

**Victoria**  
**INTERNATIONAL**  
**Marina**

**Victoria International Marina**  
**Traffic and Communication Plan**

Presented to:

**Transport Canada**

Presented by:

**Western Asset Management**  
&  
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# Victoria International Marina Traffic and Communication Plan

## 1 Introduction

- Project Description

Community Marine Concepts Ltd. and its owners Western Asset Management (WAM) Developments Ltd. and Robert Evans are developing a private marina just east of Lime Bay and west of Songhees Point on the north side of Victoria Harbour. The marina will cater to large yachts that are greater than 19.8 m (65 ft) in length and manned by professional crews. The marina will be the final phase of a \$100 million development that covers 16 acres of former industrial lands that was started by Mr. Robert (Bob) Evans in the 1980s.

The purpose of the Traffic and Communication Plan is to ensure that the planned marina does not pose a potential safety issue that could have an impact on vessel and seaplane activities in the harbour and at the marina.



Victoria Harbour

- Marina Overview

The following diagram illustrates the location of the Victoria International Marina within Victoria Harbour. The diagram shows the location of the marina in relation to the vessel traffic channel and seaplane landing areas as well as the seaplane taxiway near Pelly Island and the 71.6m, (235 ft) clearance to the marina property. The marina's east entrance area also shows the route for yachts entering and leaving the marina that avoids the designated seaplane landing and take-off areas.



## 2 Goals

The principal goal to be achieved with the Traffic and Communication Plan is improved safety. The Traffic and Communication Plan is intended as a document for the management and staff of the Victoria International Marina as well as the organizations who have various responsibilities for coordination and safety in the harbour. There are two main safety areas:

- Harbour Safety- Yacht customers of Victoria International Marina will be transiting Victoria Harbour to and from the marina. It is important that the marina's yacht customers are familiar with the traffic lanes to enter and leave the marina that ensures vessel safety in the harbour.

Victoria Harbour is a busy harbour and a geographically constrained harbour with narrow waters in the middle and inner harbour areas. There are large cruise ships that dock at the harbour entrance at Ogden Point. There are commercial vessels (including tug and barge operations) and seaplanes traffic using the main shipping channel as well as large ferry vessels such as the "MV Coho". There are several tour companies that have whale watching and other eco- tours that are based in the inner harbour. There are also many smaller private and recreational boats using the harbour coming to and from docks and marinas and also transiting to the Gorge waters. Their numbers swell when special events are staged such as yacht races or marine related festivals. There are also kayaks, racing skulls, "dragon" boats and row boats that use the harbour for training and for race events. Finally there is a fleet of small passenger ferries that ply the harbour waters picking up and dropping off passengers at several locations within the harbour. In addition to heavy traffic within the harbour, there can be tidal variations, currents, winds and other weather phenomenon that can affect navigation.

- Marina Safety- The safety standards of the Victoria International Marina will be an integral part of the overall safety of the harbour. The marina will have its own protocols and policies to enhance safety at the marina. This is to ensure that yacht owners/operators and their guests are aware of the safety regulations at the marina as well as in the harbour. The marina's management and staff will be fully trained and practice marine safety at all times. The marina has been designed to the highest safety standards and its facilities and equipment reflect this as well as the training of its employees.

### 3 Vessel Traffic Management Scheme

#### Port of Victoria Traffic Scheme (PVTs)

The Port of Victoria has initiated a vessel traffic scheme to separate traffic within the harbour. The main vessel traffic channel is restricted to vessels over 19.8 (65 ft) in length and for seaplanes taking off and landing. Other powered vessels use the restricted channel on the south side of the harbour. The north side of the harbour is limited to non-powered vessels. There are also restricted areas for use of seaplanes while taxiing and holding.

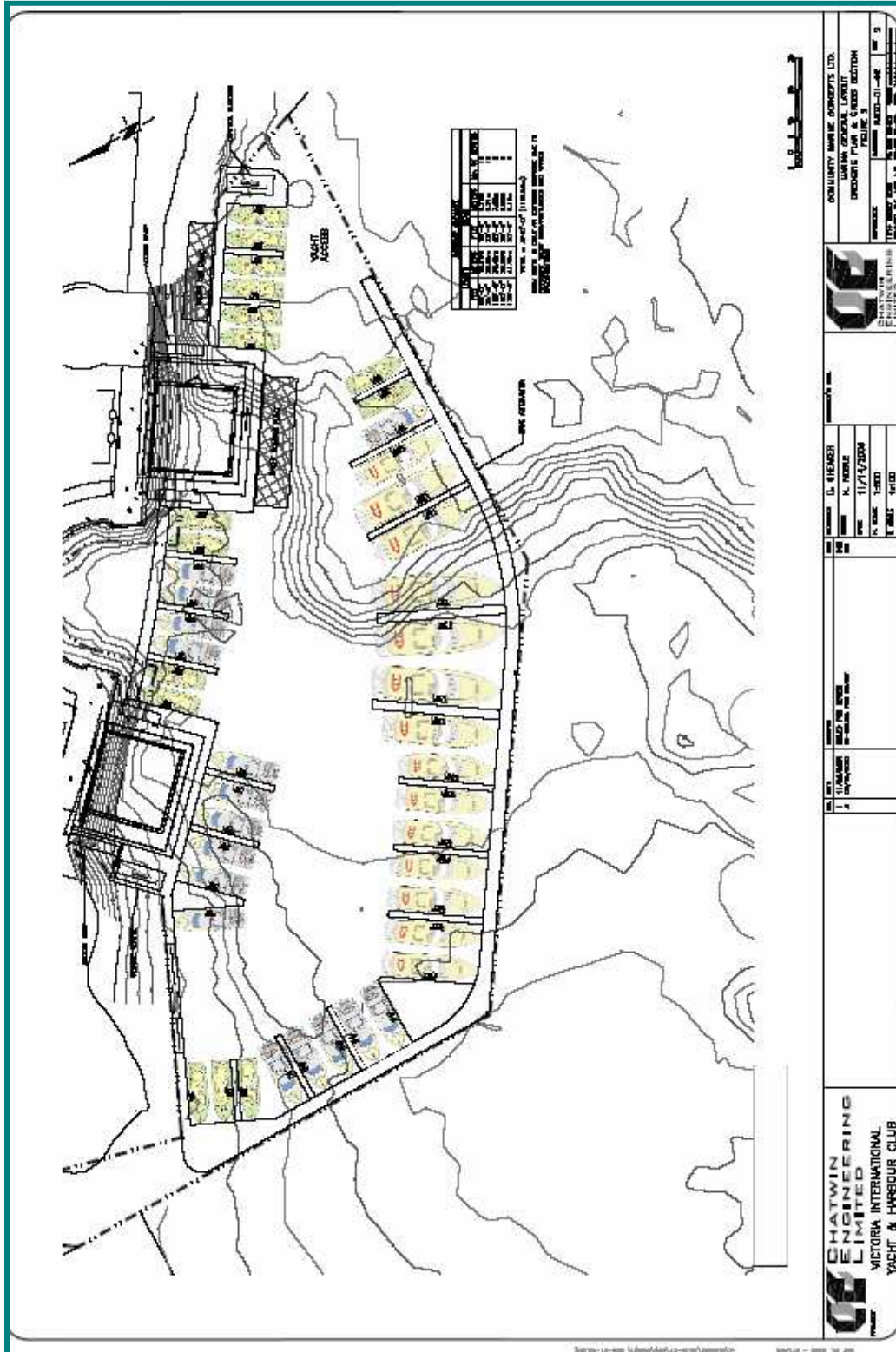
#### Port of Victoria Vessel Traffic Scheme



Site of Marina



# 4 Marina Plans

Marina Plan



 <b>CHATWIN ENGINEERING LIMITED</b> VICTORIA INTERNATIONAL YACHT & HARBOUR CLUB		 <b>COMMUNITY MARINE CONCEPTS LTD.</b> URBAN GENERAL LAYOUT PROJECT: VICTORIA INTERNATIONAL YACHT & HARBOUR CLUB DRAWING: MARINA PLAN DATE: 11/11/2008 SCALE: 1:500 SHEET NO: 1 OF 3	
PROJECT NO: 11/000000 DRAWN BY: [Name] CHECKED BY: [Name]	DESIGNER: D. HENDER CLIENT: N. NEALE DATE: 11/11/2008 SCALE: 1:500 SHEET NO: 1 OF 3	PROJECT NO: 11/000000 DRAWN BY: [Name] CHECKED BY: [Name]	DESIGNER: D. HENDER CLIENT: N. NEALE DATE: 11/11/2008 SCALE: 1:500 SHEET NO: 1 OF 3

## 4.1 Concrete Floats

The dock design will use structural steel and concrete material rather than wood or other materials. The main concrete floating docks are 4 m (12 ft) wide and the fingers to the individual berths are 2.6 m (8 ft) wide. Concrete has several advantages over wood:

**Fewer Pilings** – Structural concrete maintains geometric shape; utilizing long structural concrete float sections, which will not bend, allows more accurate loading of the pilings and thus reduces the number of pilings required to hold the marina shape.

**Torsion Stability** – Rigid structural concrete floats cannot twist or torque in shape. Therefore, fingers remain level without transverse roll or washing-out, a common problem with wood systems; and

**Cleats and Bull-rails** – Cleats, and when required, bull-rails, are bolted through 15.2 m (6”) of reinforced concrete for unyielding holding power that does not weaken over time and provide increased dock surface security.

**Pile Rings** – The preferred pile ring design for strength, simplicity, and dependability is through the concrete float. When this method is not an option, external pile rings are fastened to the floats with embedded bolts engineered for the load requirements.

**Connectors** – A patented connector between the concrete floats utilizes a rubber block and steel bolt arrangement in each and every float.

The benefits of these connectors are as follows:

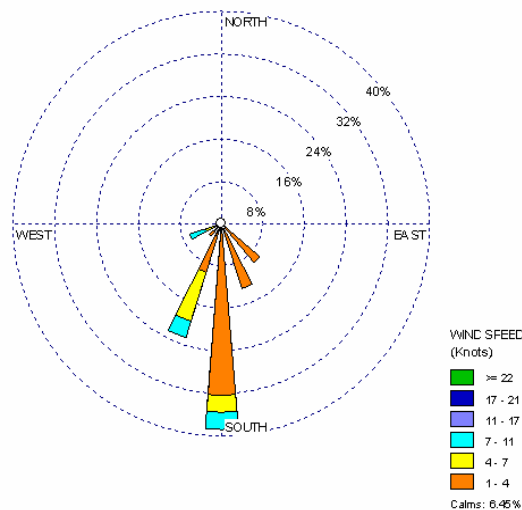
- The patented connector has superior rough water and wind capabilities;
- Silent, even in the roughest conditions;
- Free movement of floats without contact between concrete, steel, and rubber;
- Horizontal, vertical, and shear movements between floats are absorbed by the connector's rubber blocks;
- Forces pulling apart are restrained by the connector's steel bolts;
- Non-wearing, durable, virtually no maintenance; and
- Simple and requires minimal assembly time.

ADA Compliant – Each float-to-float connection is filled with a polyurethane electrometric sealant that eliminates any gap greater than 1.27 cm (1/2”) or deeper than 63 cm (1/4”).

(Americans with Disabilities Act (ADA) Standards for Accessibly Design)

- Winds- Winds at the harbour entrance are generally from the southwest and in the spring and from the south in the summer with speeds ranging from 6-15kts. In the winter the winds are from the north and northwest, with speeds averaging 10-20kts and can reach 35-40kts during storms.

The winds often result in waves up to 4m (13.1ft) at the Harbour entrance. These effects are mitigated on the east shore by the Ogden Point breakwater but the Songhees shore remains exposed to some wind and wave action from the south. Wind and wave action in the northwest vicinity of Colville Island of the proposed marine also may be affected by strong south winds. The following diagram shows the average wind velocities in July are principally from the south.



**July Wind Speeds and Direction**

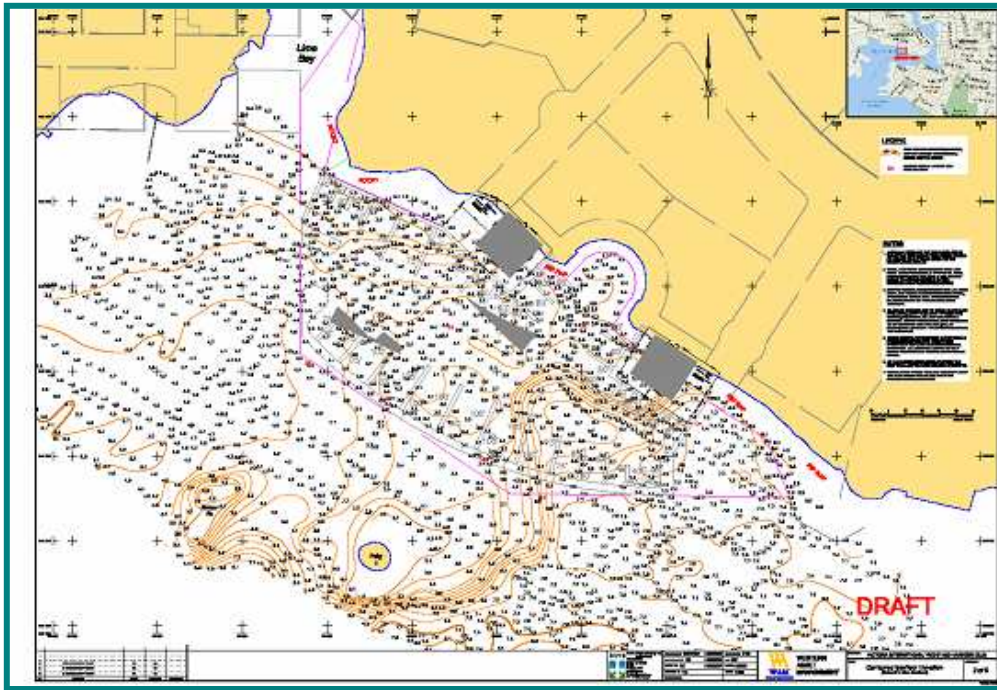
- Tides and Currents- According to the Tidal Tables for Victoria Harbour (Tides, Currents and Water Levels); the tide elevations variation averages about 2.4 m (8 ft). The maximum tides in 2006 were both 3.1 m (10.3 ft) on January 1<sup>st</sup> and January 28<sup>th</sup>. The lowest tide occurred on July 11<sup>th</sup> with -.25 (-0.1ft) recorded.

Marine Chart 3412 shows the currents at the Victoria Harbour headline of 1.0kts from the southwest. At Alpha seaplane runway the east-west current is 0.5kts and current speed is the same for Bravo seaplane runway, but in a north-south direction. The current under the Johnson Street Bridge is also 0.5kts (north-south). The Canadian Flight Supplement notes tidal current as 2.0kts.

- Environment- Studies by the Province and Victoria International Marina indicate that the marina will not degrade the marine environment. In fact the clean-up of debris and wood waste on the harbour floor to develop the marina is expected to provide new sub tidal marine habitat. The removal of soft wood waste and mud overlying firm and compact sediment will recreate new useable habitat for larger marine organisms.
- Marina Berths- The marina will have berths for up to 46 yachts ranging between 19.8 m (65 ft) to 41.1 m (135 ft) in length.
- Marine Entrance- The entrance to the marina will be on the east side marina. This entrance will minimize potential traffic conflicts, require less dredging and be closer to Canada Customs than a possible west entrance. The entrance into the marina will be marked with navigational markers and “No Anchorage” signs.
- Marine Water Depth – The minimum low water depth will be 4m (12 ft) throughout the marina. Based on side sonar scans of the marina area it is expected that minimal dredging will be required to achieve this depth. Most of the dredged sediments have been identified as been suitable for upland disposal (Commercial and Industrial).

The water depths within the marina boundaries varies from 8.8m (28.9ft), south of the marina building on the east side to 3.3m (10.8ft) near the main entrance to the marina on the west side of the complex.

The water depths in the area of the marina are shown in the figure below. The water depths on this chart are geodesic (mean sea level measurement). The source of the figure is Terra Remote Sensing Inc. Marine Geophysical and Bathymetric Survey completed for a Marina Development at Songhees, Victoria Harbour, BC, June 2, 2006



**Water Depths in Vicinity of the Marina**

- Kayak and non-powered vessels access through marina - The marina will allow kayaks and other non-powered boats access through via a bridge opening allowing for a 2 m (6.5 ft) height clearance. It is recognized that non-powered boats now use this part of the harbour to transit. The marina design incorporates a bridge walkway on the north-west end of the marina to allow non-powered boats through the marina as well as the east entrance to the marina. The bridge will not accommodate taller 'dragon' boats or larger racing skulls that will have to go around on the outside of the marina. As noted these non-powered boats will be alerted by visual signals controlled by the Traffic Control Station that yachts are maneuvering within the marina. Community Marine Concepts has met with the various rowing and paddle boat clubs and associations to discuss the marina plans and to obtain input.
- Wave Attenuation- designed to reduce wave action - A concrete wave attenuation system will be used. The wave attenuation will use concrete construction similar to the dock construction and will be fitted with damper panels underneath the structure. The width of the wave attenuator will vary depending on the expected strength of the wind and current generated waves. It is expected that south west edge of the marina will require the most protection from wave action and the concrete wave attenuation structure will be at it's widest at these various locations. The wave attenuator acts as a dampener for wave refraction to assist both docked yachts in the marina and non-powered boats using the outside route around the marina.

- Access Ramps-street level to dock level- tidal change

The access ramps to the docks will take into consideration the tidal effect on the dock area with the ramp incline needed for low tide conditions. An electric-driven elevator will be available to allow dock access for handicapped persons.

- Dock Equipment (golf carts, baggage trolleys)

Mobile dock equipment will include golf carts, service and baggage trolleys to transport marina yacht owner/operators, guests, their luggage and provisions to and from the yachts. The golf carts will only be operated on the main concrete docks and not the berth fingers. Dock staff and marina personnel will be the only ones to operate this mobile dock equipment for safety and security reasons. The dock staff will collect trash on a daily schedule from several on-site recycling locations.

- Marina Lighting-overall lighting

The marina lighting will be designed to provide low level flood lighting for the dock surfaces as well as for security purposes. Lights on the dock fingers will be solar powered. Lights that could interfere with marine navigation will be minimized to avoid any lighting confusion. Security lighting will focus on gate access and be in association with security camera illumination.

- Marina Security

The marina security will include controlled access gates with electronically controlled locks. Access to is via the concierge office during normal office or the control station at other times. There will be CCTV security cameras strategically located around the marina premises including infrared cameras for enhanced night vision. Night lighting will be provided that enhances safety and security, particularly near gate access points.

## **4.2 Concierge Office**

The concierge office will function similarly to a hotel concierge looking after yacht crews and guest needs. Some of the marina staff duties will include:

- Coordination and Information

The concierge office will act as overall coordinators of all the marina's activities and to provide information to yacht crews and guests including local accommodation, transportation arrangements, and referrals for services such as refueling, vessel repairs as well as for suggestions on local shopping, attractions and restaurants. The concierge office will use special marina developed software. Liaison will be maintained with the marina control station.

- **Berth Reservations and Confirmation**

The concierge office will be responsible for berth reservations for vessels in the marina. Yacht owners/operators upon contacting the marina via email/fax and radio with their vessel size and arrival and departure dates will be assigned a tentative berth. Upon receipt of an arrival and departing information and vessel size, the concierge office will confirm the berth reservations as well as provide VTMS information, traffic routing to and from the marina and Canada Customs information, if required. The concierge office will also offer to assist in providing accommodation and other services that may be required. The information will be entered into a computer software program designed for marinas and the reservation and other service needs will be updated as required. The computer program will have graphic information on all the berths in the marina and notification of arrival and departure times.

- **Radio Communications/VTMS Maps/Canada Customs**

Owners/operators of customer yachts, upon confirmation of their berth reservations, will be provided information on marine radio communications to use in Victoria Harbour (Channel 11), VTMS map and Canada Customs contact and requirements. The owners/operators will also be provided information on the marina's Traffic Control Station responsibilities, traffic routing to and from the marina and the marina's radio channel.

- **Captain's Business Centre**

A Captain's Business Centre will be maintained by the concierge office that will offer internet, weather, phone/fax and other facilities for visiting yacht Captains. This will allow Captains to maintain contact with the vessel owners and yacht management companies and others.

- **Yacht Provisioning and Catering**

The Concierge office will offer provisioning and catering and other special needs for yacht owner/operators as required. It is estimated that most of the catering and provisioning will be provided by local Victoria suppliers.

### **4.3 Yacht Traffic Control Station**

A Traffic Control Station will be established near the eastern end of the marina near the entrance. The Traffic Control Station will be elevated and enclosed in glass to provide a clear view of all the berths within the marina as well as Victoria Harbour. The Traffic Control Station will be responsible for the marina operations and the monitoring of yacht traffic to and from the marina.

- **Monitoring Yacht Traffic**

The Traffic Control Station will monitor visually and by radio all vessel and seaplane movements in Victoria Harbour when yacht traffic is expected to enter or leave the marina. The Traffic Control station will be provided regular updates of expected arrival and departure times. For yachts wishing to enter the marina, initial radio contact will be established in the Strait of Juan de Fuca prior to the harbour entrance. The radio communication will confirm the expected arrival time as well as the yacht does have a routing map to and from the marina as well as other marine radio communications. The Traffic Control Station will provide information on weather, expected vessel/seaplane traffic and any special instructions. If traffic congestion is being experienced in the Inner Harbour, the yacht will be advised to delay its arrival. Radio and visual contact will be maintained until the vessel is docked. For yachts leaving the marina, the vessel will contact the Traffic Control Station for weather and traffic advisory information. The Traffic Control Station will confirm the yacht's departure routing information. If there is congested traffic in the harbour e.g. arrival/departure of "MV Coho" the yacht will be advised to wait at the berth. Radio and visual communication will be maintained until the vessel leaves Victoria Harbour. Yachts entering or leaving the marina will be confirmed to travel along a designated and navigationally marked route.

- **Yacht Log**

The Traffic Control Station will maintain a marina log that records the yacht name as well as its arrival and expected departure time. This information will be noted electronically in the marina computer software program.

- **Radio Communications**

The Traffic Control Station will have access to all marine radio communication channels as well as the air communications used by Transport Canada's Flight Service Station (FSS) located on the south side of the harbour for monitoring air traffic to and from the water runway areas. The Traffic Control Station will only monitor air communications to advise yachts of air traffic in the vicinity of the harbour. The Traffic Control Station, as noted, will also have its own radio communication channel for two-way communications between yacht owners/operators and the Traffic Control Station.

The Traffic Control Station will also have telephone communications with the concierge office as well as other harbour related organizations. The Traffic Control Station will accommodate the policy and safety manuals for the marina.

- Berth Assignment

While the concierge office will assign berths, the Traffic Control Station, however, due to operational concerns such as wind and wave conditions, will have the final authority to relocate a yacht to another berth.

70 foot berths :	16
80 foot berths :	16
100 foot berths:	8
120 foot berths :	3
135 foot berths :	<u>3</u>
Total:	46

- Temporary Holding Berth

There will be a double, temporary berth located just inside the marina entrance on the north side for short term yacht accommodation when required. The temporary berth will be able to accommodate two 19.8 m (65 ft) yachts or one 41.1 m (135 ft) yacht

- Berth Signal Light Control

A signal light is located at the entrance to each berth and located about one meter (3 ft) high at the berth finger end for ready visibility in all directions. The flashing signal light is operated from the Traffic Control Station and only when vessels are maneuvering in and out of a berth. The signal is intended to notify users of the marina including kayakers and non-powered paddle vessels that a yacht is maneuvering within the marina.

- Visual Signs

There will be visual signs to indicate to yachts the location of east entrance to the marina. There will also be signs noting that vessels are restricted to (19.8 m (65 ft) or greater to use the marina as well as signs that indicate that the marina is private property. There will also be a buoy near the entrance to the marina that has a sign that prohibits anchoring of yachts in this area of the harbour.

- Marker Buoys

There will be a series of marker buoys placed at the northeastern end of the seaplane landing area to delineate the runway boundary for yachts arriving and departing the marina. This will ensure that yachts enter and leave the shipping channel at the correct location without cutting across the shipping channel.

- Utility Service Centre

A utility service centre building will be located below the west building area. This building will accommodate the utility service controls. This includes the electric power interface with the City of Victoria as well as the electric power meter controls. A standby generator will

also be installed. A constant vacuum sanitary system will be used that collects waste from the individual berths. From the vacuum system, sewerage is constantly pumped to the City of Victoria's system that is now in place at the marina site.

Concrete floats have built-in utility services to eliminate dock clutter with pipes and wiring.



**Concrete Dock with Built-in Utilities**

Utilities - Designed into, not added onto, the floats.

Utilities, including transformer float extensions, electrical and mechanical chase ways, junction boxes, power pedestals, fire systems, domestic water, and sewage are all engineered into the float design to minimize installation cost and maintenance and improved service protection.

- Electric Power Pedestals with single and three phase 240/480 volt 200 amp at each berth
  - Cable TV outlet
  - Telephone jacks
  - Vacuum pump-out at each berth
  - Wireless Internet connection
  - Potable water connection
- 
- Safety Equipment (safety hooks, buoys, tender boat)
    - Concrete floats have built-in safety ladders that are cast into the side of each float for egress from the water.
    - Safety hooks and emergency life ring buoys stored on the docks
    - Tender boat moored at the control station

- Fire Protection

The marina will have a fire protection system that covers the dock area and buildings. The fire protection system will be directly connected to the City of Victoria's main fire hydrant at street level.



**Fire Hydrant**

- Standard Operating Procedure (SOPs)- standard daily procedures for the marina

Victoria International Marina will develop a manual that will outline the standard operating procedures (SOPs). The manual will be the responsibility of the Marina Manager to develop and maintain.

Noise

- No vessel generators to be used when yachts are berthed.
- No excessive engine use while yacht is at berth
- No excessive guest noise after 11PM

Yacht Maneuverings in marina

- Under supervision of Traffic Control Station
- Radio and visual communications with Traffic Control Station

#### Marina Cleanliness

- Garbage pick-up
  - Docks to have no clutter
  - Lines coiled
  - Emergency equipment gear stored properly
  - Spill Prevention Kits
  - Emergency Spill Booms (at readily deployable locations)
  - Each berth will have storage lockers for storing yacht gear
- Emergency Plans
- An emergency response manual will be developed. The manual will provide instructions to handle emergency responses such as persons in the water, life saving, fires alert on yachts and at the marina, accidental oil spills and clean-up. The manual will have an up to date list of contacts to advise of the emergency. The Emergency Response manual is the responsibility of the Marina Manager to develop and maintain.

#### **4.4 Yacht Club Management Team and Designated Spokesperson**

- Marina Manager- The Marina Manager will have international experience in operating a marina for large yachts and be responsible for all marina activities.
- Concierge Personnel- Concierge personnel will have hotel concierge experience as well as good communications and computer skills.
- Traffic Control Station Personnel –The Traffic Control Station will have personnel who are experienced in marina operations and in particular supervising large yacht maneuvering in confined space experience. They will have life saving and fire prevention training. The Traffic Control Station Personnel will also be responsible for administering and testing of safety equipment and the marina’s utilities.
- Dock Staff- Dock Staff will be available to assist owners/operators in tying and untying the yachts in the berths as well as to carry luggage and supplies to and from the yachts. Dock Staff will be trained on life saving and other emergency contingencies.
- Hours of Operation (Shifts) - The marina will be open 24 hours, 7 days a week throughout the year. Traffic Control Station Personnel and Dock Staff will work three shifts and the Concierge Personnel two shifts a day. Employee shifts will be scheduled with computer software.
- Training (SOPs and Emergency) - Marina operating personnel will be fully trained in the marina’s standard operating procedures (SOPs) and marina policies. They will also be trained in emergency situations including live saving, fire fighting oil spill clean-up and other emergency situations. They will also be training drills conducted similar to training sessions at sea. Computer software will be used to schedule training and to monitor training for each staff member.

## 4.5 *Mega Yacht Market Profile*

- Identify and Profile Users of Plan

There are over 7,000 yachts in the international market that are over 24.3 m (80 ft) in length. This is double the number of large yachts a decade ago. There were 900 yachts built in 2007 over 24.3 m (80 ft), this is 125 more vessels than the 775 recorded in 2006.

A 61 m (200 foot) mega yacht can cost over \$100 million to build and outfit and those in the 30 m (100 ft) to 45.7 m (150 ft) range are as high as \$65 million.

Some 40-50% of mega yachts are chartered to third parties. Owners may have more than one yacht in different locations (e.g. Mediterranean, Caribbean, and Pacific Coast) for guests and owner may not necessarily be on board. A 30 m (100 ft) yacht has a value of about \$20 million and 10% a year spend on supplies etc (\$2.0 million).

There are numerous mega yachts that are domiciled on the west coast. Larry Ellison owner of Oracle Corp. has the largest yacht which is named "Rising Sun". This is 452 foot yacht with four, 12,000 hp diesel engines. Paul Allan of Microsoft owns Octopus a 414 foot yacht. This vessel has eight-2,400 hp engines. He also owns the 302 foot Tatoosh with has two-3960 hp engines.

Dennis Washington, owner of Vancouver Shipyards and other enterprises, owns the 302 foot Attessa III as well as the 225 foot Attessa II and these vessels are frequently in Victoria Harbour. The 240 foot Laurel, based in Seattle, with twin 2,500 diesels is another visitor to Victoria. The Ice Bear (formerly Royal Pacific) is a 173 foot yacht now owned by Walter Scott of Seattle. Jim Pattison Industries owns the 150 foot Nova Springs and this yacht has been in Victoria Harbour. Peter Thomas's 115 foot, Thomas Spirit is now based in the Victoria area.

The following are some of the mega yachts that have been in Victoria Harbour in the recent past:

Atlas- 110 ft	Sally D- 102 ft
Hotei- 115 ft	Westport- 112 ft
White Star- 112 ft	Centinella III- 112 ft
Passion for Excellence- 112 ft	Safari Escape- 112 ft
Scopio- 115 ft	Black Tie- 114 ft
Reward- 110 ft	Alexa C2- 114 ft
La Marchess- 100 ft	Victorious- 110 ft
King Fish- 107 ft	Flipper- 104 ft
Miss Michelle- 102 ft	Embark- 114 ft
Onika- 110 ft	Luna Sea- 110 ft



**Thomas Spirit- 115 feet A Frequent Visitor to Victoria Harbour**

#### World Summary of Large Mega Yachts

Over 500 ft. -	2
400-500 ft -	7
300-400 ft. -	14
200-300 ft. -	81

- Expected Customer Demand

Victoria International Marina's yacht customers are truly international from around the globe. Many of the yacht owners will fly their guests in from around the world to meet their yacht wherever it is cruising.

The majority of the berths at the marina will be sold or permanently leased to Victoria area residents or to those that will have the marina as their home base for their yacht. These marina berth owners may elect to have their berths in a rental pool when the berths are not in use by the owner. Victoria International Marina will administer the berth rental pool. Based on experience at other marinas about half of the berth owners will elect to have their berths in a rental pool.

Many of the yacht owners in the winter months will have their yachts transported by large marine carriers to southern ports in the United States, Mexico and the Caribbean. Some will even winter in the Mediterranean returning to Victoria in the summer

It is expected that about 5% the yacht traffic will be sailing yachts. Due to their deeper keel they will be berthed closer to the marina entrance. The tallest mast is expected to be 150 feet high and when berthed in the marina the yacht mast will not interfere with aeronautical zoning requirements for seaplanes. The remainder of the marina traffic will be diesel-powered yachts. Yachts usually depart in the morning hours and arrive in the afternoon or early evening and it is expected that about 90% of the yachts arriving and departing will be in daylight hours.

The projection is for about 1,560 yacht movements a year (arriving and departing) and an average of 4 yachts a day. During the peak summer months some 8 yachts a day can be expected. The table below shows the expected yacht movements by month.

- Expected Yacht Movements by Month

Month	Movements	Month	Movements	Month	Movements
January	62	May	124	Sept	210
February	56	June	210	Oct	93
March	62	July	248	November	60
April	93	August	248	December	93
				<b>Total</b>	1,559

#### 4.6 *Yacht and Yacht Equipment*

Yachts that use the marina facilities will vary in size and equipment onboard. Generally the yachts will have the following specifications:

- International Marine Organization (IMO) Classification
- Twin Diesel Engines of about 1,000 SHP
- Bow and Stern Thrusters for control. Normally have hydraulic or electric thrusters installed
- Hydraulic Stabilizers
- Auto Pilot
- Rudder Position
- Mega yacht turning radius ( axis 2/3 from stern) Can turn within it own length
- Full Navigation Systems including GPS and Electronic charts/plotters, depth sounders, colour radar, gyro compass, wind speed
- Complete Communications including: SSB and VHF radio, Fax and Satellite Based Communications
- IMO Satellite Monitoring for Over 350 tons or 80 feet in length
- Loud Hailer
- Air Horn
- Spot Lights
- Tenders on board

## **4.7 Professional Yacht Crews**

The majority of the customer yachts due to their size and complexity will be manned by professional crews who have the appropriate experience and qualifications for the yacht.

- Normal two crew members for every guest (most mega yachts have accommodation for 10 guests)
- Captain, First Mate, Engineer, Deck Hands, Stewards/stewardesses, Chefs
- Experience professional crews: experience based on sea time and vessel tonnage (720 days underway of which 360 days is in coastal or ocean waters. Must have 360 days as a Master or Mate while holding licence. Vessel tonnage size for at least 3 years
- IMO Approved Licenses and Certification
- Certification and Licences- Royal Yacht Association (RYA) and Maritime & Coast guard Agency (MCA) up to 200 tons
- Most yacht insurance companies require crew to have MCA or equivalent IMO approved yacht master certificates and STCW95 courses.
- Training- Standards of Training, Certification and Watchkeeping 1995 version (STCW 95)
- Victoria International Marina will participate in the joint recruiting and training of local Victoria persons to international yacht crew standards. (There was a qualified crew shortage of about 7,000 persons in 2006). It is likely that the combined initiative will use the training facilities of Camosun College in Victoria, the international ocean training network and Victoria International Marina to develop the training program.

## **5 Key Communication Message**

The key message that the Victoria International Yacht & Harbour Club will convey to its yacht customers is the vessel traffic system that is in place within Victoria Harbour and that yacht owners/operators will be notified of these regulations.

- Develop Communication Messages

The following are the key communication aspects to convey to owners/operators using the marina:

- Yacht Routing within Harbour
- Weather (Ogden Point AWOS)
- Marina Entrance-east end
- Berth Availability-reservation system
- Canadian Customs- location, hours, documentation

- Marine Radio Frequencies
- Refueling Locations (offsite)
- Vessel Repairs Locations (offsite)
  
- Selection of Communication Channels
  - Marine Radio
  - Air Radio/FSS
  - Notice to Mariners
  - Publications/Pamphlets
  - The Triton-Yacht crew newspaper that is available electronically and published monthly

## **6 Policies and Procedures**

- Marina Safety Policies

Victoria International Marina will have its own marina safety policies developed by the Marina Manager.

- Contingency Procedures

Victoria International Marina will have a manual covering contingency procedures for the marina, including emergency procedures. The procedures will be developed by the Marina Manager in consultation with Victoria Harbour authorities.

### **6.1 Establish Liaisons and Partnerships**

The Communication Plan will establish continuing liaison and partnerships with the following organizations and agencies that have various responsibilities within Victoria Harbour:

- Transport Canada
- Harbour Master
- Canada Customs

Victoria International Marina will on a regular basis provide reports on marina activities, facilities and equipment changes that are relevant to the harbour and marina safety.

The Victoria International Marina will join the International SeaKeeper Society based in Monaco. There are now 45 SeaKeeper stations around the world that monitor sea conditions. The SeaKeeper 1000™ program is endorsed by the United Nations and the World Meteorological Organization (WMO). [Scripps Institution of Oceanography](#) has a SeaKeeper system installed as part of their ocean monitoring program and is using it as a basis for a proposed large-scale Coastal Monitoring Project. The National Oceanic and Atmospheric Administration (NOAA) and National Weather Service are part of the program as well. Victoria International Marina will install the SeaKeeper monitoring equipment at the marina.

Members of the SeaKeepers Society recognize the ocean's critical importance to the life of the planet and are deeply committed to finding real-world solutions to the problems now plaguing our seas. The small, but very influential membership includes entrepreneurs, yachtsmen, corporations, divers, scientists and concerned citizens in building this global effort to help restore and protect the world's oceans.

Victoria International Marina also will cooperate with other agencies and organizations that will promote British Columbia's superior coast for yacht cruising on a world wide basis. Victoria International Marina is a founding member of the Can-Am Oceanic Yacht Association, a new organization whose objective is to market and promote coastal cruising along the Washington, British Columbia and Alaska coastline and to set standards for new and existing marinas that cater to mega yachts.

## **6.2 *Implementation of Plan***

The Communication Plan will be implemented over several stages as the marina is constructed and operations commence. Policy and standard operating procedure (SOPs) manuals will be drafted and approved by management prior to operations beginning. Initial staff training will also be completed prior to the start of operations.

## **6.3 *On-going Evaluation and Required Changes***

It is recognized that the Communication Plan will require on-going evaluation and that changes will be needed as dictated by the safety issues that arise. The changes will be made in consultation with the harbour authorities as well as the marina's customers.