



Alliford Bay (Gaats'iiGundaay) Terminal Development Plan

Approved September, 2018



PUBLISHING INFORMATION

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Abbreviations

HGM: Haida Gwaii Museum

BC Ferries Terminal Network

Alert Bay Cormorant Island

Alliford Bay (Gaats'iiGundaay) Haida Gwaii

Bear Cove Port Hardy

Bella Coola Bella Coola

Blubber Bay Texada Island

Brentwood Bay Saanich Peninsula

Buckley Bay Buckley Bay

Campbell River Campbell River

Chemainus Chemainus

Crofton Crofton

Denman West Denman Island

Departure Bay Nanaimo

Descanso Bay Gabriola Island

Duke Point Nanaimo

Earls Cove Sechelt

Fulford Harbour Salt Spring Island

Gravelly Bay Denman Island East

Heriot Bay Quadra Island

Horseshoe Bay West Vancouver

Klemtu Klemtu

Little River Comox

Langdale Sunshine Coast

Long Harbour Salt Spring Island

Lyll Harbour Saturna Island

McLoughlin Bay Bella Bella

Mill Bay Mill Bay

Nanaimo Harbour Nanaimo

Ocean Falls Ocean Falls

Otter Bay Pender Island

Penelakut Penelakut Island

Port McNeill Port McNeill

Preedy Harbour Thetis Island

Prince Rupert Prince Rupert

Quathiaski Cove Quadra Island

Saltery Bay Sunshine Coast

Shearwater Denny Island

Shingle Spit Hornby Island

Skidegate (GuuhlGa Lnagaay) Haida Gwaii

Snug Cove Bowen Island

Sointula Malcolm Island

Sturdies Bay Galiano Island

Swartz Bay North Saanich

Tsawwassen Lower Mainland

Vesuvius Bay Salt Spring Island

Village Bay Mayne Island

Whaletown Cortes Island

Westview Powell River



Figure 1: Southern Gulf Islands Terminal and Route Map



Figure 2: Terminal and Route Map



Figure 3: Alliford Bay (Gaats'ii Gundaay) Terminal Aerial Photograph

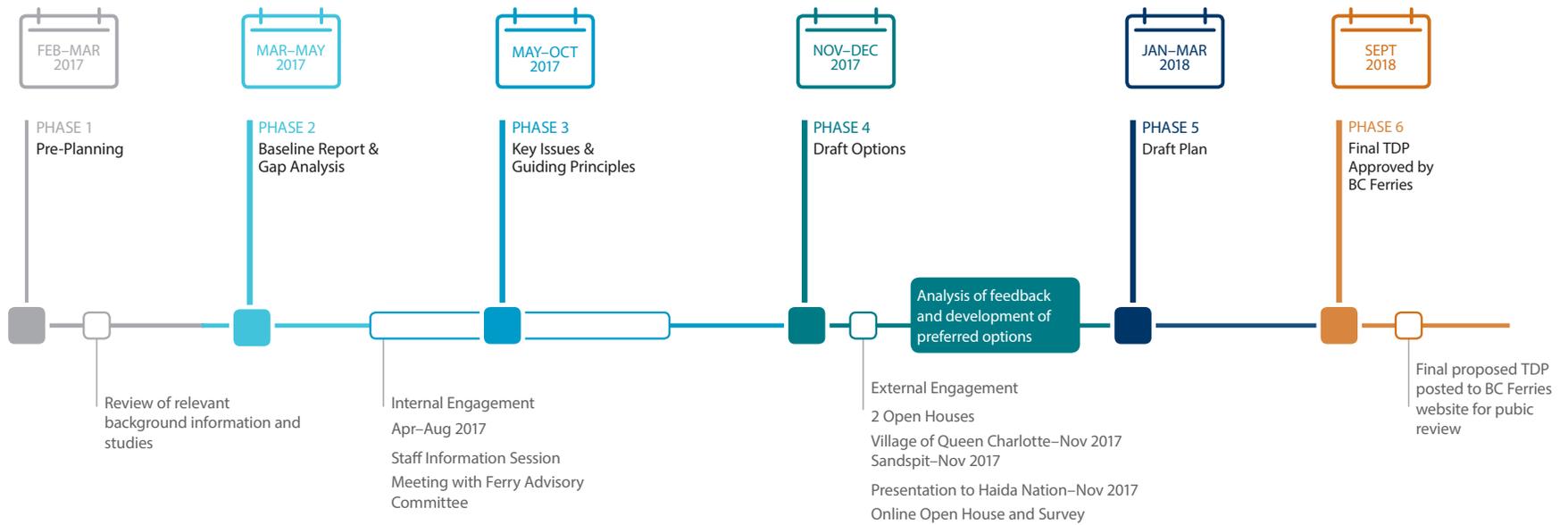


Figure 4: Alliford Bay (Gaats'iiGundaay) Terminal Development Plan (TDP) Timeline

1

Introduction

1.1 What is a Terminal Development Plan (TDP)?

A Terminal Development Plan (TDP) is a concept plan that provides the framework for the phased implementation of strategies and actions over the next 25 years that will enable BC Ferries to develop terminals in a cost effective, organized and efficient way.

TDPs shall specify:

- Terminal classification
- Berth classification(s)
- Description of existing facility
- Existing traffic demand and growth projections
- Terminal lands and property, including community and stakeholder engagement and archaeological assessments
- Existing terminal infrastructure
- Existing safety, security and operational issues
- Existing and future vessel deployment
- Functional requirements, as drawn from Terminal Design Requirements contained in the TNMP and established in consultation with local area teams
- Future terminal development plans, including the scope, schedule and budget of all improvements to be carried out over the next 25-years.

Over the next 25 years the Terminal Network will be optimized for efficient and effective operation. BC Ferries will study routes and their interactions to determine ways to reduce operating and capital costs and increase system reliability. Terminals will be examined for improvement to construction and operating efficiencies. Greater use of standard designs and components will aid these efficiencies over time.

1.2 Purpose of the Terminal Development Plan

The purpose of the Alliford Bay (Gaats'iiGundaay) TDP is to set out a long term vision for the future of this important terminal which acts as the main gateway and route connection between Alliford Bay (Gaats'iiGundaay) on Moresby Island and Skidegate Landing (GuuhlGa Lnagaay) on Graham Island.

The TDP is future oriented and depicts how the Alliford Bay (Gaats'iiGundaay) terminal is to be developed over an extended period of time through a series of initiatives.

1.3 Interpretation of the Plan

Unless otherwise specified within the TDP, the boundaries and locations of any symbols or areas shown on a Figure are approximate only and shall be interpreted as such. They are not intended to define exact locations except where they coincide with clearly recognizable physical features or fixed boundaries, such as property lines and utility rights-of-way.

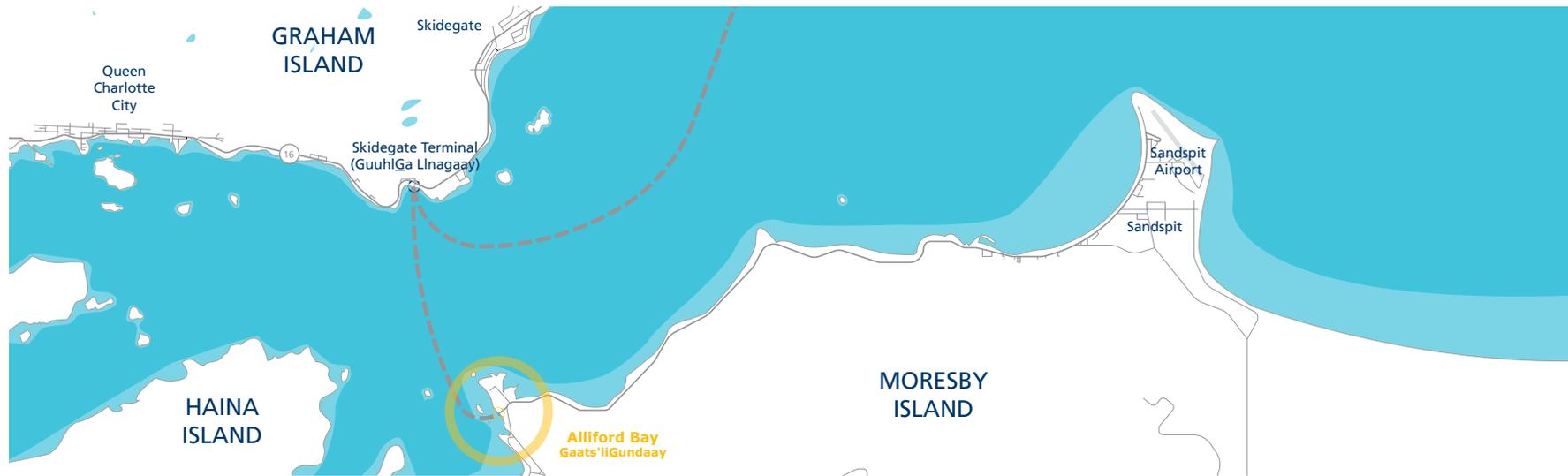


Figure 5: Alliford Bay (Gaats'iiGundaay) Location Map

1.4 Structure of the TDP

The scope of the Alliford Bay (Gaats'iiGundaay) TDP covers planning, conceptual design, and development of an implementation schedule and budget estimates for upgrading the terminal, with the requirement to:

- Review of the existing terminal operations, infrastructure conditions and customer service issues and interface;
- Establish future functional requirements at the terminal that are consistent with future plans for vessel procurement and deployment and overarching strategic master plans
- Review of foot passenger and vehicle traffic demand projections including demand management policies and opportunities
- Develop and find solutions to accommodate the functional requirements including evaluation of alternatives
- Recommend a preferred plan for the terminal that is in accordance with the overarching Terminal Network Master Plan
- Prepare conceptual designs for the recommended terminal plan including the general arrangement of the site
- Develop an estimate of capital cost, with project phases, schedule of work and cash flow
- Engage with various stakeholders and First Nations during the course of the study

The study represents a cooperative effort which involves a high degree of interaction with and input from a wide range of participants.

A comprehensive “baseline review” report has been completed as a separate report which details the existing situation in the TDP area as it currently stands, and identifies issues affecting the production of the TDP.

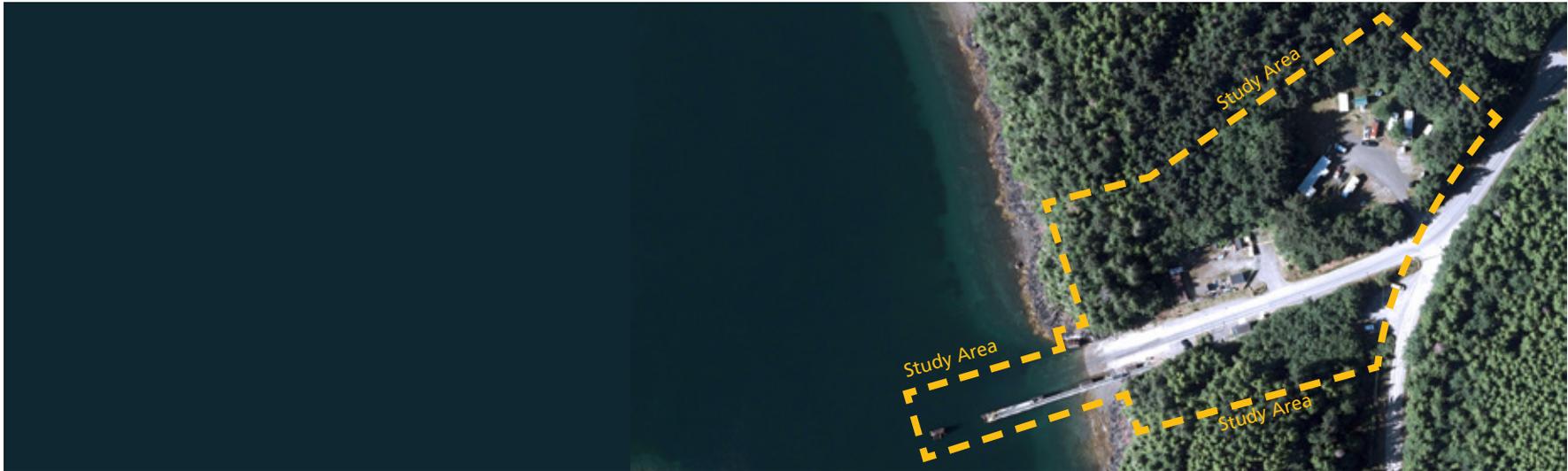


Figure 6: Alliford Bay (Gaats'iiGundaay) Study Area

1.5 Plan Area

The study area for the Terminal Development Plan encompasses the marine infrastructure, the landside infrastructure, and the approach to the terminal.

1.6 How the TDP relates to other BC Ferries Strategic Plans

To align with BC Ferries' future, long term vision and objectives the TDP is guided by three overarching documents: the Strategic Plan, Terminal Network Master Plan and Fleet Master Plan.

1.6.1 Strategic Plan

The 2018 Strategic Plan was prepared to guide the long-term direction of BC Ferries and achieve the organizations vision from 2016-2026. The Strategic Plan's vision is as follows:

Vision

Trusted, valued.

Mission

We connect communities and customers to the people and places important in their lives.

Our Values

- Safe: Safety is our highest value.
- Caring: We operate from a position of kindness and empathy for those who travel and work with us.
- Honest: We conduct business with integrity, honesty and accountability.
- Collaborative: We collaborate with others to enhance the customer experience.
- Respectful: Respect is paramount in our interactions with others.
- Sustainable: Our environmental, social and economic impact are central to business decisions.



Operational Excellence

We strive for a superior customer experience through safe, efficient, reliable and effective



Financial Sustainability

We make prudent choices for the long-term growth and sustainability of our organization, which enables fare affordability, value for customers and effective asset stewardship.



Employee Engagement

We foster growth, development and commitment in our people.



Environmental and Social Governance

We leverage our resources, services and relationships in recognition of our responsibility to our environment, customers, employees, stakeholders and communities.



Innovation and Continuous Improvement

We nurture continuous improvement and innovation across our organization.

Figure 7: Strategic Drivers

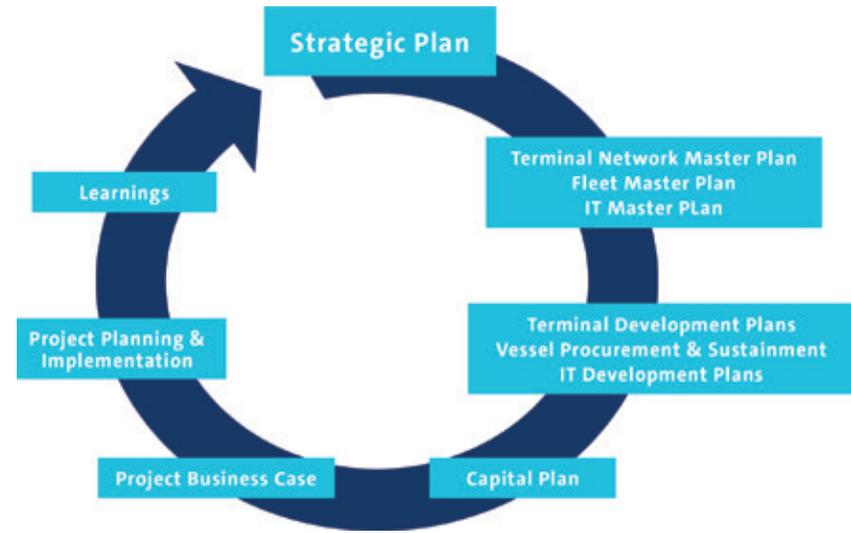


Figure 8: Relationship Between Strategic Plans and Terminal Development Plans

1.6.1.1 Strategic Drivers

The Strategic Plan outlines five strategic drivers that will inform strategic decision-making over the planning horizon. They are the critical success factors that must be in place to achieve our strategic goals that BC Ferries will pursue to achieve the vision:

1.6.2 Terminal Network and Master Plan

The Terminal Network Master Plan (TNMP) is a forward-looking planning and policy document. The TNMP aligns with the Corporate Strategic Plan and forecasts all the strategic and major tactical actions governing the development of the BC Ferries terminal network. A network refers to how routes interact singularly, in conjunction, or as a system of routes.

Each terminal shall have a Terminal Development Plan (TDP) which aligns with the TNMP. Terminal Engineering is responsible for the TDP and the TDP schedule.

The TDP is guided by the TNMP by aligning with its terminal classifications and design requirements. The Alliford Bay (Gaats'iiGundaay) terminal is classified in the TNMP as a Minor / Intermediate (MIM) - Unstaffed terminal. As a result, the design requirements of the Alliford Bay (Gaats'iiGundaay) terminal shall adhere to the design requirements of an MIM - Unstaffed terminal, and is further elaborated upon in this TDP.

1.6.3 Fleet Master Plan

The Fleet Master Plan (FMP) translates the broad direction from the Strategic Plan into specific strategies, policies and tactics that apply to the BC Ferries fleet. BC Ferries fleet will transition from a fleet of many unique vessels to a fleet of vessels that have high physical and operational commonality. The number of unique vessels in the fleet will be minimized. Common operational and maintenance procedures will be used as far as practicable. New vessel designs will emphasize safety, environmental stewardship, efficiency, standardization, class builds and customer experience.

The Fleet Master Plan identifies:

- When a vessel will retire
- When a ship will be replaced
- The class, model and characteristics of the replacement vessel
- The 25 year deployment of any vessel

The Fleet Master Plan identifies that the vessel serving the Alliford Bay (Gaats'iiGundaay) terminal, the Kwuna, is scheduled for retirement in 2027. The Kwuna is classified as a 'Unique Class' vessel and the Fleet Master Plan identifies that any replacement vessel for this route will also be a Unique Class, double ended Landing Craft type vessel.

Vessel Replacement Specifications		
Vessel Description		
Class	Unique Landing Craft	
Model		
Crew	Estimated Crew Size	TBD
	Live Aboard	No
Performance	Service Speed (kts)	TBD
	Automobile Equivalent	TBD
Capacity	Lane Metres	TBD
	Commercial Vehicle Height (max.)	4.75m
	Passenger and Crew	TBD
Characteristics	Voyage Classification	
	Double or Single Ended	Double-ended
	Berth Compatibility	Single Deck
	Car Deck Configuration	Open
	Passenger Boarding	Traffic Segregation
	Berth Interface Type (BIT)	Landing Craft
	Flexibility of Use on Alternative Routes	Will require modification to vessel ramps to operate on other Sheltered Waters or Near Coastal Class 2 routes with BC Ferries' standardized minor/intermediate berth configuration
Dangerous Goods Area Integrated	Yes	
Passenger Amenities and Services	Indoor Seating	TBD
	Outdoor Seating	TBD
	Interior Design Standards	Modified Fleet Interior Design Standard
	Passenger Lounge Location	Main Deck
	Passenger Services	Accessible heated Car Deck Lounges, Accessible washrooms, Pet area
Vessel Server Rooms	Should conform to standard BCF IT operating requirements, as per Fleet Master Plan	



Figure 9: Photo of the Kwuna

2 Context

The Alliford Bay (Gaats'iiGundaay) terminal is located on Haida Gwaii, BC, a diverse area unique with a mix of residential, commercial, industrial and parks areas. The terminal serves a community rich in Indigenous culture as well as a tourism industry focused on outdoor recreation.

2.1 Regional Context

Haida Gwaii is a collection of over 200 islands located off the north coast of British Columbia, 130km east of Prince Rupert, BC. The two main islands are Graham Island and Moresby Island. The population of approximately 4,500 is concentrated in Gaw Old Massett and Masset, Gamadis Port Clements, Tlaall, HIGaagilda Skidegate, Daajing Giids Village of Queen Charlotte, Kil Llnagaay Sandspit.



Figure 10: Haida Gwaii Regional Context



Figure 11: Ph JB.64.3.1 Haida Raven Rattle, circa 1890, Haida Gwaii Museum



Figure 12: Ph Nbl.775 Monumental poles at Haida Gwaii Museum, Haida Gwaii Museum



Figure 13: Nbl.416 Cedar Pole by Bill Reid, 1964, Haida Gwaii Museum



Figure 14: Nbl.599 Argillite pole by John Robson, circa 1900, Haida Gwaii Museum

2.2 Historical Context

Haida have occupied Haida Gwaii since before time. Their territory also encompasses parts of southern Alaska and surrounding waters. Their pre-contact population was in the tens of thousands and dispersed in dozens of villages throughout the territory.



Figure 15: Haida Heritage Centre at Kay Lnagaay

2.3 Present Context

Haida continue to occupy Haida Gwaii and are concentrated in two villages - Gaw Old Massett and HIGaagilda Skidegate. In addition, there are three municipalities (Gaw Masset, Gamadis Port Clements and Daajing Giids Queen Charlotte) and two electoral districts - Area E and D.

Alliford Bay (Gaats'iiGundaay) terminal is part of Electoral Area E and is approximately 8km from Kil Lnagaay Sandspit, the only community on Moresby Island. Services in Kil Lnagaay include an airport (with a visitor centre and car rentals), marina, grocery and liquor store, card lock fuel station and a post office.

The terminal at Alliford Bay (Gaats'iiGundaay) has no services but is important as it provides a direct link to communities on Graham Island. The Moresby Island community relies on essential services located at Daajing Giids Village of Queen Charlotte, as the village has a hospital and high school and government services in HIGaagilda Skidegate and Daajing Giids Village of Queen Charlotte. As a result, community members utilize the ferry route often as part of their daily lives.

3

Summary of Existing Terminal Conditions, Key Issues and Opportunities

3.1 Alliford Bay (Gaats'iiGundaay) Terminal Conditions

The Alliford Bay (Gaats'iiGundaay) terminal is an unstaffed terminal located on the north side of Moresby Island, Haida Gwaii and located on the traditional territory of Haida Nation.

Alliford Bay (Gaats'iiGundaay) Terminal Summary	
Location	Moresby Island
Municipality	Skeena Queen Charlotte Regional District Electoral District 'E'
Holding Capacity (AEQ)	18 AEQ (Queue on road within our property)
Max. Vehicle Weight (GVW)	58.5 tonnes, 7 axle max
Parking	4 AEQ (Staff only)
Waiting Room	Open shelter only
Washrooms	1 wheelchair accessible portable toilet
Dock	One concrete ramp (landing craft type)

3.2 Route Profile

The terminal serves Route 26 to Skidegate (GuuhlGa Llnagaay) terminal on Graham Island approximately 3.5 nautical miles northwards.

The terminal serves route 26 via the Kwuna, a Unique Class vessel built in 1975 and acts as the homeport and Point of Assembly (POA) for the vessel and its crew.

A total number of 2918 round trips per year are to be contractually delivered. In addition to this, two extra sailings have been introduced to this route for Tuesdays, Fridays and Saturdays effective June 1, 2017 on a two-year pilot basis.

The Kwuna has a voyage classification of sheltered waters and a docking cycle of four years. During Kwuna refit periods an alternate service provider is contracted to provide service with a tug and barge.



Figure 16: Alliford Bay (Gaats'iiGundaay) Aerial Photo



Kwuna Vessel

Core Service Levels

Hours of Service	07:15 to 18:10
Peak Season Service Frequency	8 Sailings per day (with additional sailings for dangerous goods and 2 extra sailings for Tues, Fri & Sat)
Off Peak Season Service Frequency	8 Sailings per day (with additional sailings for dangerous goods and 2 extra sailings for Tues, Fri & Sat)
Round Trips per Year	2918

Vessel Description

Class	K-Class "Unique" Classification Double Ended Landing Craft
Maximum Capacity	150
Passenger Capacity	146
Crew Size	4
Vehicle Capacity (AEQ / tonnes)	16 AEQ / 58 tonnes (departure conditions)
Onboard Services	Accessible Car Deck Lounge c/w washroom

Route and Service Description

Distance	3.5 nautical miles
Crossing Time	20 minutes

3.3 Key Issues and Opportunities

The TDP has been informed by community and BC Ferries staff feedback through engagement events that occurred between March and October 2017.

Based on the comments received during these engagement events and the analysis of the terminal site and surrounding context, a number of issues and opportunities emerged. Figure 17 illustrates the current issues associated with the existing conditions of the Alliford Bay (Gaats'iiGundaay) terminal. The key opportunities identified are as follows:

- Improve foot passenger / pedestrian safety and access throughout the terminal by formalizing walking routes and crossing areas
- Improve accessibility for pick-up / drop-off traffic to the foot passenger waiting area
- Provide a dedicated vehicle holding area to improve traffic flow, increase vehicle holding area capacity and reduce vehicular conflicts with thru traffic
- Improve customer amenities such as a closed waiting shelter with washroom
- Improve the terminal maintenance yard in the lower compound
- Enhance the customer experience with improved green space and local art that incorporates the cultural context of Haida Gwaii



Figure 17: Existing Site Plan



Figure 18: Existing Lower Compound (Maintenance Yard)



Figure 19: Existing Washroom Facilities



Figure 20: Existing Waiting Area



Figure 21: Staff Accommodations



Figure 22: Existing Loading Lanes

4 Alliford Bay (Gaats'iiGundaay) TDP and Terminal Network Master Plan Functional Requirements

4.1 Alliford Bay (Gaats'iiGundaay) TDP Functional Requirements

This section outlines the proposed terminal functional requirements and how these conform to the 2016 TNMP requirements for a Minor / Intermediate Unstaffed terminal. All future terminal developments at Alliford Bay (Gaats'iiGundaay) will conform to the Design Requirements outlined in Appendix B – Terminal Class Design Requirements of the TNMP.

In addition to the TNMP requirements, the TDP identifies Site Specific Requirements for the Alliford Bay (Gaats'iiGundaay) terminal. These requirements were identified through discussions with internal and external stakeholders and are due to the uniqueness of the terminal infrastructure and surrounding community needs.

The functional design requirements have been established in order to ensure compliance with the two overarching strategic plans.

The following sections identify the functional requirements for the Alliford Bay (Gaats'iiGundaay) terminal relating to the TNMP and Fleet Master Plan, and incorporate the Site Specific Requirements as either (A) Essential - required by the TNMP, or (B) Desirable - identified through the TDP process.

4.1.1 Safety and Security

Site Specific Requirements: None identified

Functional Requirements - Safety and Security				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Integration of Safety and Security Features	Required	<ul style="list-style-type: none"> CCTV at berth for night watch Security Access to storage compound and crew accommodation building 	<ul style="list-style-type: none"> Additional CCTV required for passenger waiting room Maintain security access to storage compound and crew accommodation building Card access control and smoke alarms tied into the Operations and Security Centre for new buildings and gates 	

4.1.2 Berths

Site Specific Requirements: The berth is to be compatible with the existing Kwuna vessel and a future landing craft vessel as per the Fleet Master Plan. This is essential to ensure safe, reliable and efficient operations of the terminal.

The current Fleet Master Plan identifies the Kwuna to be replaced with another unique landing craft vessel in 2027. There is an opportunity for the TNMP/FMP to allow for a Minor/Intermediate berth interface in the future.

Functional Requirements - Berths				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Number of Berths	1 Berth	1 Berth- Concrete Ramp	1 Berth- Utilize existing concrete ramp berth	
Berth Interface	Landing craft		To be compatible with the existing landing craft vessel as well as the future landing craft replacement vessel.	



Figure 23: Approach to Alliford Bay (Gaats'iiGundaay) Terminal

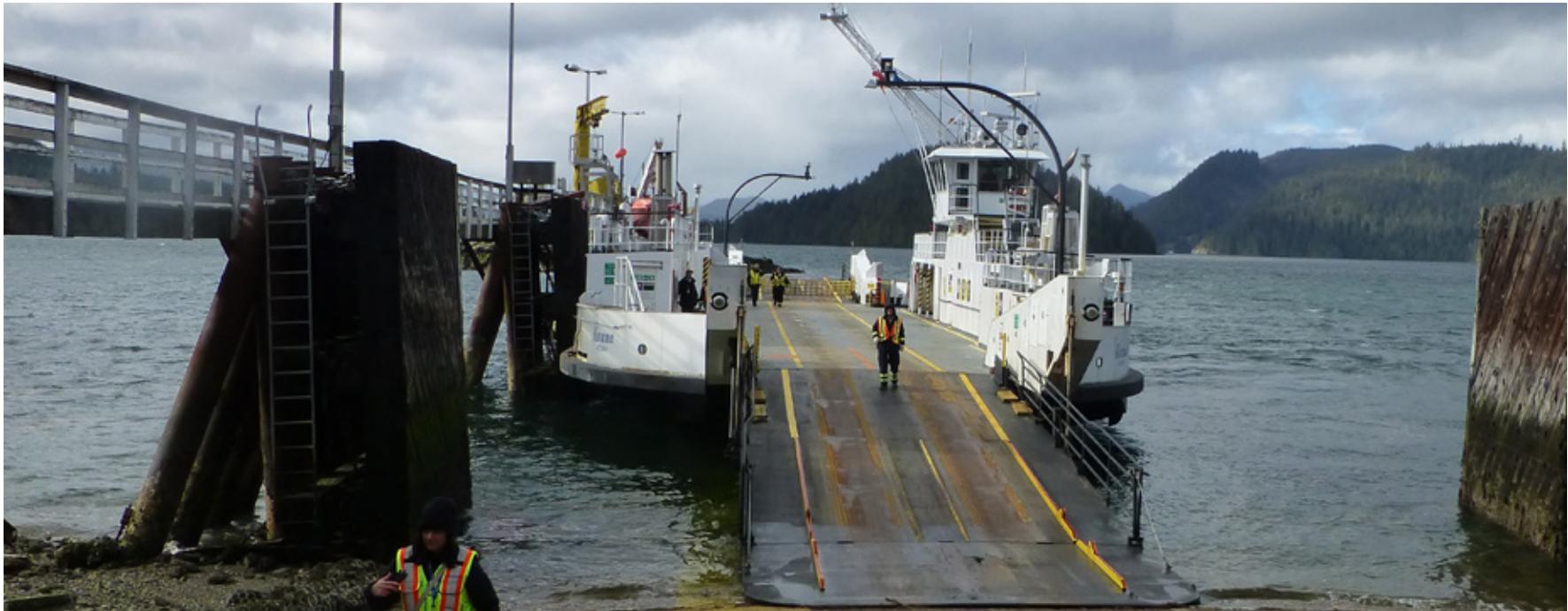


Figure 24: Existing Concrete Ramp with Vessel Berthed

4.1.3 Ticketing & Pre-Ticket Area

There are no ticketing functions required at the terminal as Alliford Bay (Gaats'iiGundaay) is an unstaffed MIM terminal.

Functional Requirements - Ticketing and Pre-Ticket Area				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Ticketing Function	None	None	None	
Self-Ticket Kiosks	None	None	None	
Turnstiles at Embarkation and Fee Paid Entry Zone	None	None	None	

4.1.4 Vehicle Holding Areas

Site Specific Requirements: Vehicle traffic arriving from the Sandspit Airport has been observed to exceed the AEQ requirement. Current line ups have also been observed to back up approximately 30m north of the terminal boundary (onto Alliford Bay Road). As a result, there is a need to provide a safe vehicle overflow area either within the compound or along Alliford Bay Road. Doing so would provide thru traffic into the terminal for pick-up / drop-off traffic, mitigating vehicular conflicts as a result.

A separate vehicle staging lane could help loading procedures. In an effort to save fuel costs, vehicles are loaded in a certain order depending on weight such that the vessel sails with an appropriate trim. Installing a separate staging lane could allow staff to load the vessel more efficiently, thus improving on-time performance. This is not a requirement for an unstaffed MIM terminal, but is a requirement for the other three terminal classes.

Functional Requirements - Vehicle Holding Areas				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Holding Capacity	16 AEQ (1x maximum vessel AEQ capacity for an MIM unstaffed terminal) Note: future vessel capacity not defined in the Fleet Master Plan (2016)	18 AEQ (effective capacity)	<ul style="list-style-type: none"> 16 AEQ capacity, complete with a paved single lane holding lane on the shoulder of Alliford Bay Road. Paved shoulder to be at least 30 metres long to improve safety & 2-way traffic flow on Alliford Bay Road 	Additional capacity above 16 AEQ within the terminal site
Lane Widths	Lane widths are to be the same. No delineation of commercial/priority and standard vehicles required	Only one holding lane present	N/A	Additional vehicle staging lane to improve vessel loading efficiencies



Figure 25: Opportunity to create new holding lane along road

4.1.5 Vehicle Loading & Unloading

Site Specific Requirements: Large commercial vehicles exiting the terminal have difficulties completing a right turn southbound towards the logging road. Vehicles currently have to utilize the opposing holding compound lane to successfully complete the turn. A wider turning area at the Alliford Bay Road intersection could improve this issue, increase safety and reduce vehicular conflicts.

Functional Requirements - Vehicle Loading and Unloading				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Control Tower	No	None	N/A	
Loading and Unloading	Main car deck - single lane	Single lane	<ul style="list-style-type: none"> • Single lane • Wider turning area for large vehicles at Alliford Bay intersection 	

4.1.6 Customer Amenities

Site Specific Requirements: Customer amenities were identified as part of the public engagement process.

Functional Requirements - Customer Amenities				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Foot and Vehicle				
Waiting Room/ Lounges and Washrooms	Yes	Foot passenger waiting shelter (open), c/w portable toilet	Enclosed, heated waiting room with washrooms	
Satellite Washroom Building	No	None	N/A	
Covered Outdoor Waiting Space, Seating and Picnic Tables	Yes	None	Covered space around building	
Customer Service Counter	No	None	N/A	
Retail Facility	Pad with services for 3 rd party kiosk	None	Pad with services for 3 rd party kiosk	
Public Notice Board	Yes	Yes - for posting ferry schedules	As per existing	
ATM	No	None	N/A	
Vending Machine	Yes	One vending machine in existing waiting shelter (not serviced often)	Yes - one vending machine in new waiting room	
Distress Phones	Yes	One pay phone in existing waiting shelter	Yes - one distress phone in new waiting room	
Water Fountains/ Bottle Filling Station	Yes if potable water exists	None	Yes - bottle filling station	
Vehicle Only				
Playground, Pet Areas	No	None	No	Grass pet area
Foot Passengers Only				
Baggage Service (drop-off, handling and transport to Vessel)	No	None	N/A	
Escalator, Elevator	No	None	N/A	
Enclosed Walkway to Berths After Ticketing	No	None	N/A	

4.1.6 Customer Amenities

Site Specific Requirements: Customer amenities were identified as part of the public engagement process cont.

Functional Requirements - Customer Amenities				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Pick-up/Drop-off Zone	Yes	Not formalized. Located adjacent the lower compound area	Yes - to be located near waiting room and to accommodate vehicle sizes up to a shuttle bus	
Parking	Yes	Not formalized. Located adjacent the lower compound area and adjacent south of the terminal entrance	Yes - 4-5 short term parking spots	
Bus Bays	Yes - Charter bus and shuttle	None	Yes - sized to accommodate a small charter bus and shuttle	



Figure 26: Example of an Outdoor Waiting Space, Pick-Up/Drop-off Lane and Retail Pad



Figure 27: Example of a Waiting Room



Figure 28: Example of an electronic reader board

4.1.7 Communications & IT Infrastructure

Site Specific Requirements: A reader board with updated sailing data would help inform customers of any schedule deviations.

Internet bandwidth is currently very limited at the Alliford Bay (Gaats'iiGundaay) site. It is likely that upgrades to the network will need to be provided by the service provider before Wi-Fi can be improved. It is recommended to discuss this with the service provider to understand feasibility and costs.

Functional Requirements - Communications & IT Infrastructure				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Wayfinding (static), reader boards	Yes	Some costumer signage. No wayfinding or reader board	Yes	Reader board w/ updated sailing data to inform customers and pick-up / drop-off traffic of schedule deviations. This is especially important in Haida Gwaii where there can be weather impacts to the schedule
Public Address System	No	None	N/A	
Electronic Toll Booth Signage	No	None	N/A	
Vehicle Classification System	No	None	N/A	
Standard BCF IT Systems & Capacities and Server Room	Yes	Yes	Yes	
Customer Wi-Fi	Yes	None	Yes - but requires upgrades by service provider	Coordinate with communications provider to upgrade internet network to support improved Wi-Fi capability

4.1.8 Administration & Employee Facilities

Site Specific Requirements: Although the Alliford Bay (Gaats'iiGundaay) terminal is considered an MIM unstaffed terminal, it remains as a home port for the Kwuna. A crew accommodation building, complete with administration office, meeting room and crew amenities was constructed in 2015 and will likely remain as a requirement for the terminal.

Functional Requirements - Administration & Employer Facilities				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Ticket Office	No	None	N/A	
Administration Offices, Meeting Rooms and Crew Mess	No	The existing crew accommodation building in the upper compound consists of administration space, meeting room and crew mess	Alliford Bay (Gaats'iiGundaay) is a home port for the Kwuna vessel crew. The existing crew accommodation building will remain, which currently contains administrative space	
Crew, Employee and Visitor Parking	Yes (except visitor parking)	4 staff parking spaces	4 staff parking spaces to be located in crew accommodations area	



Figure 29: Example of Bicycle Racks

4.1.9 Other Terminal Services

Site Specific Requirements: Engagement with internal and external stakeholders has helped inform the specific needs (space, sizing, etc.) of the above noted TNMP requirements.

Functional Requirements - Other Terminal Services				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Fleet Support Unit	No	None	N/A	
Warehouse/Cross Docking	No	None	N/A	
Storage for Terminal Ops, Terminal Maintenance and Fleet Ops	Yes	Yes - within lower compound	Yes as follows: <ul style="list-style-type: none"> Sufficient container space for a salt shed and tool / equipment storage Sufficient covered area space for wire/rope and steel rack/pallet storage. Roof to be high enough to support forklift access if needed Landing area for heavy equipment (RAD, environmental containment, etc.) 	
Drop Trailer - Holding Area, Vessel Staging Area and Office	No	None	N/A	
Simulator and Training Room	No	None	N/A	
Bicycle Access/Egress/Storage	Yes	Bicycle access is by road. No bicycle storage	<ul style="list-style-type: none"> Sufficient way-finding to safely convey cyclists on and off the vessel Bike rack area 	Sufficient storage / waiting space to accommodate seasonal bike tours

4.1.10 Utilities & Miscellaneous

Site Specific Requirements: Backup Power

Power outages on Moresby Island can occur in the winter season so a back up generator is desirable to maintain shore to ship power in the event of outages. Vessel staff noted that backup power would also need to service the water treatment equipment to ensure that the crew accommodation building and any future potable water facility still receives potable water.

Functional Requirements - Utilities and Miscellaneous				
Criteria	TNMP Requirement	Existing	TDP Essential Functional Requirement	TDP Desirable Functional Requirement
Compactors	Yes	No compactor at the terminal	A compactor may be well utilized in the future if the volume of garbage increases and if a local waste contractor could manage a compactor. Current volume of garbage is low at this time and doesn't support the need of a compactor	
Environmental & Containment for Hazardous Goods	Yes	Yes-located in lower compound	Yes as per existing	
Generators	One to power CCTV except where no night watch – vessel will power ramp	None - there is currently an unused generator on site in the lower compound	Yes - sufficient to maintain power at the water treatment shed and pumps to provide potable water during power outages	In addition to Essential Requirement: <ul style="list-style-type: none"> Sufficient to maintain overnight power of the vessel until the night watch person can access the terminal site. Sufficient to provide power to crew accommodation building
Potable Water Supply	Yes	Yes - supplied by a well located in a small pump shed in the lower compound. A reverse osmosis water treatment system exists for this well for potable water use	Yes as per existing	
Septic Field or Sewage Treatment System, or Conveyed to Sewer System where Possible	Yes	Yes - Septic field in upper compound, oversized to accommodate additional loading from a future customer washroom facility. Treatment type is currently not known	Yes as per existing, which already has sufficient capacity to accommodate additional demand from a future waiting shelter and washrooms	Upgrade the septic field to accommodate additional pump ashore demand from the vessel
Pump Ashore	Yes - where infrastructure exists	None - no infrastructure exists	None - the existing septic field does not have the capacity to accommodate sanitary sewage from the vessel. It may be beneficial to divert flows to the Skidegate (Guuh!Ga Lnagaay) terminal where future infrastructure could exist	Upgrade the septic field to accommodate additional demand from the vessel
Shore to Ship Power	Yes - at home ports only	Yes - but unreliable during power outages	Yes as per existing	Connect to backup power to provide shore to ship power during power outages
Ship to Shore Power	Yes	Yes	Yes as per existing	



Figure 30: Close-up Plan Showing Existing Septic Field



Figure 31: Opportunity to better layout lower compound maintenance/storage yard

4.2 Implications of the Fleet Master Plan

As indicated in the Fleet Master Plan, there are still some specifications that are unknown or to be determined in the future. These may have implications to the requirements as follows:

- Inadequate capacity of the terminal vehicle holding area if the future vessel's vehicle capacity exceeds the Kwuna
- Inadequate capacity of the foot passenger holding area if the future vessel's foot passenger capacity exceeds the Kwuna
- Inadequate staff parking if the future vessel requires more crew staff than the Kwuna

5

Plan Concepts

The plan concepts have been prepared after careful consideration of the issues identified in the supporting baseline report and have been influenced by comments received from the Staff Working Group as well as internal and external stakeholders. The plan concepts highlight key improvements that meet the functional requirements, support the goals of the Strategic Plans and ultimately meet the needs of all terminal users.

5.1 Concept Overview

The concept plan includes the following features:

- An optimal location for a foot passenger waiting room building, complete with washrooms and amenities
- New sidewalks for improved foot passenger / pedestrian safety and accessibility of all ages and abilities
- Optimal locations for operations staff amenities, including storage containers, covered storage / working areas and IT / electrical room
- Improved vehicle holding compound to reduce traffic backups and conflicts with thru traffic
- Dedicated thru lane for pick-up / drop-off traffic directly to the new foot passenger terminal building. Provisions for charter bus parking included
- Dedicated parking for customers and vessel staff
- Improved utilities to meet the needs of the terminal (backup power generator, potable water, sanitary sewer)
- Green / open space for an enhanced naturescape or art to incorporate the cultural context of Haida Gwaii

Figure 32 shows the illustrative 25 year concept plan for the Alliford Bay (Gaats'iiGundaay) terminal.

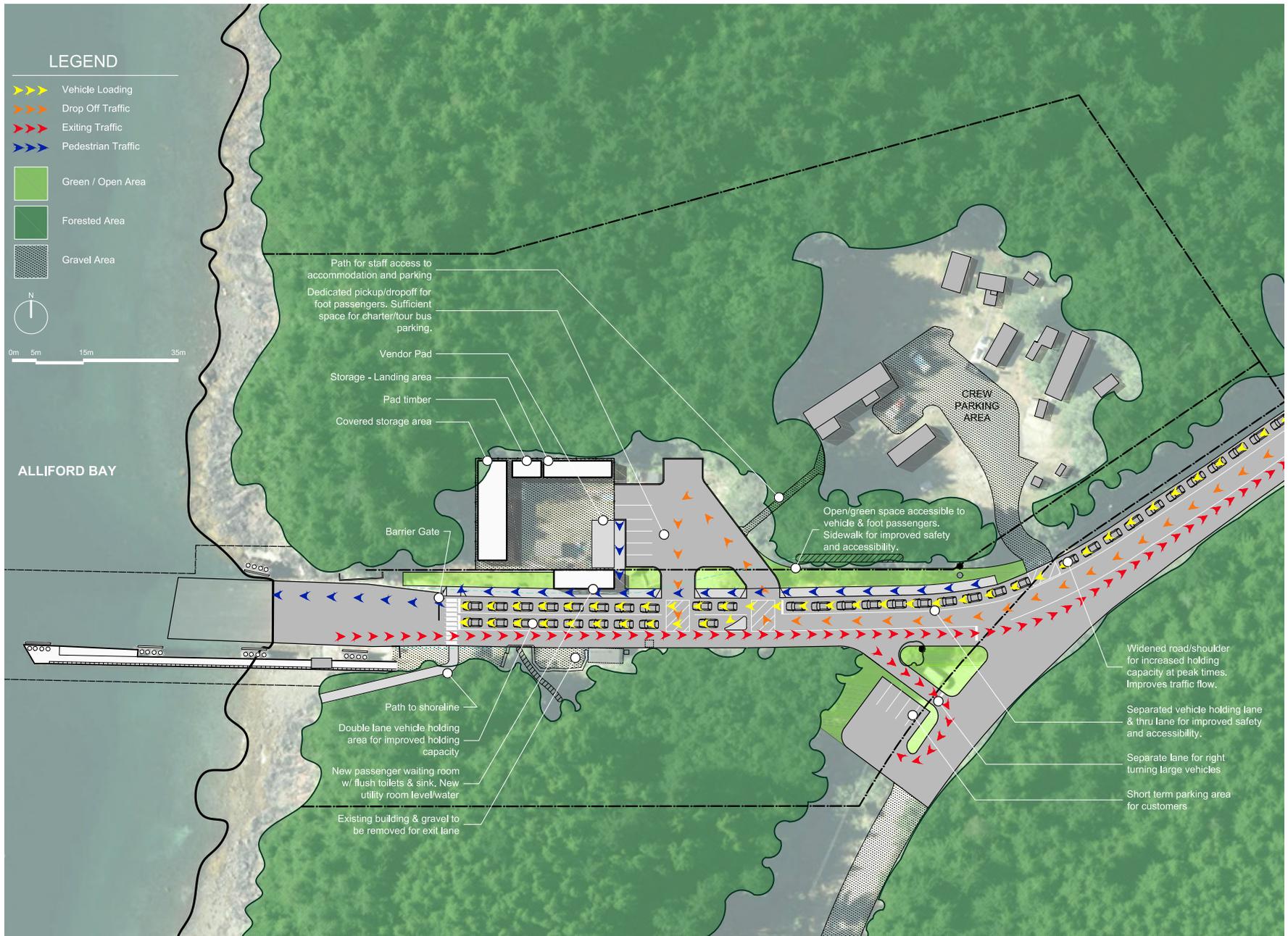


Figure 32: Illustrative 25 year concept plan identifying Big Moves key improvements



Figure 33: Conceptual Design of Waiting Room Building



Figure 34: Conceptual Design of Waiting Room Building

5.1.2 Illustrative Concept Plans

This schematic design serves as a conceptual basis for further design development during future phases of the project.

Effort is made to ensure that the building incorporates clear expressions of Haida culture. The low-sloped gable form of the building is reminiscent of the traditional “2 gable beam” Haida longhouse, and it follows the same conceptual strategy of wrapping a monumental heavy timber structure in layers or “planes” of cladding. Wooden slats found on local smokehouses are used to create privacy by screening the bathroom entrances. The form of the building has been augmented to include wide overhangs for protection from frequent heavy rains common on Haida Gwaii. The two dimensional artwork often found on traditional Haida housefronts is reinterpreted in the fritted glass design that encloses the building’s waiting room. As the project moves forward a local Haida artist from the community will be commissioned to create this artwork.

The terminal building’s design incorporates a waiting room, bathrooms, janitor’s closet and storage room. The number of exterior doors is reduced through the use of a small interior corridor at the entry which links all public and private (staffed) spaces. The north side of the building is embedded into the small adjacent hillside, while large overhanging eaves create sheltered outdoor waiting areas on the south and west sides that face the ramp.

5.1.3 Lower Compound Reconfiguration

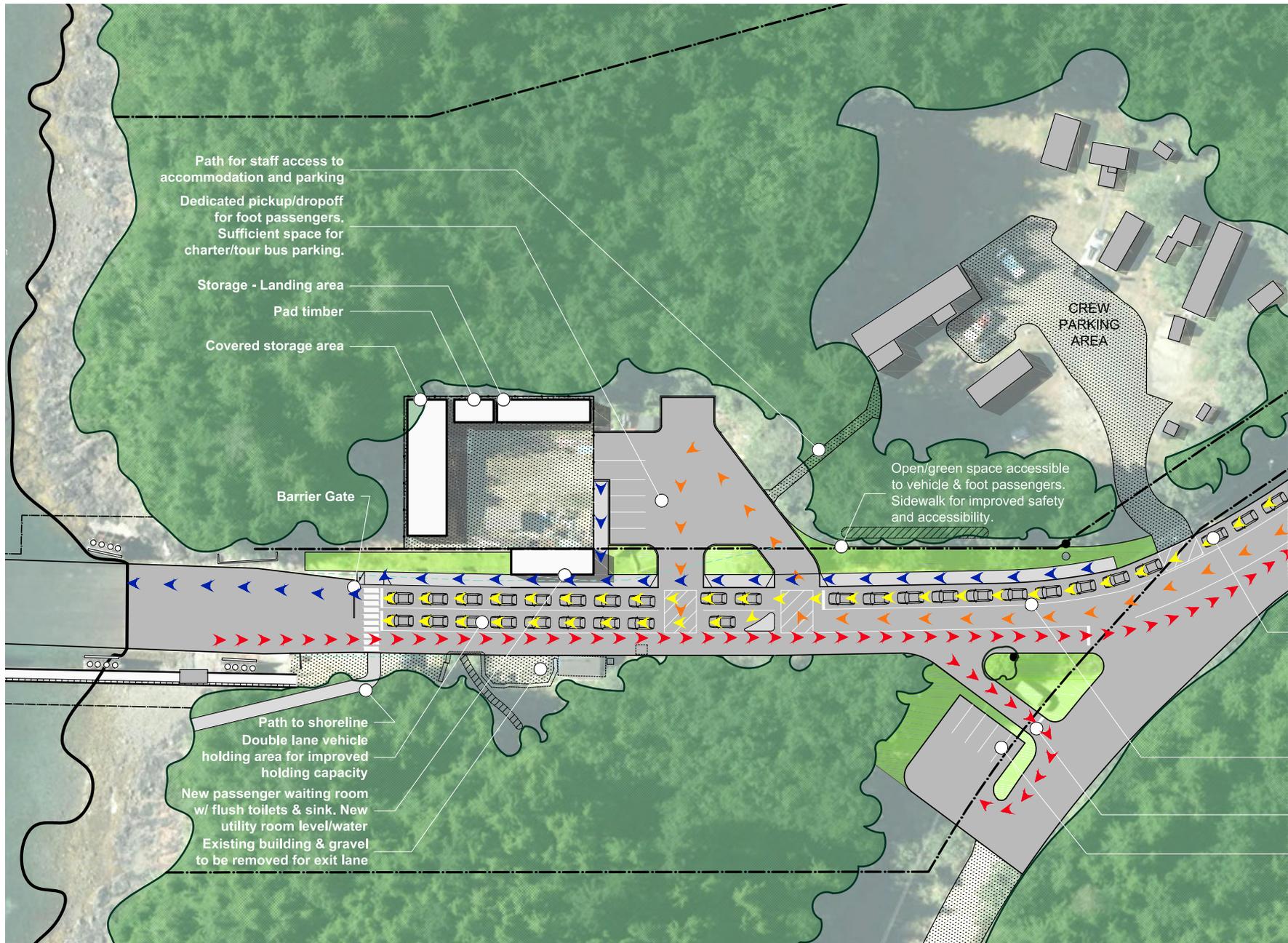


Figure 35: Lower Compound Reconfiguration

5.2 Utility Requirements

5.2.1 Electrical

It is desirable to upgrade to three phase power due to its improved reliability, safety and ability to support the electrical requirements of emergency backup power. After a cursory discussion with BC Hydro it was discovered that upgrading to a three phase electrical service would require a substantial amount of work, including:

- The replacement of approximately 60 poles, complete with cross arms;
- The installation of three phase lines over the distance of 60 poles;
- BC Hydro detailed design fees for the work.

In 2016, BC Hydro provided an order of magnitude estimate of approximately \$380,000 +/-25% to complete the work. As a result, this work will likely be considered a long term plan as part of the Kwuna ferry replacement. However, interim measures could be explored should emergency backup power be required before this time. This will be required if the future vessel is hybrid electric or fully electric in order to meet the charging requirements of the energy storage system.

5.2.2 Lighting and Security

Additional CCTV cameras will likely be required to monitor the expanded terminal area, including the new foot passenger waiting room building.

Additional lighting will likely be required to improve safety and accessibility of the expanded terminal area in low light situations. There are a number of incentive programs, both within BC Ferries and externally, to manage energy consumption more effectively and use the energy more efficiently. Such incentives currently include:

- Terminal lighting upgrade incentives from BC Hydro
- Assessing the feasibility of including the terminal into BC Ferries' Solar Panel Pilot Project
- Energy efficiency benchmarking – BC Ferries is registered for an Energy Start Portfolio Manager account. Portfolio manager is a free online tool developed by the US EPA and supported by Natural Resources Canada to benchmark commercial building energy performance. If feasible, the lighting infrastructure should be metered and recorded to the benchmarking site

6 Implementation

6.1 Investment and Implementation

In line with the vision outlined within this document, the Alliford Bay (Gaats'iiGundaay) TDP sets out a comprehensive programme of proposals and improvements that will transform the terminal over the next 25 years from 2018 to 2043. As a result, the TDP provides the long term plan to allow BC Ferries to provide safe, cost effective ferry services and replace and upgrade capital assets in a financially responsible manner.

6.2 Recommendations for Further Studies

Approval of this Plan is the first step in moving towards the objectives set out in this TDP. How these are implemented will be critical to the successful realisation of the TDP. A number of initiatives, studies, investments and other actions will be required as the Alliford Bay (Gaats'iiGundaay) terminal develops.

The following table outlines recommended studies to be conducted in order to confirm the detailed design requirements of the phased work identified in this TDP. The information from these studies will be beneficial in establishing more detailed scopes, schedules and budgets.

Recommended Further Studies and Actions

Item	Further Studies Required/ Recommended	Benefit of Study	Lead	Timing
General Terminal				
Engineering				
	Conduct Ground Survey	Topographical survey required to inform detailed design	TD	Short Term
	Conduct Geotechnical Study	Geotechnical investigations (landside & marine) are required to advise on ground requirements to install civil and structural infrastructure	TC	Short Term
	Update Level II Survey	Required every 5 years. Provides updated life expectancy of marine structures. Useful for reprioritization of improvements (i.e. urgency)	ES	Every 5 years
Environmental/Energy/Climate Change				
	Sea Level Rise	Recommended study to inform the design of marine structures.	TD TC	Short to Medium Term
Community Engagement				
	Continue / maintain consultation with Haida Nation to develop a public art and Haida Nation language signage program/strategy for the terminal	<p>This helps inform the AIA and keeps the Haida Nation informed on works at the Alliford Bay (Gaats'iiGundaay) terminal lands.</p> <p>This will also help BC Ferries in the design process by gaining knowledge of how to meaningfully incorporate the cultural context of the Indigenous Peoples at the terminal</p>	SCE	Short to Long Term
Properties				
	Enter into an agreement with MoTI regarding ROW use	Enter into an agreement with MoTI for additional ROW along Alliford Bay Road to allow expansion of vehicle capacity by accommodating an additional holding lane	Properties	Short Term
ES-Engineering Services		TC-Terminal Construction		TD-Terminal Development

Appendix 1: Comparison Table of TNMP with TDP

Comparison Table of 2016 TNMP with TDP							
CATEGORY	SUB CATEGORY	TNMP - Terminal Class Design Requirements Minor/Intermediate Unstaffed	ALLIFORD BAY (GAATS'iiGUNDAAY) EXISTING	ALLIFORD BAY (GAATS'iiGUNDAAY) PROPOSED	Compliance with TNMP to be achieved	Reason for non-compliance with TNMP	
SAFETY & SECURITY	Integration of Safety and Security Features	Yes	Yes	Yes	✓		
BERTHS	Number of berths and berth interface type	1 MIM - Landing Craft	Yes	Yes	✓		
VEHICLE HOLDING AREAS	AEQ Capacity	1 x maximum vessel AEQ capacity	Yes	Yes plus overflow	✓		
	Lane Widths	Same Widths	No	Same widths	✓		
VEHICLE LOADING AND UNLOADING	Loading and Unloading	Main Car Deck (MCD) single lane	MCD single lane	MCD single lane	✓		
CUSTOMER AMENITIES	Foot & Vehicle	Waiting Room/Lounges and Washrooms	Yes	No waiting room, one portable toilet	Yes	✓	
		Covered Outdoor Waiting Space, Seating and Picnic Tables	Yes	Yes - foot passenger waiting shelter (open)	Yes	✓	
		Retail Facility	Pad with Services for 3 rd party kiosk	No	Yes (no services)	✓	
		Public Notice Board	Yes	Yes	Yes	✓	
		Vending	Yes	Yes	Yes	✓	
		Distress Phones	Yes	Yes	Yes	✓	
		Water Fountains/Bottle Filling Station	Yes	No	Yes- bottle filling station	✓	
CUSTOMER AMENITIES	Foot Only	Pick-up / Drop-off Zone	Yes	No (not formalized)	Yes	✓	
		Parking	Yes	No (not formalized)	Yes	✓	
		Bus Bays (community, school, charter and shuttle), Taxis and Car Co-Op (leased space)	Yes there is an area for school buses	No	Yes	✓	

Comparison Table of 2016 TNMP with TDP

CATEGORY	SUB CATEGORY	TNMP - Terminal Class Design Requirements Minor/Intermediate Unstaffed	ALLIFORD BAY (GAATS'iiGUNDAAY) EXISTING	ALLIFORD BAY (GAATS'iiGUNDAAY) PROPOSED	Compliance with TNMP to be achieved	Reason for non-compliance with TNMP
COMMUNICATIONS & IT INFRASTRUCTURE	Wayfinding (static); reader boards	Yes	No	Yes	✓	
	Standard BCF IT systems & capacities and server room	Yes	No	Yes	✓	
	Customer Wi-Fi	Yes	No	Yes	✓	
ADMINISTRATION & EMPLOYEE FACILITIES	Crew/Employee and Visitor Parking	Yes (except visitor parking)	Yes (except visitor parking)	Yes (except visitor parking)	✓	
OTHER TERMINAL SERVICES	Storage for Terminal Ops, Terminal Maintenance and Fleet Ops	Yes	Yes	Yes	✓	
	Bicycle Access/Egress/Storage	Yes	No	Yes	✓	
UTILITIES & MISCELLANEOUS	Compactors	Yes	No	Yes	✓	
	Environmental and Containment for Hazardous Goods	Yes	Yes	Yes	✓	
	Generators	1 - to power CCTV (vessel will power ramp) except where no night watch		Yes - to power at least CCTV, well pump and water treatment, lighting	✗	Exceeds requirement due to water treatment, Accommodation servicing and shore to ship power needs
	Potable Water Supply	Yes	Yes	Yes	✓	
	Septic field or sewage treatment system. Convey to municipal where possible	Yes	Yes	Yes - to existing septic field	✓	
	Pump ashore	Yes - where infrastructure exists	No - no infrastructure exists	No - no infrastructure exists	✓	
	Shore to ship power- at home ports only	Yes	Yes - but unreliable	Yes	✓	
	Ship to shore power	Yes	Yes	Yes	✓	

Appendix 2: Glossary of Terms

Access: The accessibility to and within the site for vehicles, cycles and pedestrians in terms of the positioning and treatment of access and circulation routes and how these fit into the surrounding access network.

Automobile Equivalents (AEQ): Terminal vehicle capacity shall be described in Automobile Equivalents (AEQ) where 1 AEQ = 6.1m x 2.6m. A BCF unit of measure used to express a consistent 'as-loaded length' values across various vehicle types. A single AEQ equates to the average 'as-loaded length' of 6.1 meters of a single under-height vehicle.

BC Building Code: The BC Building Code applies to the construction of buildings; including extensions, substantial alterations, buildings undergoing a change for occupancy, "green" building specifications, and upgrading of buildings to remove an unacceptable hazard. It applies the core concepts of the National Building Code, combined with elements specific to BC's unique needs.

Berth: A place where a vessel is anchored when in dock.

Best Management Practices for Stormwater Management: A method by which adverse stormwater impacts from development or redevelopment, including but not limited to the release of pollutants into water, are controlled through the application of schedules of activities, prohibition of practices, maintenance procedures, structural protocols, and managerial practices.

Capital Budgeting: A method for evaluating investment proposals to determine whether they are financially sound, and for allocating limited capital resources to the most desirable proposals.

Climate Change: The term used to describe changes in long-term trends in the average climate conditions, such as changes in average temperatures. According to the United Nations Framework Convention on Climate Change (UNFCCC), climate change is a change in climate that is attributable directly or indirectly to human activity that alters atmospheric composition.

Community Engagement: Timely and meaningful citizen and stakeholder involvement in civic priority setting, decision-making, program development, and service delivery. The goal is to ensure that the decision-making is well-informed and offers citizens the chance to contribute their ideas and knowledge to policy development.

Concept Plans: Illustrative drawings that are a quick and simple way to explore initial ideas and design options. Concept plans are used as a guide to develop detailed design plans.

Development Permit: A document that includes approved site and building development plans illustrating land use, landscaping, built form, intensity of use, and appearance of the site and buildings, as well as

conditions of development approval.

Dock: A structure extending alongshore or out from the shore into a body of water to which boats may be moored.

Dolphin: A pile or cluster of piles to which a vessel may be moored in open water.

Fleet Master Plan: An overarching policy document directing the development of the fleet with a 25 year outlook. The Fleet Master Plan identifies (1) When a vessel will be replaced or retired, (2) the class, model and characteristics of the replacement vessel, (3) the 25 year deployment of any vessel and (4) the estimated forecast of the cost of the replacement vessel.

Functional Requirements: The design requirements for key components of the terminal. The functional requirements are based on the design requirements identified in Appendix B of the Terminal Network Master Plan.

Holding Capacity: The maximum capacity of vehicles that can be held at the terminal site for loading. Holding capacity is based on Automobile Equivalents (AEQ) set at 6.1m x 2.6m.

Land Use Zoning Bylaw: A bylaw of the municipality passed by Council as a Land Use Bylaw pursuant to the provisions of the Local Government Act, and intended to control and regulate the use and development of land and buildings within the municipality.

LEED™: Leadership in Energy and Environmental Design (LEED) is a set of rating systems for the design, construction, operation, and maintenance of green buildings, homes and neighborhoods. The LEED (Leadership in Energy and Environmental Design) green building rating system was originally developed by the US Green Building Council (USGBC) to provide a recognized standard for the construction industry to assess the environmental sustainability of building designs. Canadian Green Building Council (CaGBC) has since adapted the USGBC LEED rating system to the specific concerns and requirements of buildings in Canada. LEED is a point-based rating system; points are earned for building attributes considered environmentally beneficial. LEED differs from other rating systems in that it has quantified most of the "green credits." For example, 10% of the building materials must contain recycled content to achieve the recycled content credit. LEED has 110 points covering seven topic areas. Each topic area has a statement of associated goals.

Max Vehicle Weight: The maximum allowable vehicle weight allowed at the terminal site. Max vehicle weight is measured as gross vehicle weight (GVW), which is significant with commercial / industrial vehicles.

Minor / Intermediate Unstaffed Terminal: One of the four classes of terminals identified in the Terminal Network Master Plan.

Mission: We connect communities and customers to the people and places important in their lives.

Municipality: A governing body incorporated by the Province of British Columbia.

Natural environment: Self-sustaining areas with native vegetation, water, or natural features.

Off Peak Service: Outside of peak season when there is typically lower traffic volumes.

Official Community Plan (OCP): In British Columbia, the OCP is a comprehensive plan that can be developed by both municipalities and regional districts. The OCP provides the longer term vision for the community, organized by a statement of objectives and policies to guide decisions on planning and land use management.

Official Community Plan: An Official Community Plan (OCP) can be developed by both municipalities and regional districts. The OCP provides the longer term vision for the community. Under the Local Government Act section 875, an OCP is a statement of objectives and policies to guide decisions on planning and land use management, within the area covered by the plan, respecting the purposes of local government.

Overload: Any time that vehicles are left behind after a sailing which, in most instances, means that the vessel's AEQ capacity was exceeded.

Passenger Pick-up/Drop-off: Designated spaces, located in the vicinity of the terminal entrance, for taxis, buses or private automobiles to load or unload passengers who are coming from or needing to access the terminal. The spaces are usually enforced with limited parking duration.

Peak Season Service: Typically the busy season between June and September.

Point of Assembly (POA): The work location employees are assigned.

Policy: An official plan of action adopted by an individual or group, which for land use plans adopted by municipalities in British Columbia can be distinguished as either statutory plans (e.g. Official Community Plans, Local Area Plans) or non-statutory plans.

Potable Water: Treated water that is safe to drink or use for food preparation that must adhere to the Government of Canada's Guidelines for Canadian Drinking Water Quality. These guidelines are used by every jurisdiction in Canada and are the basis for establishing drinking water quality requirements for all Canadians.

Public art: Works of art in any media that has been planned and executed with the specific intention of being sited or staged in the physical public domain, usually outside and accessible to all.

Reader Board: A visual display board that can convey real-time information.

Real-Time Information: The provision of accurate information about the arrival of ferries at the terminal, through an electronic display located at the terminal.

Renewable Energy Source (eligible): The following renewable energy sources have been determined as being appropriate to incorporate within University Village, either on a site-by-site or community-wide basis for reducing energy consumption in new or retrofitted developments:

Biomass: any organic material not derived from fossil fuels, including agricultural crops, agricultural wastes and residues, waste pallets, crates, dunnage, manufacturing, and construction wood wastes, landscape and right-of-way tree trimmings, mill residues that result from milling lumber, rangeland maintenance residues, sludge derived from organic matter, and wood and wood waste from timbering operations.

Solar Photovoltaic: a technology that uses a semiconductor to convert sunlight directly into electricity.

Solar Thermal: use of concentrated sunlight to produce heat that powers an electric generator.

Wind: energy from wind converted into mechanical energy and then electricity

Sanitary Sewer: An underground system that carries sewage from bathrooms, sinks, and other plumbing components to a wastewater treatment facility.

Sea Level Rise: Sea level rise is an increase in the volume of water in the world's oceans.

Sense of Place: The subjective experience of a place as having physical and social attributes that make it distinctive and memorable.

Septic Field: A subsurface sanitary sewage disposal facility used to remove contaminants from the liquid that emerges after anaerobic digestion in a septic tank. The septic field typically contains a septic tank, drain field and piping and must adhere to the current version of British Columbia Ministry of Health – Health Protection Branch's Sewage System Standard Practice Manual (currently version 3).

Stakeholder: A person or organisation with an interest in or concern for a particular place; one who affects or is affected by the processes of urban change.

Stormwater Management: Surface or subsurface facilities used to manage surface runoff of rain water.

Strategic Plan: An overarching policy document that directs the Company to pursue a safe, reliable and efficient business operation by focusing on customers and motivates BC Ferries' employees.

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Terminal: A place on either side of a ferry route with facilities, both marine and landside, for the loading and unloading of ferries.

Terminal Development Plan (TDP): A concept plan that provides the framework for the phased implementation of strategies and actions over the next 25 years. The TDP provides a holistic approach to the development of the terminal, enabling BC Ferries to develop terminals in a cost effective, organized and efficient way.

Terminal Network Master Plan (TNMP): An overarching policy document that translates the broad direction of the Strategic Plan into specific strategies, policies and tactics. The TNMP forecasts all strategic and major tactical actions governing the development of BC Ferries' terminals.

Trim: In terms of ship stability, trim is defined as the difference in depth of the hull below the water between the bow and the stern of the vessel.

Utilities: Either (1) municipal and regional utilities such as water, storm drain and sanitary sewer or (2) "shallow" utilities such as gas, telephone and electric.

Vision: Trusted, valued.

Vision Statement: A statement about the future desired for a particular area or an organization. The vision statement in this TDP describes the future desired. It frames the goals for area and sets the basic direction for planning, policies and actions.

Wingwall: The two angled pads on either side of the shore ramps. The vessel pushes against them while in the dock.

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