determine their requirements\textsuperscript{2}. A preliminary estimate is that five lay down areas may be needed for the Lower Churchill Project, including one at Goose Bay\textsuperscript{3}. Consultation with a representative of Labrador Inuit Development Corporation (LIDC) stated that they are interested in developing a lay down area adjacent to the main Goose Bay dock, in association with Altimax\textsuperscript{4}.

**Issue: Is there a need for a marshalling yard in the region?**

Several questions on this subject were posed to respondents. The operators responding felt that there is no current need but that this would change if the Lower Churchill or another major project goes ahead (provided the facility is affordable). Particular needs to be met by a new facility cited are that it would:

- provide time and cost savings for the larger trucking firms;
- consolidate the commercial aspect of trucking and provide easy access for all users;
- serve as a consolidation base for coastal Labrador; and
- provide parking and other services such as showers and food.

One operator made the point that the facility would not necessarily meet their needs but rather those of major industry servicing large projects such as the Lower Churchill. In estimating how much space their business would need in a new facility, three operators were specific, as follows: 9 – 19 sq. m., 3,700 sq. m. and 250,000 sq. m. One operator was of the opinion that transport companies would only need trans-shipment of small orders destined outside the region, whereas full trucks would continue to their destination.

Seven of the end users felt that their business would expand and provide better service to the region if there was a new lay down facility established (three of them answered “yes”, in anticipation of a major project). When asked if their business/organization would use the facility, five answered “yes”, three said “no” and two “maybe”. However, when asked how much they would make use of the facility, respondents were generally non-committal. One said “short-term and in peak times”, another “right now, we have our own (lay down space), but could see the need for expansion”. When asked whether it should be seasonal or year-round, three answered “seasonal” and four “year-round”.

\textsuperscript{2} Consultation with B. Peach, SNC Lavalin.
\textsuperscript{3} Consultation with M. Landreville, SNC Lavalin.
\textsuperscript{4} Consultation with C. Webb, LIDC.
All except one end user felt that the region would benefit from a lay down/marshalling yard facility. They were asked what kind of services they would like to see provided and the great majority of them thought all the options outlined in the questionnaire should be included; ‘Heated storage’, ‘Refrigerated storage’, ‘Indoor storage space’, ‘Outdoor storage space’, ‘Long term storage’, ‘Short term storage’ and ‘Delivery of materials to your business/organization’.

The Town of Happy Valley-Goose Bay has its own storage facilities but their representative stated that they may make use of a lay down/marshalling area for storage of materials.

When asked “What percentage of goods handled by your business/organization could make use of a lay down/marshalling facility?”, answers ranged from “very little” to “20 – 30 %” to “100 %” (for a future pelletizing project). They were also asked what kinds of goods they are now transporting that could make use of the facility. The answers varied widely, as follows:

- building materials;
- furniture and other household items;
- fuel in drums;
- goods requiring temperature control;
- heavy equipment & runway maintenance products; and
- wood pellets.

Two of the organizations interviewed outside the questionnaire process emphasized the need for a lay down/marshalling facility. The Innu Economic Development Corporation is in discussion with businesses about a wood pelleting operation, which will need considerable lay down space. The operation is planned to be adjacent to the Goose Bay main dock. The project was anticipated to begin in late 2011.

NunatuKavut Development Corporation is looking into partnering with businesses in anticipation of development and are assessing the needs those projects will have. They don’t have specific needs for lay down/marshalling space currently but think that Central Labrador needs one. However, to be viable, they consider it would likely have to be publically funded.

**Issue: The availability of suitable locations for a lay down/marshalling facility**

The Town of Happy Valley-Goose Bay has identified three commercial areas suitable for a lay down/marshalling area:

- The old farm land just outside of town on the TLH (owned by the Department of National Defence but possibly could be released if needed);
Site on Kelland Drive (access road has an eight tonne limitation; this is the only road in the town with a load limitation); and

Adjacent to the main dock (currently not serviced by water and sewer but the Town is looking into the possibility of servicing).

If the dock area was chosen, access could be secured to the TLH via the woods road located just off the proposed town commercial development and loops around the DND Base. This would solve a couple of scenarios:

- Tractor trailer traffic could be delivered at the site without having to go through the town; and
- The lay down area would be located away from residential areas.

The Goose Bay Airport Corporation has recently developed a commercial site at Otter Creek which it feels would be a good location for a lay down/marshalling area. Currently, there is electrical service but no water and sewer service, although this is being considered. This site also has access to the TLH via the loop road. Lots fronting on Otter Creek are reserved for float plane operators but back lots are available for sale.

Both end-users and operators were asked what site they would recommend for lay down/marshalling. Three respondents indicated no preference. The following sites were proposed:

- Near Muskrat Falls;
- Otter Creek;
- Airport North Side;
- Town’s commercial area next to the dock;
- The area by the docks formerly occupied by large tanks; and
- A site on the TLH (one noted ten miles or so from HV-GB).

**Issue: Facility management**

Operators were asked what would be the best management structure for a lay down/marshalling yard facility. Three said that it should be private sector led, while four indicated that it should be a combination of private and public. There was a similar breakdown in the answers provided by end users. Agencies who were potential sponsors were asked the same question. Four of them felt that it should be private-led and one thought it should be a public/private partnership. Two of them said they would be interested in participating in management of the facility, while three said they had no interest and one that they would give it some thought.

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8 Consultation with G. Price, Goose Bay Airport Corporation.
To the question, “Would you be interested in participating in management of such a facility?” two operators answered “no”, three said “yes” and one “perhaps”. When operators were asked whether they would be willing to pay a service fee to access the facility, five answered “yes”, with affordability being an overriding issue. End users were asked the same question and six of ten respondents stated that the going rate would be acceptable.

End users were asked if they would participate in and contribute towards funding a community-owned lay down/marshalling area. Only two of ten answered “yes”. The Town of Happy Valley-Goose Bay representative indicated that they would sell land for the facility but are not currently interested in being part of managing it.

Three potential sponsors said they have funding or support programs for operation of a lay down/marshalling facility. In addition, the Town representative stated they were willing to provide services and access to ensure viability of the facility.

The representative of Melville Trucking, when he was the owner of a construction company, built a large fenced yard with a building big enough for interior storage for the purpose of having a private lay down/marshalling area. The enterprise couldn't make enough money to pay a full time worker, for which he proposed several reasons:

- The town not having by-laws for the operation of tractors trailers and deliveries made by trucking companies in residential areas;
- Trucking companies refusing to pay for services;
- Goose Bay being the end of the road for trucking services, which leads them to offload their goods directly to customers;
- Drivers spend the night parked in hotel, hospital, school and other parking lots; and
- Vale Inco chooses to bypass Goose Bay and ship their goods directly to Quebec.

As a result, he feels that the lay down/marshalling area would not be feasible for a private operator. There would need to be a long term contract with one or several project developers. The other option would be to have a combination public/private facility, funded by government agencies, with possibly the town responsible for operations and maintenance.

**Issue: By-laws to manage the flow of commercial traffic**

The Town of Happy Valley-Goose Bay does not have any by-laws for tractor trailer traffic and do not own the main road (Hamilton River Road). They are looking into implementing traffic regulations and already have width and load restrictions.

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9 Consultation with G. Noseworthy.
The town’s development regulations contain industrial and commercial zones, needed to accommodate a lay down/marshalling facility.

In terms of handling future industrial/commercial traffic on residential roads, the town anticipates that this can be controlled with appropriate locations for the lay down/marshalling of heavy equipment and bulk storage items and the routing of tractor trailer traffic around residential areas.\(^\text{10}\)

### 3.2 Literature Review

**North Sydney Truck Marshalling Yard Study**

The Northside Victoria Community Business Development Corporation (CBDC) recently completed a study to identify potential sites for a marshalling yard to accommodate truck and other vehicle traffic waiting for the Marine Atlantic services to Newfoundland. Weather and vessel problems can result in a considerable amount of traffic waiting for the ferries. The study examined various potential sites for the marshalling yard and evaluated them in terms of functionality, access, environmental suitability, and compatible adjacent land uses.

The marshalling yard would primarily provide short term parking for trucks and other vehicles and there was no identified requirement for separate storage/distribution facilities. Potential services would relate to showers, food and other needs of the drivers and passengers.

Ownership options were also examined, municipal, Marine Atlantic and private third party ownership. Given the intermittent requirement for the marshalling yard (primarily when marine vessels are delayed) it was concluded that such a facility should be operated by Marine Atlantic and would not be of interest to a third party. As of September 2011, there were no plans to proceed with this facility.

**Port Churchill, Manitoba**

Churchill, located on Hudson Bay, is a major logistics and resupply center for the central Arctic. It serves the resource sector as well as numerous communities. The Port of Churchill is served by the Hudson Bay Railway which transports grain, fuel and various other resupply and export commodities from The Pas, Manitoba. OmniTRAX Inc. owns the port facilities and the Hudson Bay Railway. Two airlines serve the Town of Churchill, providing passenger and freight service from Winnipeg and on to Northern destinations.

\(^\text{10}\) Consultation with Town Manager.
The Port of Churchill was established in 1931 and serves the export grain industry as well as the resupply needs of Northern Canada. The Port has an impressive list of facilities including 82,000 ft$^2$ of indoor storage, a 50 million litre petroleum products tank farm, cranes, repair facilities, tug service and ice breaking. It is served by several logistics and shipping companies.

The Port of Churchill is working with a number of logistics companies to develop the northern resupply business. Business organizations (including the Chamber of Commerce), the Town and the Government of Manitoba are supporting this initiative.

**Port of Montreal Northern Resupply Operations**

The Government of Nunavut negotiates rates and service levels with two private companies (NEAS, Valleyfield and NSSI, Ste. Catherine) that provide summer community resupply services to Eastern Arctic communities. These companies use facilities in the Montreal area, where they have full storage and marshalling facilities to consolidate freight for several sailings to Nunavut communities and other northern destinations. Much of the cargo is containerized. Containers and deck cargo are loaded by cranes in Montreal and generally offloaded at the various northern communities using barges (landing on beaches or at small wharves).

**Northern Saskatchewan Resupply**

There are a number of Northern Saskatchewan communities and mining operations that rely on a combination of seasonal or winter (ice) roads and air transportation, to meet their passenger and freight transportation needs. While some freight is trucked directly to the northern destinations (when the roads are usable) much of the freight is trucked to Points North (approximately 800 km north of Saskatoon). When it arrives at Points North it is either forwarded by air cargo, put into storage for later shipment, or trans-shipped by special ATV trucks designed for the challenging seasonal or ice roads.

Points North facilities include a trucking terminal, freight yard, indoor freight storage, fuel depot, accommodations, equipment repair facilities and an air strip. Points North and many of the trucking companies are operated by Northern and aboriginal companies.

The Northern Saskatchewan transportation system is constantly evolving in response to the needs of the communities and mining operations as well as the road infrastructure. Points North has had to be extremely flexible in responding to the ever changing freight volumes. Development of a new mine results in large peaks in the freight volumes which can be followed by severe drops.

This means that Points North must have the truck marshalling space, storage facilities and access to equipment to handle the peak traffic. It must, however, be able to financially survive
the lean times. This is achieved by making minimal investment in terminal facilities, use of temporary storage facilities and the use of contract equipment/manpower.

**NWT Ice Roads Transportation**

The Northwest Territories has a system of 1400 km of winter roads and ice roads that provide road transportation to numerous communities (such as Tuktoyaktuk 187 km from Inuvik). These 'wintertime only' roads are constructed during the early part of winter and operated until spring thaw. Communities such as Yellowknife and Inuvik serve as the marshalling areas for freight destined for these isolated communities and resource developments.

Marshalling yard facilities are provided by a number of trucking companies that use their terminal facilities. Ice conditions and winter driving conditions dictate the availability of the ice/winter roads so there is a requirement to stockpile/marshal much of the freight while waiting for acceptable conditions. Often this entails using truck trailers or fenced in marshalling yards.

Marshalling yards and staging facilities are generally provided by the trucking companies such as Robinson Enterprises (www.rtl.ca). Facility requirements are dictated by the type and volume of freight. However, the general focus is on secure areas for the parking of trailers.

The NWT Government constructs a number of the winter roads and river crossings and determines when they are safe to use.

**NWT Marine Freight Services**

Northern Transportation Company Ltd. (NTCL) operates a tug and barge transportation system from Hay River, NWT. This Northern aboriginal owned and operated company has a number of freight operations serving Northern Canada. NTCL has extensive facilities in Hay River, which includes a freight marshalling yard, freight storage and distribution, vessel docking and loading facilities as well as vessel maintenance and repair facilities. NTCL’s history dates back 75 years when it was established to serve NW Canada including NWT, Northern Alberta and Northern Saskatchewan. Prior to road development in these areas, NTCL was the only surface transportation option. Hay River is linked to major centres such as Edmonton by both road and rail. In addition to its MacKenzie River/Great Slave Lake operations, NTCL has a Western Arctic service. NTCL serves the Kitikmeot communities of Cambridge Bay, Kugluktuk, Gjoa Haven and Taloyoak from Richmond, BC. From the Ports of Churchill, Montreal and Halifax, NTCL delivers cargo to mining exploration and development projects throughout the Kivalliq region.
NWT has a number of other marine transportation services that provide summer transportation to various other communities and resource development sites without road access.

### 3.3 Multiple Accounts Analysis Results

#### 3.3.1 Near Muskrat Falls Site

The site near Muskrat Falls is outside of any the Town of Happy-Valley Goose Bay zoning by-laws (Figure 1).

![Potential location of an approximately 2.2 ha marshalling yard (depicted in yellow) near Muskrat Falls](image)

No federal or provincial regulations would prohibit the development of a marshalling yard at this location. As no regulatory issues are present at this site, a value of 3 was awarded. The land is presumed to be Crown land, although there is the possibility that Nalcor Energy has purchased some of the land along the access road to Muskrat Falls for the Lower Churchill Project. Should Nalcor Energy own the land it is unlikely that they would sell/lease this land for the development of a marshalling yard. Based on the land being Crown land, a value of 3 was awarded.

A marshalling yard at this site would require significant clearing, however topographic maps show that this area is somewhat level. During clearing precaution would be required in order to prevent any damage to the transmission lines that occur to the north of the site. The soil in this area is mostly sand, therefore a geotechnical study may be required. The geotechnical study would be used to evaluate the site in order to determine if it and the access road upgrades can...
be safely developed in order to support a marshalling yard. Due to these issues a value of 1 was awarded.

Water and sewer lines from the Town of Happy Valley-Goose Bay are further than 1 km away and the distance between the site and the town would require significant infrastructure to be installed in order for the marshalling yard to be serviced. The installation of a septic system and water wells may be considered for this site due to distance from municipal service lines. The installation of these systems was not included in the analysis. A transmission corridor is present to the north of the site, however a transformer may be required for the site to be serviced for electricity. Due to these issues a value of 1 was awarded.

The route from this site to the dock is anticipated to travel along the TLH and through the town along Hamilton River Road. This route will increase traffic along the town’s roads. Major road upgrades are not anticipated to be required for this route. There is the potential for the vehicles to take an alternate route to this site. This route would involve the route north of the airfield with some upgrades/extensions to Goose River Road or the route travelling through “Pine Tree”, connecting to the TLH west of Goose Bay. This route was not considered during the analysis. A value of 1 was awarded due to the potential major increase in traffic through the Town.

The site is located approximately 36.4 km away from the dock. Due to the distance of the site from the dock a value of 1 was awarded.

No previous land use was noted in and around the site. No watercourses are present on the site, however Churchill River is located to the south as well as another watercourse to the southwest. A portion of a wetland appears to occur to the north of the site and continue to the west. Based on topographic maps and satellite imagery flow of water is likely south draining into the Churchill River. No drainage ditches appear to be present on the site or along the Muskrat Falls access road. The site is a greenfield and as such no environmental issues are anticipated. A value of 3 was awarded.

The total score for this site is 13 out of 21.

3.3.2 Otter Creek Site

The Otter Creek site occurs with the Town of Happy Valley-Goose Bay and as such is subject to the Town’s regulations (Figure 2). The site is currently zoned Airport and Defence as per Future Land Use Map 1 of the Happy Valley-Goose Bay Municipal Plan (2008-2018). All development within land zoned Airport and Defence is controlled by the Government of Canada in consultation with the Town of Happy Valley-Goose Bay. Discussions with these parties will be required for the development of a marshalling yard. This site also falls under the Goose Bay Airport Zoning Regulations (Future Land Use Map 3) and as such development may not exceed 45 m in height. A value of 2 has been awarded due to discussions required with the Government of Canada and Town of Happy Valley-Goose Bay.
Ownership was unable to be confirmed over the phone with the Town of Happy Valley-Goose Bay due to privacy laws, however given the area and lack of development it is presumed to be Crown land. It is anticipated that this land would be available at market price and as such has been awarded a value of 2.

The site will require significant clearing, however based on topographic maps, little grading and infilling will be required. As well precaution will be required during clearing to ensure that no damage to the transmission line adjacent to Northwest River Road occurs. Based on the fact that only clearing is anticipated to be required a value of 2 was awarded.

Water lines are present along the Northwest River Road at this intersection, however sewer lines are not. A transmission corridor travels parallel to Northwest River Road and will occur adjacent to the site. A transformer may be required in order to service the site for electricity. As some of the services are available within 1 km a value of 2 was awarded.

The site is located off of the Goose River Road-Northwest River Road intersection. Minimal road upgrades may be required for access such as the installation of a culvert, however the route from the site to the dock is not anticipated to require any significant upgrades. The route from the site to the dock follows Northwest River Road straight into the dock. This route is anticipated to cause minimal increase in traffic through the town. As well an alternate route for
vehicles leaving Town may be available. This route would involve the route north of the airfield with some upgrades/extensions to Goose River Road or the road traveling through “Pine Tree”, connecting the TLH west of Goose Bay. This route was not considered during the analysis. A value of 3 was awarded due to minor nature of road upgrades that may be required and no increase in traffic through Town.

The site is located approximately 2.7 km from the dock. Due to the distance of the site from the dock a value of 2 was awarded.

The site appears to be a greenfield with no previous land use being noted. The majority of the surrounding area is also greenfield with the exception of a lay down area present across the road. As the lay down area was not known for containing harmful substances there is little potential for contamination to have occurred. Otter Creek is present to the south and east and a drainage ditch is present along the Northwest River Road. Based on topographic maps and satellite imagery runoff is anticipated to flow south towards Otter Creek. The site will require suitable spill response measures to capture any spilled material prior to it reaching Otter Creek. Installation of a runoff collection system may require a hydrological study in order to ensure that the increase in runoff does not impact the local area. It is anticipated that the runoff collection system will be able to use the drainage ditch associated with Northwest River Road however discussions with the town’s water and sewer superintendent may be required to ensure that the drainage ditch has the proper capacity to deal with the increased runoff.

The total score for this site is 16 out of 21.

### 3.3.3 Airport North Side Site

The Airport North Side site occurs within the Town of Happy Valley-Goose Bay and as such is subject to the Town’s regulations (Figure 3). The site is currently zoned Airport and Defence as per Future Land Use Map 1 of the Happy Valley Goose Bay Municipal Plan (2008-2018). All development within land zoned Airport and Defence is controlled by the Government of Canada in consultation with the Town of Happy Valley-Goose Bay. Discussions with these parties will be required for the development of a marshalling yard. This site also falls under the Goose Bay Airport Zoning Regulations (Future Land Use Map 3) and as such development may not exceed 45 m in height. A value of 2 has been awarded due to discussions required with the Government of Canada and Town of Happy Valley-Goose Bay.
Figure 3  Potential location of an approximately 2.2 ha marshalling yard (depicted in yellow) along the north side of the Goose Bay airport

Discussions with the Town of Happy Valley-Goose Bay revealed that this area is privately owned. Given the location of the site proximal to the airport and other developments it is assumed that this land could be purchased at a market price and as such a value of 2 was awarded.

The site appears to require minimal clearing, grading and infilling based on topographic maps and satellite imagery. As such a value of 3 was awarded.

The location of this site is in close proximity to other developments and Hamilton River Road, and such as municipal services appear to be within 1 km. Due to this a value of 3 was awarded.

Access to this site involves travelling along Hamilton River Road, Edmonton Street and Ottawa Avenue. Ottawa Avenue and Edmonton Street are anticipated to require road upgrades in order to deal with the increased vehicle traffic. As well, a marshalling yard at this location may increase the traffic, however this increase will only have an impact on a small portion of the town. Due to this a value of 2 was awarded.

The site is located approximately 2.2 km away from the dock. Due to the distance of the site from the dock a value of 2 was awarded.
Aerial photos from 1984, 1988, 1995, 1998 and 2007 were examined in order to determine if previous development had occurred on the site. It should be noted that military history in the area predates the 1984 aerial photograph by several decades. Given the condition of the site based on the 1984 aerial photograph, there would have been a significant amount of time where disturbances would not have occurred in order to allow the vegetation to recolonize. The site appears to be a greenfield however clearing has occurred on the site. Between 1984 and 1988 a small building was built south of the site and Toronto Avenue was extended to allow access to this building. Between 1988 and 1995 significant clearing occurred and this remains visible through the 2007 aerial photograph. Trails were visible on all aerial photographs. By 2007 a dirt road to the west of the site connecting Ottawa Avenue to the access road parallel to the airport fence was clearly visible and had been widened from that depicted in the 1998 aerial photograph. Minor site disturbance occurred as a result of the site being cleared, development occurring within the surrounding area and the extension of Toronto Avenue. No watercourses are present in or around the general area of the site. Drainage ditches may be present along Toronto and Ottawa Avenue, however no drainage ditches are visible on aerial photographs. Should a runoff capture system be installed a hydrological study may be required to ensure that the runoff does not impact the local area. Due to the minor previous potential for environmental issues a value of 2 was awarded.

The total score for this site is 16 out of 21.

3.3.4 Adjacent to Main Dock Site

The Adjacent to Main Dock site occurs within the Town of Happy Valley-Goose Bay and as such is subject to the Town’s regulations (Figure 4). The site is currently zoned Industrial as per Future Land Use Map 1 of the Happy Valley-Goose Bay Municipal Plan (2008-2018). Transportation is listed as a viable industrial development and as such no change to the zoning designation is required. Connection to municipal services is mentioned as discretionary as long as it meets existing and future land use plans. The Town of Happy Valley-Goose Bay Development Regulations (2008-2018) describes the general development standards for industrial development and mentions that connection to municipal water and sewage service can occur where feasible. This site also falls under the Goose Bay Airport Zoning Regulations (Future Land Use Map 3) and as such development may not exceed 45 m in height. As the current zoning designation is compatible with the development a value of 3 was awarded.
The site is currently owned by the Town of Happy Valley-Goose Bay. It is anticipated that they would be willing to sell/lease the property for this type of development. As such a value of 3 was awarded.

The site appears to require significant clearing, however based on topographic maps, little grading and infilling will be required. Due to the amount of clearing required yet limited amount of grading and infilling anticipated a value of 2 was awarded.

The site is currently not serviced by water or sewer lines, however the Town has mentioned it has considered servicing the area. The transmission corridor to the west may pose an issue in that a transformer may be required for electrical service and extra precaution will be required when clearing to ensure no damage occurs to the transmission line. A value of 3 was awarded due potential service as mentioned by the Town.

The site is adjacent to the main dock and as such will not require any major road upgrades and will not create any additional traffic along the Town’s roads. For these reasons a value of 3 was awarded.

The site is located approximately 400 m away. Due to the distance of the site from the dock a value of 3 was awarded.

The general area surrounding the site is a mixture of greenfield and commercial development. The main dock is located to the east of the site and an active tank farm is located across from the site on the north side of the road. As the site is a greenfield no development appears to have occurred on this property and there is little evidence that any contamination would be
present. With regards to its location, suitable spill response measures must be in place in order to capture any and all spilled material prior to it reaching Terrington Basin. A drainage ditch is present along the south side of the road and may require a culvert to be installed should this site be selected. This drainage ditch can likely be used by the marshalling yard; however, discussions with the town’s water and sewer superintendent may be required to ensure that the drainage ditch has the proper capacity to deal with the increased runoff. Due to the site being a greenfield and lacking evidence of contamination a value of 3 was awarded.

The total score for this site is 20 out of 21.

3.3.5 Old Tank Farm Site

The Old Tank Farm site occurs within the Town of Happy Valley-Goose Bay and as such is subject to the Town’s regulations (Figure 5). The site is currently zoned Airport and Defence as per Future Land Use Map 1 of the Happy Valley Goose Bay Municipal Plan (2008-2018). All development within land zoned Airport and Defence is controlled by the Government of Canada in consultation with the Town of Happy Valley-Goose Bay. Discussions with these parties will be required for the development of a marshalling yard. This site also falls under the Goose Bay Airport Zoning Regulations (Future Land Use Map 3) and as such development may not exceed 45 m in height. A value of 2 has been awarded due to discussions required with the Government of Canada and Town of Happy Valley-Goose Bay.

Ownership could not be confirmed over the phone with the town of Happy Valley-Goose Bay due to privacy laws. As this was once an active tank farm the land is presumed to be privately
owned. Given its former use and location it is anticipated that the site would be available at market price and as such a value of 2 was awarded.

The site is partially cleared, although some vegetation remains. Topographic maps show that little grading or infilling is anticipated to be required. As some minor clearing will be required a value of 2 was awarded.

Electrical and water lines are within 1 km running parallel to Hamilton River Road. Sewer lines are not connected to the old tank farm. There is the potential for some infrastructure relating to the old tank farm to still be in place. This infrastructure may be required to be removed or possibly updated. As some services are located within 1 km a value of 2 was awarded.

The roads off of Hamilton River Road connecting to the site are anticipated to require upgrades in order to cope with the increase in traffic. This route will also increase traffic through the town. Access may be gained by taking the roads that travel to the north towards the active tank farm, however these roads are private roads and permission from the owner will be required for their use. This route was not considered during the analysis. Due to road upgrades and traffic increase a value of 1 was awarded.

The site is located approximately 4.8 km away from the dock. Due to the distance of the site from the dock a value of 2 was awarded.

As the site is an old tank farm there is the potential for contamination to have occurred and remediation may have potentially occurred during decommissioning. Old infrastructure may still be in place and may require removal. Small ponds and drainage ditches appear to be present on the site based on satellite imagery. Should the drainage ditches be used by the marshalling yard discussions with the town’s water and sewer superintendent may be required to ensure that the drainage ditch has the proper capacity to deal with the increase in runoff. Due to the potential for contamination and previous remediation a value of 2 was awarded.

The total score for this site is 13 out of 21.

3.3.6 Trans Labrador Highway Farmland Site

The Trans Labrador Highway Farmland site occurs within the Town of Happy Valley-Goose Bay and is therefore subject to the Town’s regulations (Figure 6). The site is currently zoned Rural as per Future Land Use Map 1 of the Happy Valley-Goose Bay Municipal Plan (2008-2018). Specifically the rural designation states that land can be used for transportation uses therefore the current zoning designation of the site is not anticipated to pose a constraint to development. The Town of Happy Valley-Goose Bay Development Regulations (2008-2018) states that land zoned rural will not be offered a connection to municipal services, however connection may occur if the services are immediately adjacent and the town deems the connection necessary. The Development Regulations also state that general industry that may occur on land zoned rural will be “restricted to the maintenance and repair of equipment, processing and storage
related to agriculture, forestry or mineral working uses.” As such the designation of rural is not anticipated to restrict development. This site also falls under the Goose Bay Airport Zoning Regulations (Future Land Use Map 3) and as such development may not exceed 45 m in height. As the current zoning of the land is compatible with the development, a value of 3 was awarded.

The entire farmland property was acquired by the DND and the previous owners were relocated due to concerns of contamination potentially extending from the Air Base. As a result the farmland itself may require thorough and expensive site remediation and it is unlikely that DND would sell this property due to these reasons. For this reason a value of 1 was awarded.

As this property was once farmland, little clearing and grading is anticipated to be required. Due to the minimal site preparation work anticipated a value of 3 was awarded.

![Figure 6](image)

**Figure 6** Potential location of an approximately 2.2 ha marshalling yard (depicted in yellow) on a farmland along the Trans Labrador Highway

Electrical lines are connected to the site and water lines were connected prior to DND acquiring the land. It is unknown if the water lines are still connected at this time. Sewer lines are not
currently connected to the site. As some of the site services are present within 1 km, a value of 2 was awarded.

The route from this site to the dock involved travelling along the TLH to Hamilton River Road. The marshalling yard located at this site has the potential to increase traffic along Town roads. As the farmland is located off of the TLH no road upgrades are anticipated. For these reasons a value of 1 was awarded.

The site is located approximately 11.3 km away. Due to the distance of the site from the dock a value of 1 was awarded.

While the site was previously an active farmland, there is a risk of contamination occurring due to its location south of the Air Base. No drainage ditches were noted as being present however several watercourses are present on and surrounding the farmland. These watercourses appear to flow southeast towards Churchill River. Suitable spill response measures must be in place in order to capture any and all spilled material prior to it reaching the watercourses, such as Churchill River. Should a runoff collection system be installed a hydrological study may be required to ensure that the increase in runoff does not impact the local area. Due to the risk regarding contaminants a value of 1 was awarded.

The total score for this site is 12 out of 21.
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<tr>
<td>Old Tank Farm</td>
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<td>TLH Farmland</td>
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4.0 DISCUSSION

4.1 Public Consultation

Consultation with the public identified several key pieces of information vital to the placement and management of a lay down/marshalling facility as well as the needs for the future transportation of goods within the region. The four main needs for a new lay down/marshalling facility were identified as providing time and costs savings, consolidate trucking in the region, provide for easy and safe access, and provide parking and other amenities (shower, food, etc.) for the users.

The information gathered from the public consultation identified that the current lay down/marshalling facilities are adequate for the current demands, however under a moderate or high growth scenario, another lay down/marshalling facility would be required. Under these scenarios various businesses estimated a tripling of business and acknowledged that there currently lacks adequate facilities to meet this growth. A new lay down/marshalling facility will also require the capability and capacity to hold storage. Storage capacity should involve both short-term and long-term storage while the storage capability may involve temperature controlled storage units.

Stakeholders noted that moderate or high growth scenarios may require a larger ferry vessel and/or more ferry crossings. While the current ferry vessel and schedule has been sufficient for the region, an increase in demand for goods would potentially require a modification to the ferry schedule, specifically during the peak season. A larger ferry vessel could also remedy the increase in demand or be used in conjunction with an increase in ferry crossings. Businesses and end users also identified the need for upgrades to various routes throughout the region. The poor driving conditions in the fall, winter and spring can delay vehicles thereby creating large wait times for supplies within the region. Upgrades were identified as paving, grading and widening of roads.

Finally, public consultation identified several potential issues with regards to the management of a new lay down/marshalling facility. The Town of Happy Valley-Goose Bay commented that it currently has no interest in managing such a facility, however would be willing to sell land for its development. A few businesses noted that they would be interested in managing such a facility (or participated as part of a management team), while other businesses were not interested. A business noted that a privately owned lay down/marshalling facility may not be feasible due to various issues and may require a long term contract with a major developer to be viable in the region. All businesses agreed that they would pay an affordable user fee associated with the lay down/marshalling facility.

4.2 Multiple Accounts Analysis

The total results of the MAA are depicted above in Table 3. Based on the calculated results, three sites were deemed to be the most favourable option while one site has the potential to be
viable and the remaining two sites are thought to be unviable due to their numerous potential issues. The Adjacent to Main Dock site, Airport North Side site and Otter Creek site garnered the highest scores (20, 16 and 16 out of 21 respectively) primarily due to their close proximity to the dock, lack of extensive site preparation needs, accessibility and low potential to increase traffic. These sites are mostly likely to be favoured by the users of the marshalling facility for these reasons. Adjacent to the Main dock and Otter Creek have the greatest potential for future expansions should the need arise due to the lack of surrounding development while the Airport North Side site may be more difficult to expand due to the surrounding development.

While the Old Tank Farm site garnered a score of 13 out of 21 putting it below the viability threshold, it is still potentially viable under certain conditions. Overall the issues of road upgrades, increased traffic and potential environmental work may make this site more unfavourable than the minimal site preparation work and location in proximity to municipal services and the dock. Should there be no further environmental work and the owner is willing to sell/lease this land at a reasonable price, this site would be much more viable and should be considered as a site for a future marshalling facility.

The Muskrat Falls site and Trans Labrador Highway Farmland site are unfavourable and likely to be unviable for a future marshalling facility. These sites garnered a score of 13 and 12 out of 21 respectively. The Muskrat Falls site is simply too far away from the town for it to be viable and it is likely that no companies would want to use a marshalling facility at such a location. Development on the Trans Labrador Highway Farmland site is unlikely to ever occur due to the potential for contamination to be present and likely unwillingness of DND to sell/lease the site for development. These two sites are not viable options and as such no further work on these sites is anticipated to be required.
5.0 CONCLUSIONS

The stakeholder survey conducted for this study did not establish an immediate requirement for a lay down/marshalling facility. As Central Labrador has demonstrated its potential to serve a significant role in the transportation needs of Northern Labrador and other areas of Northern Canada, a lay down/marshalling facility is anticipated to be required under a moderate or high growth scenario.

Three sites were identified as favourable and potentially viable for a future lay down/marshalling facility. Future work will be required on these sites in order to determine if they are feasible for development.

The Chamber of Commerce should continue to work with the public and private stakeholders to monitor the logistical business opportunities and identify the opportunities for Central Labrador.

Best Practices/Lessons Learned

Need for Flexibility

Most transportation operations have to adapt to large fluctuations in freight volumes, schedules, and delivery requirements. However, Northern transportation experiences the extremes in fluctuations due to factors such as major projects, weather and seasonality. A Central Labrador lay down/marshalling facility would need to be extremely flexible and adaptable as demonstrated by some of the examples presented in Section 3.2. The need for flexibility will primarily translate into space to store freight in close proximity to where it will be loaded onto a vessel. The more space the better, for example, a marshalling facility to accommodate 100 standard 53 foot trailers would require approximately three hectares plus additional space for other types of storage, operations, maintenance/repairs and administration.

Figure 7 illustrates a typical layout for a truck marshalling facility that would accommodate 100 standard highway trailers. At this point there is not a clear indication of the physical requirements for a marshalling facility. However, it would likely need to accommodate trailers, have a substantial lay down area for other freight, along with some covered or enclosed storage and space for other activities.

There needs to be some flexibility to accommodate specialized freight including hazardous goods, temperature controlled goods, and high value freight. These specialized requirements could translate into significant investment in infrastructure and equipment. However, there are options such as leasing/rental of equipment and facilities. Careful planning and scheduling can also minimize the facility requirements.
Minimize Investment

The survey of potential users did not establish an immediate requirement for a marshalling facility, given the uncertainty of major projects. This would suggest that little or no investments should be made at this time. The important point is to ensure that Labrador can participate in future projects. At this point, the only requirement may be to secure the option to develop a marshalling facility for future requirements and to plan for its timely development.
Ownership and Operations

Typically marshalling or staging facilities are owned and operated by transportation and logistics companies. These companies will be the users and will ensure its financial sustainability. However, a common alternative would be for public ownership with private operation. This type of arrangement could be used to ensure common access to the facility instead of exclusive use by one company.

A common feature of all the successful Northern facilities is significant Northern ownership and often aboriginal/community corporate ownership or participation. Transportation and logistics have proven to be popular and successful avenues for local/aboriginal participation in Northern economic activity.

Site and Location

The logistical system that is developed for a major project, resource development operation or community resupply will be based on efficiency and reliability. The potential for a Labrador marshalling facility to be part of a competitive logistics system would be enhanced by ensuring it can deliver efficient and reliable service. This means it should minimize the requirement for re-handling of freight and equipment, maintain adequate security, and operate efficiently.

The site should be as close as possible to the marine loading terminal to minimize loading time, costs and traffic. The site layout should allow for the smooth flow of freight/equipment into and out of the facility. This will require consideration of the type and volume of freight and land availability. An efficient site layout can then be easily developed by a qualified designer.
6.0 NEXT STEPS

Overall three of the six sites (Adjacent to the Main Dock, Airport North Side and Otter Creek) appear to be favourable and viable as a future site for a new marshalling facility in Happy Valley-Goose Bay and a fourth site (Old Tank Farm) is potentially viable under certain conditions. Future work is required in order to determine if these sites are feasible for development. Future work that may be required to determine the feasibility of the development of a marshalling facility may include:

1. Confirmation of ownership and previous land use
2. Discussions with owner - purchasing/leasing land and service site
3. Phase I Environmental Site Assessment – determining presence or absence of contaminants
4. Present sites to local business for input on design and preference
5. Land Survey - confirming site boundaries and site preparation requirements
6. Geotechnical study - determining that the site is suitable to develop on
7. Hydrological study - determining flow patterns and appropriate discharge points
8. Archaeological study – determining presence of artifacts
9. Traffic Study - determining how much traffic will increase and how it will impact the community
10. Develop layout and design of marshalling facility

It should be noted that these steps are not necessarily required for the three sites but should be considered. Furthermore, as some of these steps require capital it is suggested that discussions with the owners of the sites and discussions with local business be conducted first in order to determine potential costs associated with the land and preference of options from potential users.
Appendix A
Consultation List
Consultation List

The following end users were contacted and completed the questionnaire:

- Bargain Shop
- Innu Mikun Airlines
- Canex
- North Mart
- Home Hardware
- Labrador North Chamber of Commerce
- Newfoundland Multi Trades
- Goose Bay Airport Corporation
- Innu Economic Development Ltd.
- NunatuKavut
- Labrador Inuit Development Corporation

The following operators were contacted and completed the questionnaire:

- Ways Transport Ltd.
- Blizzard Corporation Ltd.
- Transport Sego
- Innu Mikun Airlines
- Labrador Inuit Development Corporation
- Christopher’s

The following sponsors were contacted and completed the questionnaire:

- Town of Happy Valley-Goose Bay
- Innu Economic Development Ltd.
- NunatuKavut
- Innovation Trade and Rural Development
- Labrador Inuit Development Corporation

The following government regulators were contacted and completed the questionnaire:

- Town of Happy Valley-Goose Bay
- Department of Transportation and Works
Background

The Labrador North Chamber of Commerce (LNCC) has engaged Sikumiut Environmental Management Ltd. (Sikumiut), in association with ADI and DW Knight Associates to conduct a marshalling yard prefeasibility study for the central Labrador region.

Given the level of resource development activity taking place or proposed within Labrador, namely: mineral development/expansion in Labrador West; renewable hydro electric power development in the form of the Lower Churchill Project and mineral exploration efforts throughout Labrador; heightened attention is needed to address barriers to the reliable and efficient transportation of goods by road to support these developments. In particular, more effort is required to determine the potential for a marshalling yard to support existing transportation and shipping infrastructure. The first step in considering this issue is a prefeasibility study to determine if there is a demand for a marshalling yard. If the prefeasibility study indicates an interest more work will be required in future to advance to development.

Local stakeholders will be consulted during the project. Information from these organizations and individuals will be sought in the format of this questionnaire. The information gained through the questionnaire process will provide input to Sikumiut regarding perceived demand, current transportation capacity, future transportation capacity, potential ownership structure, potential locations and potential configurations for a marshalling yard. Questions are broken into categories according to the respondents' interaction with a marshalling yard and includes users, operators, government regulators and project sponsors.

While efforts will be made to consult with as many groups and individuals as possible, we will ensure a representative number of stakeholders within each category are provided an opportunity to respond to this questionnaire. A Sikumiut representative will forward the questionnaire to stakeholders. Responses will be requested within a two week period. Following initial circulation of the questionnaire, and during the two week period, recipients will be contacted and a telephone or in person session will be scheduled to complete questionnaire inputs.

Following the gathering of this first hand information, survey responses will be coupled with available information regarding transportation networks and an examination of other similar efforts elsewhere to produce a report for LNCC highlighting the feedback received as well as recommendations regarding prefeasibility for a marshalling yard in the Central Labrador region.
Your participation in this survey questionnaire is very much appreciated and you input will form a valuable part of the considerations taken to determine the prefeasibility requirements.

Contact Name: ________________________________________________________________

Organization: ________________________________________________________________

Type of Activity (circle one):

User (shipper, consumer) Regulator

Operator (road or vessel use) Study Sponsor

Date of Interview: _____________________________________________________________

Method (circle one): In person Telephone E-mail Other_________________________
End User Questions

Should Central Labrador Region have a laydown/marshalling area?  Yes ☐  No ☐

Would your organization/business use it?  Yes ☐  No ☐

What kind of services would like to see the laydown/marshalling area provide?

- Heated storage ☐
- Refrigerated storage ☐
- Indoor storage space ☐
- Outdoor storage space ☐
- Long term storage ☐
- Short term storage ☐
- Delivery of materials to your organization/business ☐

Other ______________________________________________________________
____________________________________________________________________
____________________________________________________________________

How much would your organization/business make use of the laydown/marshalling area?
____________________________________________________________________________
____________________________________________________________________________

Would it be seasonal or year round use?
____________________________________________________________________________

Would your organization/business participate in and contribute towards funding a community owned laydown/marshalling area?
____________________________________________________________________________
____________________________________________________________________________
Do you see this laydown/marshalling area as a community owned, privately owned or public sector owned business?

____________________________________________________________________________
____________________________________________________________________________

What percentage of goods that your organization/business transports and stores could make use of a laydown/marshalling area?

____________________________________________________________________________
____________________________________________________________________________

How are goods delivered to you now?

% by air cargo
% by boat
% by road

Does the transport of goods via the Trans Labrador highway have challenges for your organization/business?
Yes □ No □
Specify: ________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Does your business have goods transported to it via the Trans Labrador Highway from NL across the Strait of Belle Isle (Yes □ No □ ) or from Central Canada through Labrador West?
Yes □ No □

Do you think that a laydown/marshalling area would enable you to increase your business?
Yes □ No □
What is your fleet of aircrafts, trucks and boats transporting goods to the Central Labrador Region?

____________________________________________________________________________

____________________________________________________________________________

Have you seen a big change in transportation of goods since the opening of all phases of the Trans Labrador Highway? If so how?

____________________________________________________________________________

____________________________________________________________________________

How often do you transport goods into and out of the Central Labrador Region?

____________________________________________________________________________

____________________________________________________________________________

Please circle the routes you use:  500  510  520  515  Other__________________

What is the volume of goods you transport through the Central Labrador Region on an annual basis?

____________________________________________________________________________

____________________________________________________________________________

Are the goods transported based more on a seasonal need or year-round need?

____________________________________________________________________________

____________________________________________________________________________

Would your business better service the Central Labrador Region if there was a laydown/marshalling area?

____________________________________________________________________________

____________________________________________________________________________

Does the Trans Labrador Highway pose a weight and dimension restriction for your business?

____________________________________________________________________________

____________________________________________________________________________
What kind of goods are you transporting now that could make use of a laydown/marshalling area?
____________________________________________________________________________
____________________________________________________________________________

Does your business transport goods to and from Central Canada via the Trans Labrador Highway to Newfoundland?
____________________________________________________________________________
____________________________________________________________________________

If so, has there been an increased demand for this?
____________________________________________________________________________
____________________________________________________________________________

What are the pros and cons to the end user?
____________________________________________________________________________
____________________________________________________________________________

In your opinion, is there sufficient storage and trans-shipment capacity to support the movement and trans-shipment of commercial/industrial goods in the region?
____________________________________________________________________________
____________________________________________________________________________

Keeping in mind access to services, cost, proximity to the TLH, etc., what site would you recommend for a laydown/marshalling yard?
____________________________________________________________________________
____________________________________________________________________________

What volume of goods are you currently moving to and through the Central Labrador region annually?
____________________________________________________________________________
Could you estimate the change in volume that has occurred over the past 5 years?

____________________________________________________________________________

____________________________________________________________________________

What changes do you see over the next 5 years?

For a low growth scenario (near present levels)

____________________________________________________________________________

____________________________________________________________________________

For a moderate growth scenario (a large project coming on stream)

____________________________________________________________________________

____________________________________________________________________________

For a high growth scenario (two or more large projects coming on stream)

____________________________________________________________________________
Operator Questions

Identify sections of road that are of concern and could impede commercial trucking, and briefly describe how in the space provided:

500

____________________________________________________________________________

____________________________________________________________________________

520

____________________________________________________________________________

____________________________________________________________________________

510

____________________________________________________________________________

____________________________________________________________________________

515

____________________________________________________________________________

____________________________________________________________________________

Other

____________________________________________________________________________

____________________________________________________________________________

Are there seasonal issues – snowclearing, frost heave, etc.? – if so where?

____________________________________________________________________________
What is the size and capacity of your fleet? – number and size of trucks/trailers, cranes, floats.

____________________________________________________________________________
____________________________________________________________________________

What access do you have to a larger fleet?

____________________________________________________________________________
____________________________________________________________________________

What routes do you use, ranked by traffic levels (most used to least used, show approximate frequency of travel).

500

____________________________________________________________________________
____________________________________________________________________________

520

____________________________________________________________________________
____________________________________________________________________________

510

____________________________________________________________________________
____________________________________________________________________________

515

____________________________________________________________________________
____________________________________________________________________________

Other

____________________________________________________________________________
In your opinion, is there sufficient storage and trans-shipment capacity to support the movement and trans-shipment of commercial/industrial goods in the region?

____________________________________________________________________________

____________________________________________________________________________

Does your business involve storage or transshipment as a core function? Yes □ No □

If YES: -Is your business currently meeting the needs of your customers?

Do you have plans to expand to meet future demand? __________________________

____________________________________________________________________________

Is there need for a new laydown storage area in the region? _____________________

____________________________________________________________________________

What particular need(s) would it serve? __________________________

____________________________________________________________________________

Keeping in mind access to services, cost, proximity to the TLH, etc., what site would you recommend?

____________________________________________________________________________

____________________________________________________________________________

What volume of goods are you currently moving to and through the Central Labrador region annually?

____________________________________________________________________________

____________________________________________________________________________

Could you estimate the change in volume that has occurred over the past 5 years?

____________________________________________________________________________

____________________________________________________________________________
Could you estimate the annual volume of goods that you are currently carrying (or receiving)?
Has this changed over the past 2 – 3 years?

____________________________________________________________________________

____________________________________________________________________________

What changes do you see over the next 5 years?
For a low growth scenario (near present levels)
____________________________________________________________________________
____________________________________________________________________________

For a moderate growth scenario (a large project coming on stream)
____________________________________________________________________________
____________________________________________________________________________

For a high growth scenario (two or more large projects coming on stream)
____________________________________________________________________________
____________________________________________________________________________

Do you foresee the need for storage/laydown space in the region to meet your needs?
____________________________________________________________________________
____________________________________________________________________________

How much space would meet your needs?
____________________________________________________________________________
____________________________________________________________________________

In your view, what would be the best management structure for the laydown facility (public, private, a combination)?
____________________________________________________________________________
____________________________________________________________________________
Would you be interested in participating in management of such a facility?

____________________________________________________________________________

____________________________________________________________________________

Would you be willing to pay a service fee to access such a facility?

____________________________________________________________________________

____________________________________________________________________________

What is the capacity of the current Straits ferry to carry additional commercial/industrial freight?

____________________________________________________________________________

____________________________________________________________________________

Would you see the transport of commercial/industrial freight to and from Newfoundland on the TLH as feasible?  
Yes ☐  No ☐

If YES,  Would this occur seasonally or year round?  Comments:

____________________________________________________________________________

____________________________________________________________________________

If NO, why not?

____________________________________________________________________________

____________________________________________________________________________
Government/Regulator Questions

In your opinion, is there sufficient storage and trans-shipment capacity to support the movement and trans-shipment of commercial/industrial goods in the region?  Yes ☐  No ☐

Keeping in mind access to services, cost, proximity to the TLH, etc., what site would you recommend?
____________________________________________________________________________
____________________________________________________________________________

In thinking of the movement and storage of commercial/industrial goods on the TLH, are there any areas of concern in the region such as load-bearing capacity, bridges, grades or seasonal restrictions?
____________________________________________________________________________
____________________________________________________________________________

What volume of goods was previously shipped annually by marine carrier through the port of Happy Valley-Goose Bay?  If possible, provide a breakdown such as heavy equipment vs. bulk goods.
____________________________________________________________________________
____________________________________________________________________________

What are the limitations of the TLH in carrying increased volumes of commercial/industrial freight year-round?  (e.g., seasonal changes, load-bearing capacity)
____________________________________________________________________________
____________________________________________________________________________

What are the current limitations in moving commercial truck traffic through the town?
____________________________________________________________________________
____________________________________________________________________________

Has council considered any by-laws or other measures to manage commercial traffic?
____________________________________________________________________________
____________________________________________________________________________
Are there any plans to introduce by-laws or other measures to manage commercial traffic?

____________________________________________________________________________

____________________________________________________________________________

Does the town have a zoning plan for commercial operations such as laydown/marshalling area?

____________________________________________________________________________

____________________________________________________________________________

Would the town consider a community owned and operated laydown/marshalling area?

____________________________________________________________________________

____________________________________________________________________________

Is there a bi-law in place prohibiting a laydown/marshalling area within the town boundaries?

____________________________________________________________________________

____________________________________________________________________________

How does the town foresee handling the traffic of extra transport trucks on their municipal and residential roads?

____________________________________________________________________________

____________________________________________________________________________

Is there any land with sewage and electrical services available for purchase that could accommodate a laydown/marshalling area?

____________________________________________________________________________

____________________________________________________________________________
Sponsor Questions

In your view, what would be the best management structure for the laydown facility (public, private, a combination)?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

Would you be interested in participating in management of such a facility?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

Would your agency have any funding or support programs for future operation of such a facility?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________