

FINAL Report for
**MARINA WATERFRONT DEVELOPMENT
FEASIBILITY STUDY**

Town of Deseronto, Ontario

Submitted By:

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1. Introduction

1.1 Study Area

Deseronto is located on the Bay of Quinte in Hastings County with high potential for recreational boating and fishing. The Town has developed Centennial Park with a day use public dock that can accommodate several boats however no overnight dockage is allowed. The Deseronto Yacht Club has a fixed dock where visiting boaters can sometimes also tie up on a limited basis. The former marina in Deseronto is now closed and there are no marine stores or services in the Town. Much of the remaining land along the waterfront is vacant and undeveloped. The Town identified two key parcels of land that it owns which have potential for marina and waterfront development, together with adjoining underutilized properties along Mill Street and Water Street. The municipality retained the consultant team of RFA Planning Consultant Inc., Shoreplan Engineering Limited and TOURISTICS to prepare a Marina Waterfront Development Feasibility Study to enable the Town to fully realize the potential for development of its waterfront over the next 10 years.

Two municipal-owned properties were considered as having the potential for marina development. These are shown as Parcels 1 and 2 on **FIGURE 1.1**. These properties are located on Mill Street on the Bay of Quinte. Parcel 1 is a vacant former industrial property on the west side of Mill Street. It is 5 acres and includes a 2 acre water lot. Parcel 2 is at the foot of Mill Street and is also vacant. It is slightly larger at 6 acres and includes a 4 acre water lot.

This report is a feasibility planning study for the Deseronto Marina and Waterfront area. It presents the findings of the market study, concept design, capital cost and financial viability analysis for a proposed marina in Deseronto. The purpose of this study is to undertake a detailed assessment of the feasibility of developing a new marina on Deseronto's waterfront. The results of the study determine the size of the market, level of demand, economic viability, design parameters, capital costs, and financial implications of operating a seasonal and transient marina on the Town's waterfront at the foot of Mill Street. Recommendations are made regarding the type of facilities and services that should be offered to attract seasonal and transient boaters. Demand, financial and economic impact projections are provided for the preferred design concept intended to best meet the needs of existing and future boater market. A layout of the marina configuration and the recommended land-based facilities is provided with the capital cost estimates for the recommended facilities.

FIGURE 1.1 Base Map



1.2 Methodology

The following steps were undertaken to provide the detailed assessment and feasibility of developing a new marina on the Bay of Quinte in Deseronto:

- Site visit of the municipal waterfront to assess the potential sites and surrounding area;
- Field visit of marinas within 50 kilometres;
- Conducted telephone interviews with owner/operators of every marina within 80 nautical miles of Deseronto;
- Obtained data regarding the number and size of boats on the area waterways from the Ontario Marine Operators Association, Canadian Coast Guard Office of Boating, Canada Customs, National Marine Manufacturers Association – Canada, and the National Marine Manufacturers Association (U.S.);
- Conducted telephone interviews with power and sailboat manufacturers in Canada and the United States to obtain data on the current and future length, beam and draft of boats sold and registered in Ontario, Quebec and New York, and any forecast for growth in boating;
- Conducted telephone interviews with the boating clubs on Lake Ontario and the St. Lawrence River in Ontario and New York within the Deseronto marina market area to obtain an indication of the boating trips' characteristics, the likelihood of using a seasonal marina on the Deseronto site, and the comments on other marinas that are frequented;
- Prepared five initial marina concept plans, followed with two preferred concept options, with the appropriate basin size as supported by local marine conditions and market analysis;
- Prepared capital costs for all of the marina concepts and outlined the approvals process;
- Assessed local land use planning documentation and conditions; prepared an overall marina site plan and land use concept plan for the Deseronto waterfront;
- Projected revenues and disbursements for the first 10 operating years for the five initial marina concepts and the two preferred options;
- Projected direct expenditures; direct, indirect and induced Gross Domestic Product (GDP) expenditures; labour income; jobs; and federal, provincial and municipal taxes resulting from the construction and operation of the two preferred marina concepts;
- Recommended an operational model for the marina.

1.3 Public Process

1.3.1 Stakeholder Meeting

The consultant team and Town of Deseronto hosted a meeting, inviting key stakeholders to the Deseronto Community Centre on October 20th, 2011. Invitees included: Mohawks of the Bay of Quinte, County of Hastings Economic Development & Planning Department, Quinte Conservation Authority, Trenval Business Development Corporation, Ontario Marine Operators Association, Fisheries & Oceans Canada, Canadian Yachting Association, Deseronto Recreation Department, Deseronto Revitalization Committee/Deseronto Economic Development Department, Deseronto Yacht Club, Various Deseronto Businesses, Organizations & Individuals, Napanee & District Rod & Gun Club, Seasonal & Transient Boating Clientele. Attendees of the stakeholder meeting were given an introduction to the study consultant team, an overview of the study process, where then the meeting broke into small focus groups for brainstorming and fact finding.

The results of the stakeholder meeting have been overlaid on to the Base Map to visually represent the comments with the study area, shown as **FIGURE 1.2 Stakeholder Comments**. The following is a list of these results:

- Parcel #1 currently used as annual burn site and to store various materials
 - wood-chips, asphalt, etc.
- Town interested in various lease/ownership options for Parcels #1 and #2
- Potential mixed uses for Parcels #1 and #2
 - 2-3-storey condominiums, hotel, restaurant, boutique commercial, parking and winter storage, slash pad, night-boat cruises, skate park, museum, amphitheatre/ theatre, bait and tackle shop, marine/boat repair, boat sales, conference rooms, heritage archival office, professional offices, fish cleaning station, seating, BBQ, picnic area
- Any proposed restaurants, shops, residential, etc. shall take advantage of water
 - Boat House restaurant and Meyer's Pier in Belleville
- Parcel #1 Water Lot may be option 3 for marina (shallowest location)
 - Potentially use for small-craft docking
 - Waves in cove generally no more than 2-feet high
 - Lot of algae growth in cove during summer
 - Potential to cut/open Deseronto Yacht Club lands to open water flow and re-create island per historical records
 - Precise location of former land-cut unknown
- No much marine infrastructure/facilities for locals
- Deseronto Yacht Club lands require periodic filling to maintain shoreline
- Potential seasonal/open-air pavilion at Yacht Club point
 - Immediate area thought as location for turtle nesting

- Approximate location of the Deseronto municipal surface-water intake pipe estimated
- Mention of Mohawks of the Bay of Quinte land claim and approximate location
- Centennial Park boat launch and parking area well used during boating season
 - Park needs tree and landscaping re-vitalization
- Additional docking at Centennial Park, increase launch area, restore shoreline, replace gazebo/playground, renovate canteen including pay-per-use showers
- Iron boat historically made on water lot in west end of Deseronto
- Keep/ extend Main Street as special streetscape
- Need more trees landscaping for Hastings County Housing property
- Owner of Flea Market is interested in selling
 - Potential to subdivide property for residential use
 - Remove existing building
- Former Deseronto train station location identified
 - Current location of Lion’s Club Hall and Council Chambers
- Existing restaurants with patios on Main Street not being used
- Potential for Main Street back lands to the mixed use
 - Condominiums, hotel, restaurant, boutique commercial
 - Re-locate existing parking
- Plans for theatre at corner of Prince and Main Streets been difficult
 - Potential to locate theatre in study area
- Re-claim connections from Main Street to Water Street and Bay of Quinte
- Create “second face” of Main Street to Water Street
- Approximately a 1-kilometre or 10-minute walk from terminus of Yacht Club Lane to restaurants on Main Street
- Option to locate proposed marina to former marina site
 - Address in study report requested
 - Existing buildings in dis-repair
 - Most environmentally-friendly option
- Waste Treatment Plant currently undergoing retrofit
 - Potential partnership with the MBQ to share capacity
- Parcel #2 identified as Waterfront Festival venue location
- Option to locate marina on Parcel #2 Water Lot
 - Potential need for dredging and fill for land component
 - 75.3m and below considered to be fish habitat
- Peninsula south of Deseronto water intake pump station site of former commercial boat tour proposal
- Historical piers located on mapping from 1895
- Potential boardwalk/public open space along water’s edge
- General information regarding archival contact, removable docking, development setbacks from food line
 - Development must respect Quinte Conservation “cut/fill” policy
 - Deseronto has a source water protection rating of 9, which permits fuel storage on marina

- Recommended that any contamination from former Arctic Gardens property (Parcel #1) be properly re-mediated to ensure no run-off of contaminated sediments to the bay and well as for any dredging of the Bay
- Environmental Assessment required for this type of work – see Malroz study for background information

An information meeting was also held with members of the Band Council and staff of the Mohawks of the Bay of Quinte. The meeting was held on February 27, 2012 at the Lion's Hall in Deseronto. Deseronto Council members, staff and the consultant team also attended the meeting.

At the meeting, the consultants presented an overview of the study findings and recommendations. This was followed by a round-table question and answer period and an agreement to meet again.

A Public Open House was held on March 20, 2012. A summary of the meeting is found in Section 7 of this report.

2. Historical and Projected Number of Boats within the Proposed Deseronto Marina's Boater Market

Since 100 percent of the market for seasonal slips for the proposed Deseronto marina will come from Ontario and over 95 percent of the market for transient slips will come from Ontario, Quebec, and New York, we have concentrated our analysis regarding the number, length, beam, and draft of these boats on these three geographic areas.

2.1 Historical Number of Boats by Length, Beam and Draft, 2005 to 2010

Since few boats under 6 metres (i.e. 20 feet) venture onto the Great Lakes for any extended period of time, primarily for safety reasons, and there is a high propensity to trailer boats under 6 metres in length to launch ramps for their use rather than occupying a marina slip or moorage, we have only considered those boats 6 metres or longer as a base of comparison for our projections of Deseronto's seasonal and transient boater market. As shown in **EXHIBIT 1**, in 2010 there were approximately 149,740 of this size in Ontario, 63,410 in Quebec, and 62,470 in New York for a total of 275,620 registered power and sail boats in the market area.

The number of boats under 6 metres has increased an average of 0.7 percent per annum in Ontario, 0.5 percent per annum in Quebec and 0.4 percent in New York State. Boats 6 metres or more on the other hand have increased 4.5 percent per annum in Ontario, and 4.2 percent in Quebec. Those in New York have increased only 0.4 percent each year between 2005 and 2010.

Our interviews with government officials, boat manufacturers and marina owner/operators in Ontario, Quebec and New York indicate that the stronger economic growth in Canada until 2008 and confidence in a return to a strong economy after the downturn of 2008-2010 was the reason why Ontario and Quebec boaters bought larger boats as first time buyers or traded-up for larger boats as repeat buyers at a faster rate than those in New York. Boat manufacturers and boaters also tell us that the movement toward bigger boats results from a movement away from cottage ownership. Larger boats in some cases have a many staterooms as cottages have bedrooms. The typical drive to a cottage in Ontario or Quebec is 1½ to 2 hours whereas to a seasonal slip it is 30 minutes.

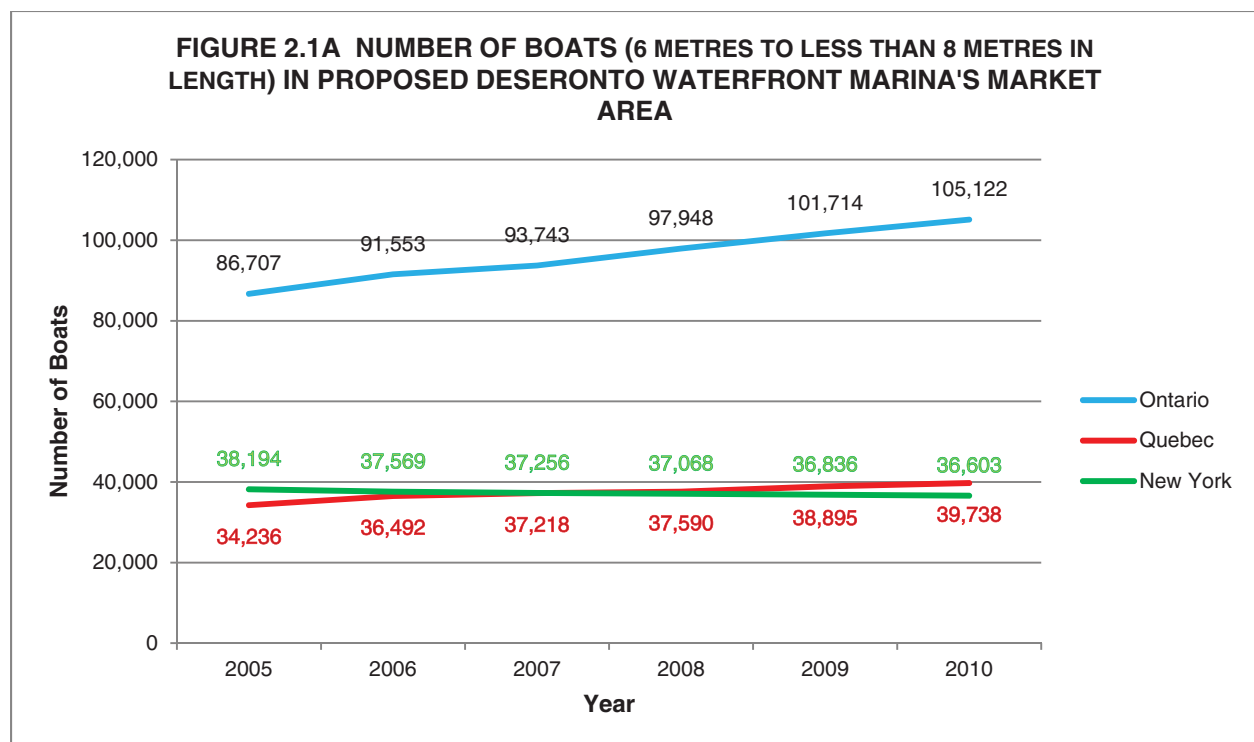
2.1.1 Length

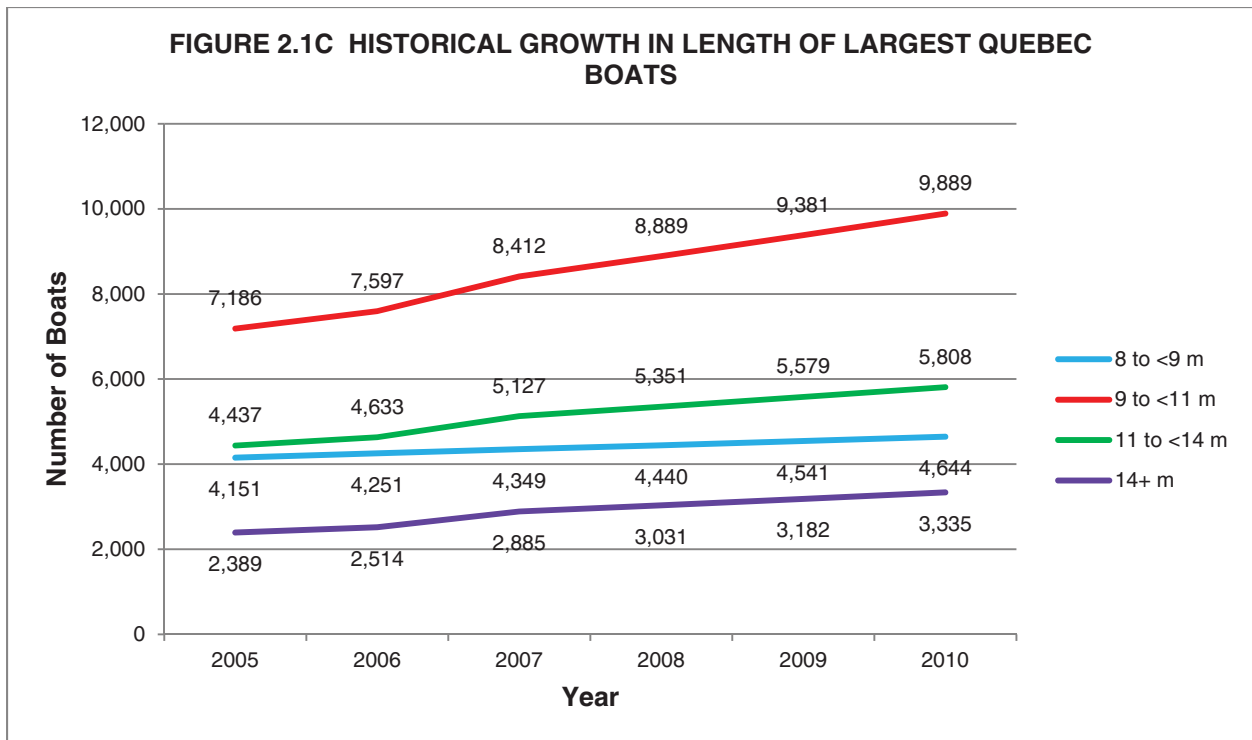
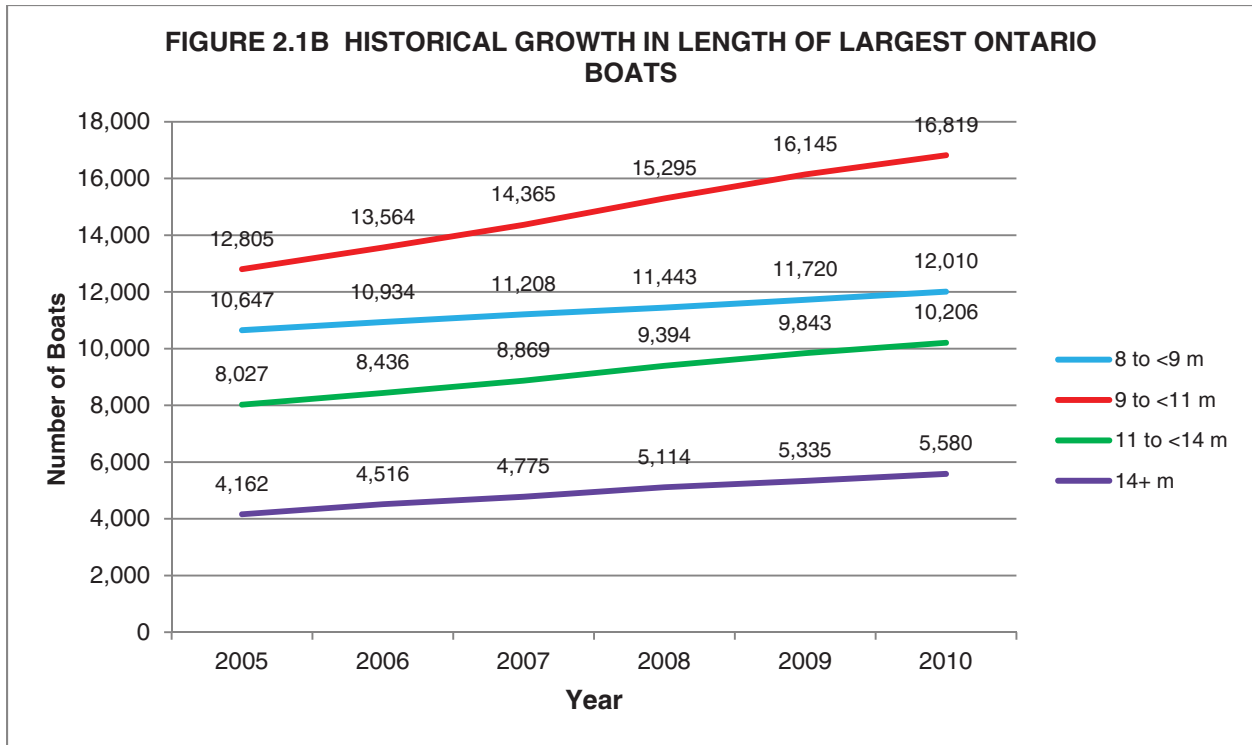
The number of boats 6 metres to less than 8 metres has increased 4.2 percent per annum between 2005 and 2010 in Ontario, 3.2 percent per annum in Quebec and decreased 0.8 percent per annum in New York. Boats 8 metres to less than 9 metres have increased 2.6 percent per annum in Ontario, 2.4 percent in Quebec and 1.1 percent in New York. Those 9 metres to less than 11 metres have increase 6.3 percent per annum in Ontario, 7.5 percent in Quebec and 2.9 percent in New York.

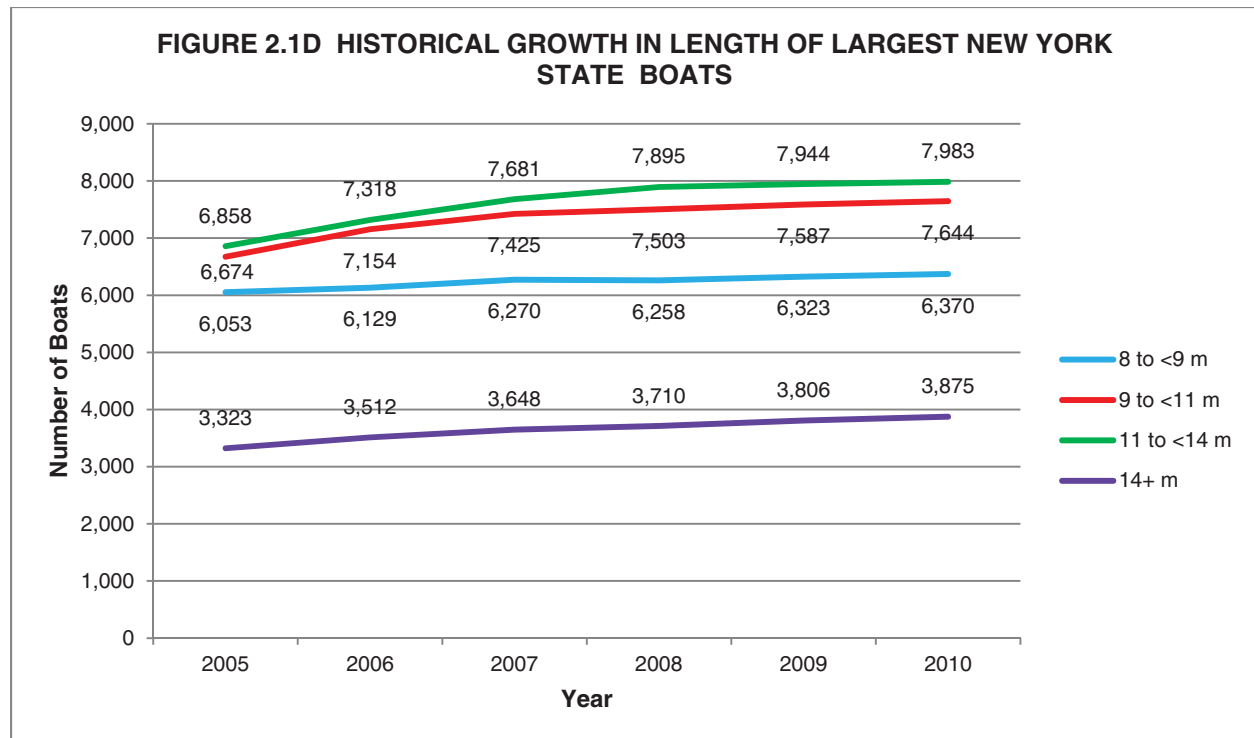
Boats 11 metres to less than 14 metres have increased 5.4 percent per annum in Ontario, 6.2 percent in Quebec and 3.3 percent in New York State. In each market the greatest annual percentage increase took place in those boats 14 metres and greater in length (i.e.. 6.8 percent per annum in Ontario, 7.9 percent in Quebec and 3.3 percent in New York). See FIGURE 2.1 following. Our discussions with boating officials and and marina owner/operators in New York indicated that the wealthier boaters owning the largest boats have been less affected by the poor economy in the United States since 2005. Boats in these five size categories are the ones that are expected to use the proposed Deseronto marina.

2.1.2 Beam

Within Ontario, Quebec and New York there were approximately 1,132,750 power and sail boats with a beam of 3 metres to less than 3 metres; 41,450 from 3 metres to less than 4 metres; and 22,750 with a beam of 4 or more metres in 2010.







Between 2005 and 2010, boats in Ontario with a beam of 2 metres to less than 3 metres saw an increase of 1.1 percent annually. Those with a beam of 3 metres to less than 4 metres and 4 metres and wider increased 5.9 percent and 6.3 percent per annum respectively. The increase in the width of boats in Quebec followed a similar pattern to that of Ontario; boats with a beam of 2 metres to less than 3 metres, 3 metres to less than 4 metres and 4 metres and wider increased 0.9 percent, 4.4 percent and 4.6 percent each year respectively. The increase in the width of boats in New York State is less dramatic. Boats with a beam of 2 metres to less than 3 metres increased 0.35 percent per annum, while those 3 metres to less than 4 metres and 4 metres and wider increased by 3.0 percent and 3.3 percent each year. See **EXHIBIT 2** at the end of this report.

What is clearly evident from these numbers is that boats are getting longer and wider and marinas will need to recognize this if they wish to maintain or possibly increase their share of the Ontario, Quebec and New York State boater market.

2.1.3 Draft

As boats have grown in length and width between 2005 and 2010, their draft has also increased though at a much more uniform rate than length and width. **EXHIBIT 3** demonstrates that in all three geographic markets the rate of annual increase for boats with a draft of less than 0.61 metres to less than 1.52 metres was almost identical (i.e. 1.1 percent per annum in Ontario, 0.9 percent per annum in Quebec, and 0.4 percent per annum in New York State). Those boats in Ontario with a draft of 1.52 metres to 1.83 metres, and 1.83 metres and more increased 2.4 percent each year. Quebec boats in the same draft categories increased 1.1 percent and 1.2 percent per annum respectively. Boats in New York showed the largest percentage increases in the 1.52 metres to 1.83 metres and 1.83 metres and more draft categories; 3.0 percent each year in the former and 2.9 percent each year in the latter.

2.1.4 Specifications of Boats in Proposed Deseronto Marina's Market Area

In addition to recognizing the length, width and draft of boats expected to use the proposed Deseronto marina it will also be important that the marina's design recognize the following ratios in length, width and draft for power and sail boats in the configuration of space between the finger dock and in the fairways. As indicated below in **TABLE 2.1**, sail boats typically have a wider beam and require much greater draft in order to create comparable stability with power boats.

TABLE 2.1 Comparable Specifications for Boats Using Proposed Deseronto Marina

Power Boats ¹			Sail Boats ²		
Length in metres	Berth in metres	Draft in metres	Length in metres	Berth in metres	Draft in metres ³
8.4	2.7	0.7	8.6	2.8	1.3
9.8	3.2	0.8	9.9	3.4	1.6
11.3	3.6	0.97	11.3	4.1	1.7
13.5	4.2	1.1	13.4	4.6	1.9
16.5	4.9	1.3	16.2	5.5	2.2
22.4	5.9	1.6	21.2	7.2	2.65

¹ Based on the specifications of 150 models of power boats in each category of 26 to 29 ft. 11 in.; 30 to 34 ft. 11 in.; 35 to 39 ft. 11 in.; 40 to 49 ft. 11 in.; 50 to 59 ft. 11 in.; and, 60 ft and over as taken from the *2011 New Boat Buyer's Guide*.

² Based on the specifications of 57 models of sailboats in the 26 to 29 ft. 11 in. category; 72 in the 30 to 34 ft. 11 in. category; 66 in the 35 to 39 ft 11 in. category; 98 in the 40 to 49 ft. 11 in. category; 78 in the 50 to 59 ft. 11 in. category; and, 30 in the 60 ft and over category as taken from the *2011 Sail Buyers Guide*.

³ Keel or board fully extended

2.2 Projected Number of Boats

Based on our discussions with boating officials, and boat manufacturers/builders in Canada and the United States, we have projected that the total number of boats in Ontario 6 metres or more in length will increase from approximately 155,000 in 2011; to 178,200 in 2015; to 207,500 by 2020; and reach approximately 227,600 by 2023. During this same time period, we have projected that the total number of boats in Quebec in this size range will increase from approximately 65,600 in 2011; to 75,400 in 2015, to 87,200 by 2020; and reach approximately 95,200 by 2023. Our discussions with boating officials in New York and the National Marine Manufacturers Association (NMMA) in Chicago indicates that the total number of boats in New York State 6 metres or more in length will increase from 63,100 in 2011, to 65,600 in 2015, to 69,600 in 2020, and reach 72,200 by 2023. We have projected that the overall Ontario-Quebec-New York market area will increase from 283,700 power and sailboats in 2011 to 319,300 by 2015 and reach 395,100 by 2023.

We have projected a greater increase for Ontario and Quebec compared to New York because economists are predicting that the recovering economy of the two provinces will continue to outpace that of New York, and all of the boat manufacturers that we interviewed are confident that sales of larger boats in Ontario will exceed that exhibited between 2005 and 2010. While all indications are that the number of boats in all markets in each length category will increase beyond 2011, we have chosen to take a more conservative growth rate (i.e. reduced growth rate) beyond 2011 (i.e. between 2011 and 2015 and 2015 and 2023). See **EXHIBIT 5** at the end of this report.

In **EXHIBITS 5, 6 and 7**, the growth projections use the size category as a base for projecting from the 2011 number. For example, in **EXHIBIT 5** for Ontario, Quebec and New York a distinct growth rate was applied to the 2010 base number in each category of length. As a further example, in **EXHIBIT 7** for Ontario the growth rate applied to boats with a draft of under 0.61 metres differs from that applied to boats 0.91 metres to less than 1.22 metres, and that applied to boats 1.52 to metres to less than 1.83 metres. The growth rate in each category was derived from data available between 2005 and 2010 and the projections provided by boat manufacturers/builders in Canada and the United States for what they will build between 2011 and 2023.

2.2.1 Length

The number of power and sail boats in Ontario 6 metres to less than 8 metres will continue to represent the largest share of boats in Deseronto marina's market area during the 2011 to 2015 and 2015 to 2023 time periods. Boats in this category are projected to grow from approximately 108,300 in 2011, to 121,900 by 2015, 137,200 by 2020 and reach 147,300 by 2023. This represents an average annual growth rate between 2011 and 2015 of 3.1 percent and 2.6 percent per annum between 2015 and 2023. The higher growth rate among those boats of greater length exhibited between 2005 and 2010 is projected to continue between 2011 and 2023. Boats 8 metres to less

than 9 metres are projected to grow 2.5 percent per annum between 2011 and 2015 and a further 2.3 percent each year between 2015 and 2023. Those Ontario boats from 9 metres to less than 11 metres are projected to increase 6.3 percent per annum between 2011 and 2015, and 2015 and 2023. Boats 11 metres to less than 14 metres are projected increase by 5.5 percent each year between 2011 and 2015 and a further 5.8 percent between 2015 and 2023. The largest boats, those 14 metres and more in length are projected to have the highest growth rate per annum at 6.6 percent between 2011 and 2015, and another 7.0 percent each year between 2015 and 2023. See **EXHIBIT 5**.

FIGURE 2.2 at the end of this Section shows that the growth rate for boats less than 9 metres has and will increase at a slower pace than that of boats 9 metres to more than 14 metres. Although boats 9 metres and longer will continue to increase their share of the boat market, those 6 metres to less than 9 metres will continue to dominate the market for the foreseeable future.

The growth rate of boats in Quebec is projected to follow that of Ontario during the 2011 to 2015 and 2015 to 2023 time periods, but at a slightly slower growth rate. Among boats 6 metres to less than 8 metres, the growth rate is projected at 3.0 percent each year between 2011 and 2015 and another 2.4 percent each year between 2015 and 2023. Quebec boats 8 metres to less than 9 metres are projected to grow 2.3 percent and 1.9 percent per annum between 2011 and 2015 and 2015 and 2023 respectively. Those boats 9 metres to less than 11 metres are projected to increase 5.4 percent per annum from 2011 until 2015 and a further 4.9 percent each year between 2015 and 2023. Boats 11 metres to less than 14 metres are projected to grow 5.2 percent and another 5.1 percent each year between 2011 and 2015 and 2015 and 2023 respectively. As in Ontario, boats 14 metres and longer in Quebec are projected to exhibit the strongest growth rates at 6.3 percent per annum between both 2011 and 2015 and 2015 and 2023.

The negative growth rate of boats 6 metres to less than 8 metres exhibited between 2005 and 2010 in New York is expected to continue between 2011 and 2015 (i.e. a 0.08 percent decrease each year). Between 2015 and 2023 this size category is expected grow slightly at 0.6 percent each year. New York boats 8 metres or longer are projected to have a positive growth rate between 2011 and 2023. Boats 8 metres to less than 9 metres are projected to grow 1.4 percent per annum between 2011 and 2014 and 1.0 percent each year between 2015 and 2023. Those New York boats from 9 metres to less than 11 metres are projected to increase 2.6 percent per annum between 2011 and 2015 and a further 2.0 percent per annum between 2015 and 2023. Boats 11 metres to less than 14 metres are projected increase by 3.0 percent each year between 2011 and 2015 and a another 2.5 percent between 2015 and 2023. The largest boats, those 14 metres and more in length are projected to have the highest growth rate per annum at 3.1 percent between 2011 and 2015 and a further 2.7 percent each year between 2015 and 2023.

Between 2011 and 2023 the number of boats in the overall market area is projected to grow as follows:

Length	2011	2023
6 metres to less than 8 metres	185,740	240,260
8 metres to less than 9 metres	23,510	29,420
9 metres to less than 11 metres	36,010	61,120
11 metres to less than 14 metres	25,030	40,520
14 metres and longer	13,430	23,740

2.2.2 Beam

The trend toward wider boats in the years 2005 to 2010 is also expected to continue for the period between 2011 and 2023. See **EXHIBIT 6**. Within Ontario, the number of boats with a beam of 2 metres to less than 3 metres is projected to grow 1.5 percent per annum between 2011 and 2015 and 1.3 percent between 2015 and 2023, whereas boats 3 metres to less than 4 metres wide are projected to increase 6.1 percent per annum between 2011 and 2015 and a further 6.7 percent per annum between 2015 and 2023. Boats with the widest beam (i.e. 4 metres or more) are projected grow by 5.3 percent each year from 2011 until 2015 and 7.0 percent each year from 2015 through 2023.

Boats 2 metres to less than 3 metres in width in Quebec are projected to increase 0.8 percent per annum between 2011 and 2015 and 0.7 percent each year between 2015 and 2023. Those boats with a beam of 3 metres to less than 4 metres are projected to increase 5.4 percent per annum between 2011 and 2015 and another 5.8 percent each year from 2015 until 2023. As was the case with boats in Ontario, those in Quebec with the widest beam (i.e. 4 metres or more) are projected to increase the most at 5.6 percent each year 2011 to 2015 and a further 6.0 percent each year between 2015 and 2023.

Boats in New York State with the narrowest beam (i.e. 2 metres to less than 3 metres) are projected to decrease slightly between 2011 and 2014 at 0.4 percent per annum and then increase even more slightly at 0.3 percent each year between 2015 and 2023. Those boats with a beam of 3 metres to less than 4 metres are projected to increase 3.3 percent each year between 2011 and 2015 and a further 4.0 percent per year from 2015 to 2023. Between 2011 and 2015 boats in New York with a beam of 4 metres or more are projected to increase by 3.6 percent each year and between 2015 and 2023 by 8.8 percent per annum.

While the strongest growth rates in all three geographic markets are projected for those boats with a beam of 3 metres or more, boats 2 metres to less than 3 metres wide will continue to dominate Deseronto's market area. The number of boats in the overall market area with a beam of 3 metres or more is projected to increase from approximately 67,300 in 2011 to 81,400 by 2015 and reach 119,520 by 2023.

2.2.3 Draft

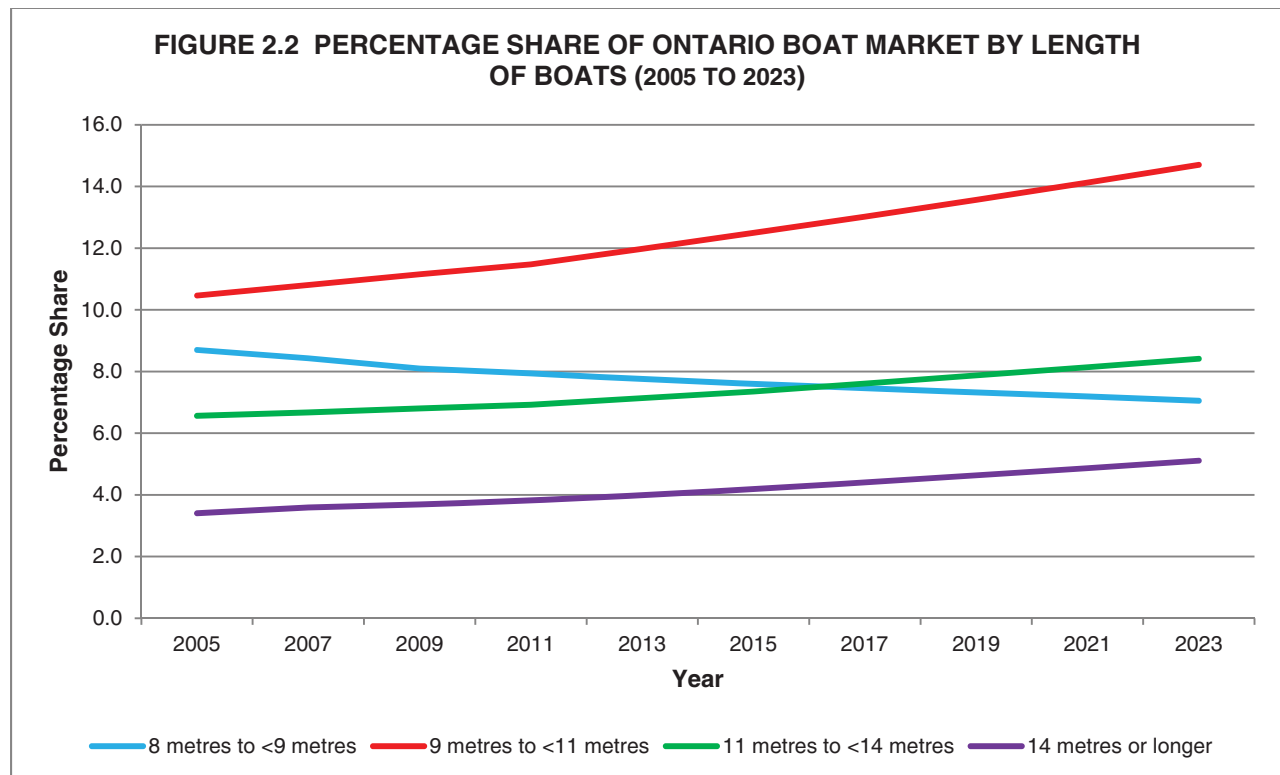
Boats in Ontario with a draft of 0.61 metres to less than 0.91 metres, and 0.91 metres to less than 1.22 metres are projected to increase by 1.1 percent each year between 2011 and 2015 and a further 1.0 percent each year between 2015 and 2023. Those boats 1.22 metres to less than 1.52 metres in draft are projected to increase by 2.2 percent each year between 2011 and 2015, and 2015 and 2023. Ontario boats with a draft of 1.52 metres to less than 1.83 metres are projected to increase by 2.7 percent per annum between 2011 and 2015 and an additional 2.9 percent per annum between 2015 and 2023. Boats with the deepest draft (i.e. 1.83 metres or more) are projected to have the greatest percentage increases each year between 2011 and 2015 and 2015, and 2023 at 3.4 percent and 3.5 percent per annum respectively. See **EXHIBIT 6** at the end of this report.

As was the case for boats in Ontario, those in Quebec with a draft of 0.61 metres to less than 0.91 metres, and 0.91 metres to less than 1.22 metres are projected to increase by 0.9 percent each year between 2011 and 2015 and a further 0.8 percent each year between 2015 and 2023. Quebec boats with a draft of 1.22 metres to less than 1.52 metres are projected to grow by 1.7 percent per annum between 2011 and 2015, and 2015 and 2023. Boats with a draft of 1.52 metres to less than 1.83 metres are projected to grow by 1.9 percent each year between 2011 and 2015 and a further 2.1 percent each year between 2015 and 2023. Boats in Quebec with a draft of 1.83 metres or more are projected to exhibit the highest per annum growth rates between 2011 and 2015, and 2015 and 2023 at 1.9 percent and 2.4 percent per annum respectively.

Boats in New York State requiring a draft of 0.61 metres to less than 0.91 metres and 0.91 metres to less than 1.22 metres are projected to decrease slightly between 2011 and 2014 at 0.3 percent per annum and then increase slightly at 0.4 percent each year between 2015 and 2023. Those boats requiring a draft of 1.22 metres to less than 1.52 metres are projected to decrease very slightly by 0.02 percent each year between 2011 and 2015 and then rebound with an annual increase of 0.7 percent between 2015 and 2023. New York boats in the two largest draft categories (i.e. 1.52 metres to less than 1.83 metres and 1.83 metres and more) are projected to have positive growth rates each year between 2011 and 2023. Those boats with a draft of 1.52 metres to less than 1.83 metres are projected to increase 3.6 percent per annum between 2011 and 2015 and a further 1.0 percent between 2015 and 2023. New York boats with the deepest draft, those 1.83 metres or more exhibit the highest projected growth rates at 3.8 percent and 4.7 percent each year respectively between 2011 and 2015, and 2015 and 2023.

In the overall market area for the proposed Deseronto marina, boats with a draft of 0.91 metres to less than 1.22 metres are projected to increase from approximately 272,400 in 2011, to 279,700 by 2015, and reach approximately 298,000 by 2023. Boats with a draft of 1.22 metres to less than 1.52 metres are projected to increase from approximately 55,600 in 2011 to 59,000 in 2015 and reach approximately 67,100 by 2023. Those boats in the two deepest draft categories will grow from approximately 4,900 and 2,200 in 2011 to 5,400 and 2,500 by 2015 and reach approximately 6,400 and 3,200 by 2023.

In order for the proposed marina on Deseronto’s waterfront to accommodate the existing and projected power and sail boats in its’ market area, it will be necessary to ensure that the basin and entrance are in the 2.0 to 2.5 metres below datum range. If the marina is to be considered as part of a harbour of safe refuge, the depth at the entrance will need to be 4 metres below datum.



3. Need for Seasonal Slips

According to a recent study conducted by the National Marine Manufacturers Association the maximum distance that boaters prefer to travel to a marina to use their boat on a regular basis is 50 kilometres or approximately 30 minutes driving time. In the case of Deseronto this would include the area from Quinte West in the west to Kingston in the east and a line running roughly through Spring Brook, Kaladar and Godfrey to the north. While this is considered the prime market area, there are a number of factors which may affect the size of the market area, among these are: a lack of sufficient slips beyond the 50 kilometre area; a price sensitive market area beyond the 50 kilometre area; a large price differential between the core market area and outlying areas; proximity to prime boating waters; and convenient location for leaving a boat. Our interviews with former users of the old Deseronto Marina and marina owner/operators in New York State indicated that a number of New York residents leased slips at the old marina because of convenience of not having to bring their boats back and forth across the border. In order to provide as conservative an estimate as possible we have chosen to use the 50 kilometre market in our determination of seasonal slip demand.

In order to determine the need for a marina in Deseronto, it is necessary to review the existing marina facilities within 50 kilometres of the site to determine their ability to meet the current and future demand. It is also necessary to determine if the population living within the market area of the proposed marina exhibits characteristics that are determinants of strong boating demand.

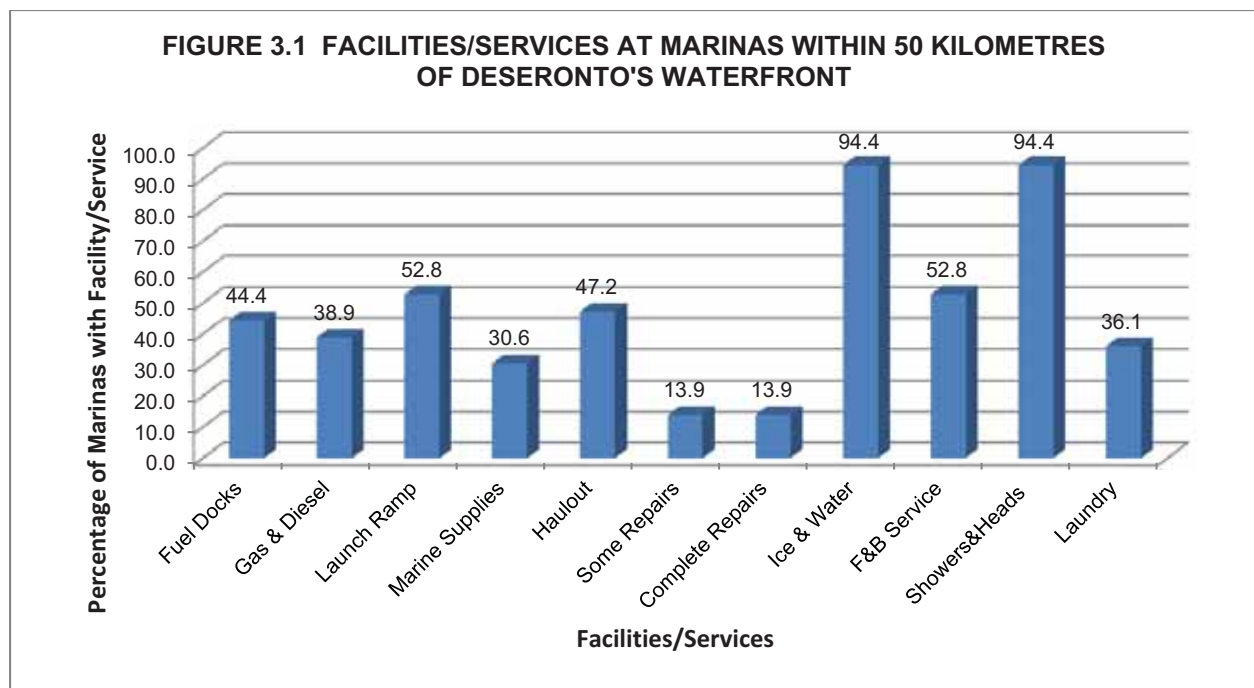
3.1 Existing Seasonal Marinas Within a 50 Kilometre Radius

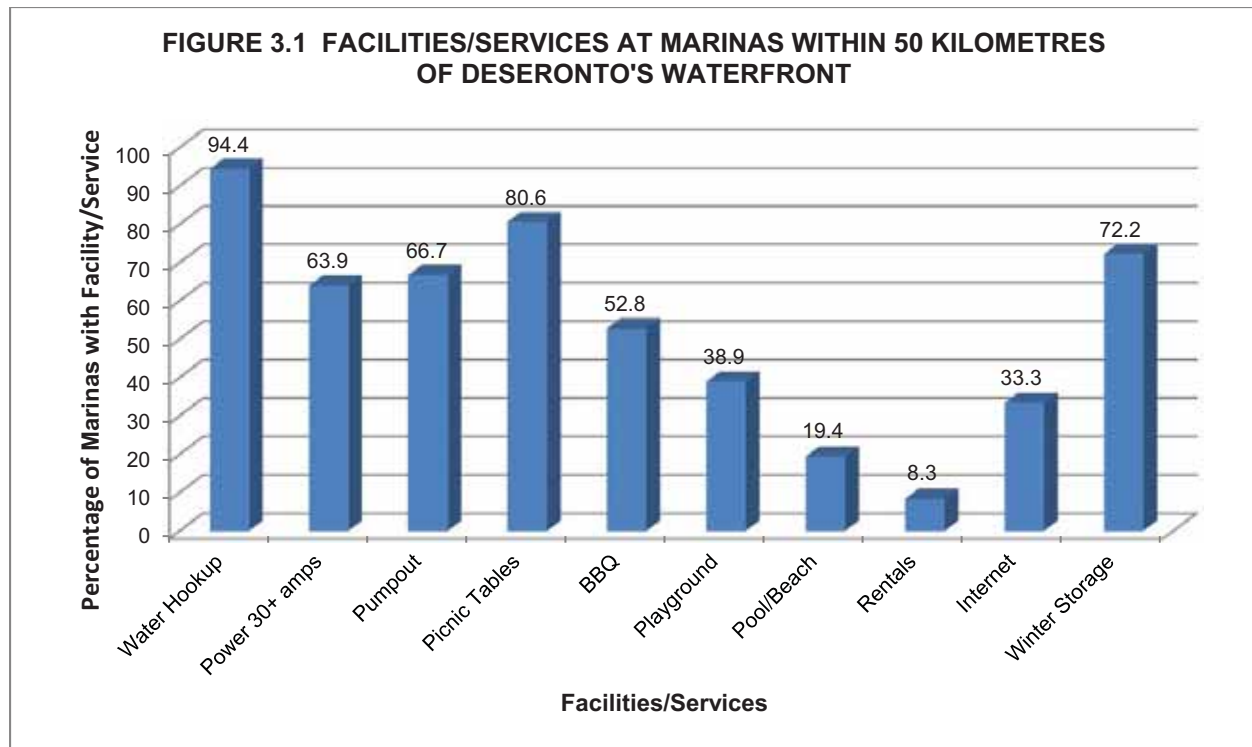
There are 36 marinas and yacht clubs within 50 kilometres of the Deseronto waterfront providing slips for rent on a seasonal basis during the 2011 boating season. See **EXHIBIT 8A**. All facilities except Victoria Park Harbour in Belleville and Robert Patrick Marina in Quinte West offer both seasonal and transient slips. Many of the yacht clubs designate a number of reciprocal slips to be used by boats from other yacht clubs providing a similar service. Some of the marinas will also allow transient boaters to use the seasonal slips when the seasonal boater is known to be away on an extended trip. The five largest providers of seasonal slips are Collins Bay Marina with 250, and Portsmouth Olympic Harbour with 220 in Kingston; Belle Harbour with 170, and Meyer's Pier Marina with 154 in Belleville; and Rideau Marina with 104 also in Kingston.

Among the facilities and services most frequently found at marinas and yacht clubs within the seasonal market area are: ice and water (94.4%); showers and heads (94.4%); water hook-ups (94.4%); picnic tables (80.6%); winter storage (72.2%); pump outs (66.7%); 30+ amp power at each slip (63.9%); launch ramps (52.8%); gas BBQ's (52.8%); food and beverage services (i.e. provided through a clubhouse, convenience store and/or snack bar), (52.8%); and haulouts (i.e. accomplished with a travel lift, fork lift, hydraulic trailer, and/or crane), (47.2 %). See **EXHIBIT 8B** at the end of this report and **FIGURE 3.1** following. Less frequently provided are fuel docks with some

combination of gas, diesel fuel and/or propane (44.4%); playgrounds/recreation areas (38.9%); fuel docks with gas, diesel fuel and propane (38.9%); showers, heads, and laundry facilities (36.1%); and access to wireless internet service (33.3%). To be successful, the marina on Deseronto’s waterfront will need to provide the vast majority of these facilities as well as having well trained, friendly service-oriented staff.

In the broader Ontario, Canadian and U.S. boater market an increasing number of marinas are providing telephone; cable TV hook-ups and/or wireless internet at each of the slips; some form of covered space to be used during inclement weather; complimentary shuttle services; information kiosks; quick-service phone connections (i.e. marine supplies, dry cleaning, groceries, etc.); individual hook ups to pump out using a vacuum system; and rentals (i.e. bicycles, mopeds, small boats,etc.).





Fourteen of the marinas have waiting lists for seasonal slips, and a number of others have boaters looking for longer slips (i.e. 11 metres or 36 feet or more). We are not aware of any marinas within the seasonal market area that will be adding slips in time for the 2012 boating season.

Slip rental rates for the 2011 boating season range from a low of \$27.40 per linear foot at Picton Harbour Marina and \$31.50 at Robert Patrick Marina in Quinte West to a high of \$59.78 per linear foot at Flora MacDonald Confederation Basin and \$56.14 at Portsmouth Olympic Harbour in Kingston. The two Kingston marinas charged an additional \$347.73 and \$508.30 for 30 and 50 amp power respectively for the 2011 boating season. Rates for winter storage which can be an important source of revenue for a marina provided there is sufficient secured space; range from a low of \$11.00 per linear foot at Baycrest Lodge & Marina in Demorestville and \$15.00 at Bay Marine in Quinte West to a high of \$30.00 a linear foot at Blue Wood Marina and \$28.00 at Music Boats Marina in Kingston. See **EXHIBIT 8C** at the end of this report. With the appropriate mix of marina facilities and services a marina on Deseronto's waterfront should be able to capture a high proportion of the boaters on waiting lists at area marinas and may appeal to a number of boaters on Metropolitan Toronto's eastern waterfront currently paying \$80.00 or more per linear foot for seasonal dockage. Outer Harbour Marina for example charged \$90.75 per linear foot in 2011.

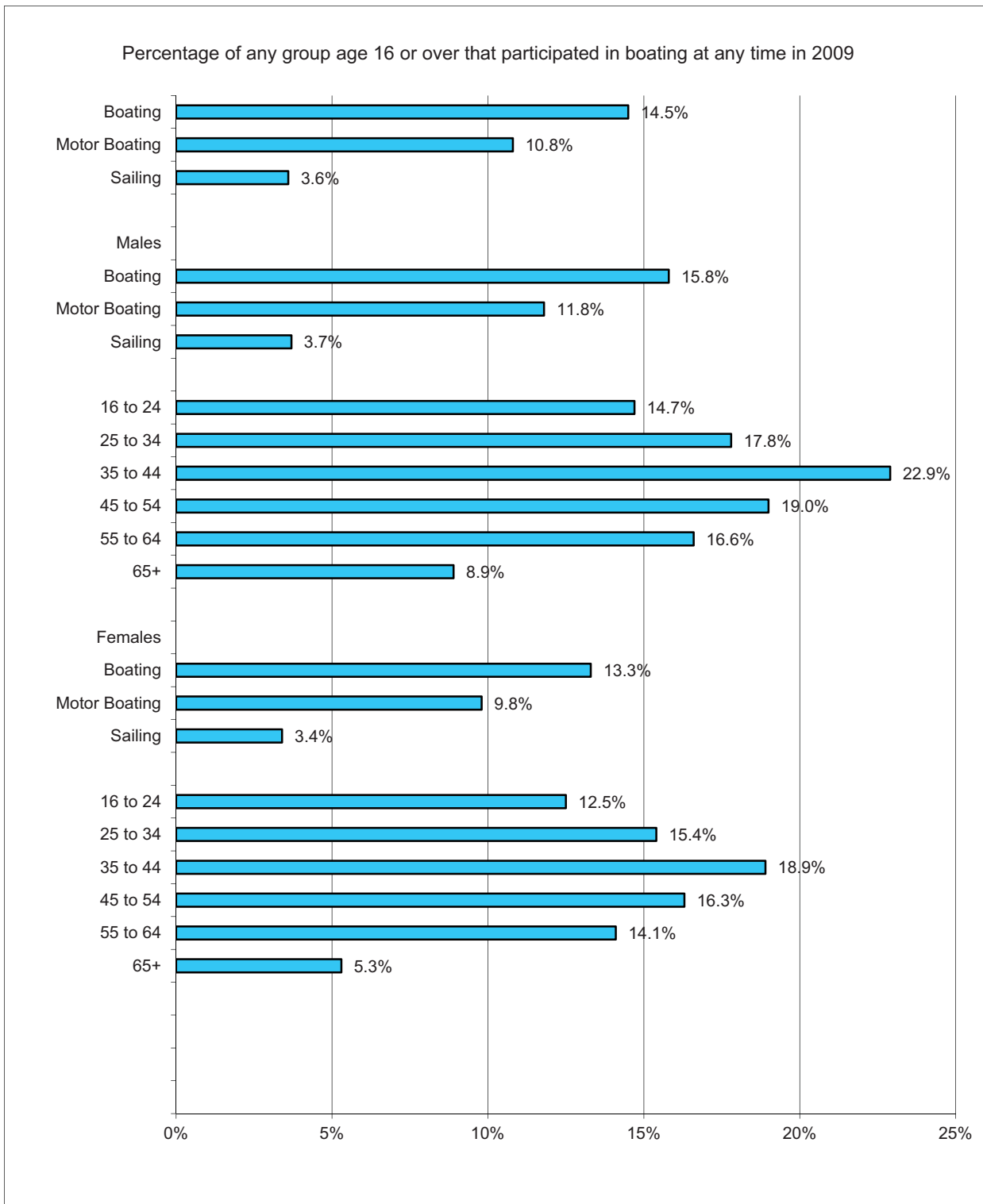
According to our discussions with marina owner/operators, 2,206 seasonal slips were occupied during the 2011 boating season representing an overall occupancy of 90.7 percent.

3.2 Socio-demographic Characteristics of the Resident Market

There are 283,850 persons living within the market area of the proposed Deseronto marina, including 1,824 residing in Deseronto and 15,400 in Napanee according to the 2006 census. It is evident when looking at the age characteristics of the resident market that Deseronto is comparable to the province. Among males 35 to 44 the age group with the highest participation in boating (i.e. 22.9%), the Town of Deseronto has a slightly lower proportion of individuals in this category than the province (i.e. 15.5% and 15.8% respectively), while Napanee and the County are slightly more than one percent under-represented (i.e. 14.2% and 14.5% vs. 15.8%). The second highest participation rate among males falls in the 45 to 54 year age category (i.e. 19.0%). See **EXHIBIT 9** at the end of this report and **FIGURE 3.2** following. In this category Deseronto is slightly under-represented (i.e. 14.9% vs. 15.3%), while Napanee, the County and the overall seasonal market area (0 to 50 kilometres) are all slightly over-represented (i.e. 15.4%, 15.7%, and 15.5% respectively vs. 15.3% for Ontario). In the 25 to 34 age group where the participation rate is 17.8 percent (third highest), all areas are under-represented with Deseronto only slightly so at 11.6 percent of its population compared to 12.5 percent for the province. The proportion of the female population within the Town of Deseronto (i.e. 15.3%) is slightly under-represented compared to the province (i.e. 15.7%) in the 35 to 44 age group which has the highest participation rate in boating (i.e. 18.9%). The other three geographic areas are all under-represented to a greater degree with Napanee being the least represented at 13.0 percent vs. the province's 15.7 percent. Females in Deseronto in the 45 to 54 age group, the category with the second highest participation rate in boating (i.e. 16.3%) are equal to the province and over-represented in Napanee, the County of Hastings and the overall market area when compared to the province (i.e. 15.3%, 15.6%, 15.5% and 15.7% vs. 15.3% for Ontario). In the 25 to 34 age group (third highest participation rate 14.4%), females are over-represented in Deseronto (i.e. 13.7%), and under-represented in Napanee (10.0%), the County of Hastings (10.3%), and the overall market area (10.7%) when compared to Ontario's 12.7 percent.

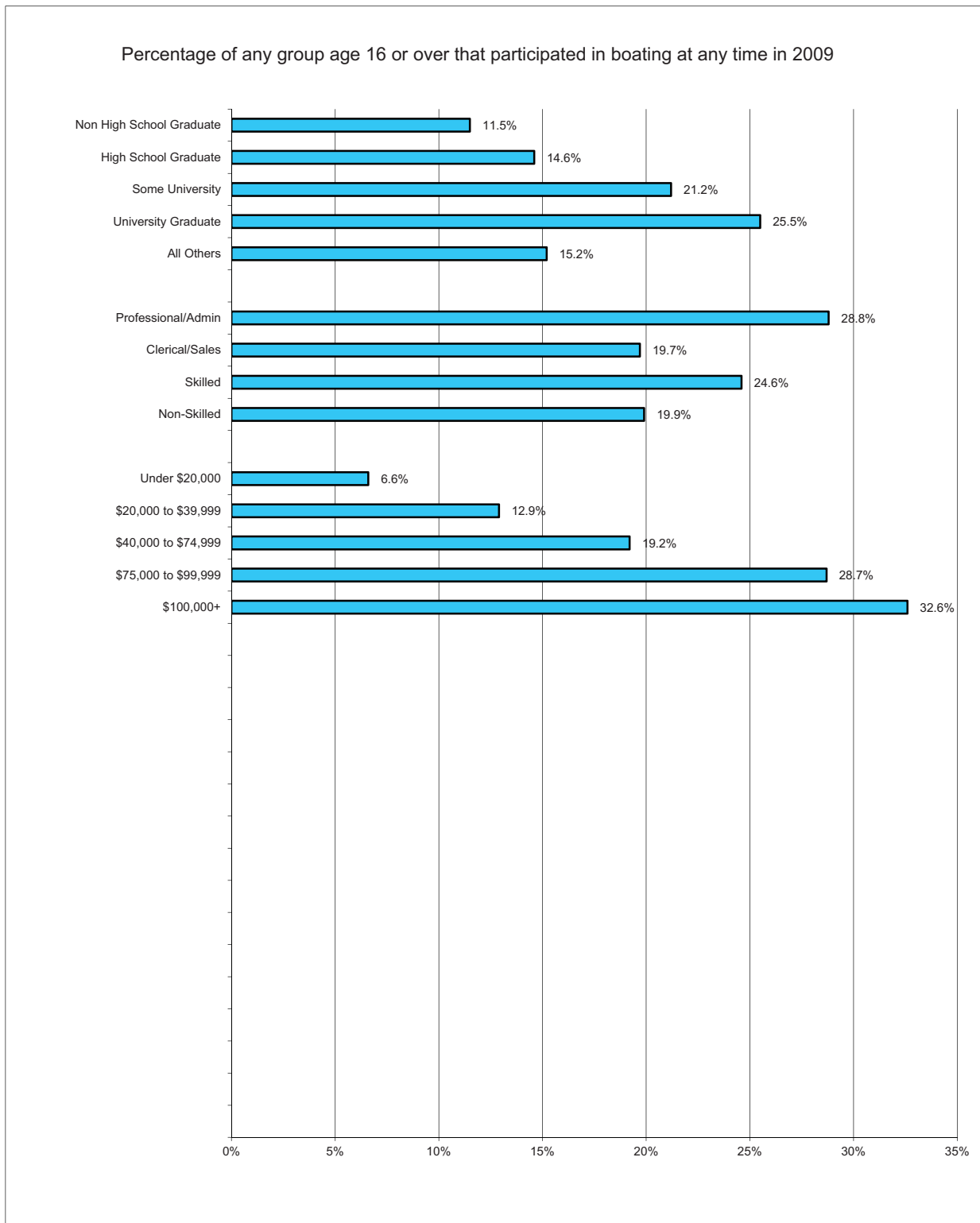
The higher the level of education attained the higher the level of participation in boating as shown by a 21.2 percent participation rate for those with some university education and 25.5 percent for those with a degree. Deseronto, Napanee, the county and the overall market area within 50 kilometres of the waterfront sites are all well under-represented compared to that of the province in both education categories, particularly among those with a university degree. Based on the actual number of residents, this still represents approximately 3,100 individuals in the county and 10,100 within the overall market area in these two education categories with a high propensity to participate in boating and thus potential users of facilities and services offered at the proposed marina.

FIGURE 3.2 BOATING¹ PARTICIPATION IN ONTARIO



¹ Includes in-board and out-board motor boating and sailing, excludes canoeing, kayaking and motorized personal watercraft

FIGURE 3.2 BOATING¹ PARTICIPATION IN ONTARIO (Continued)



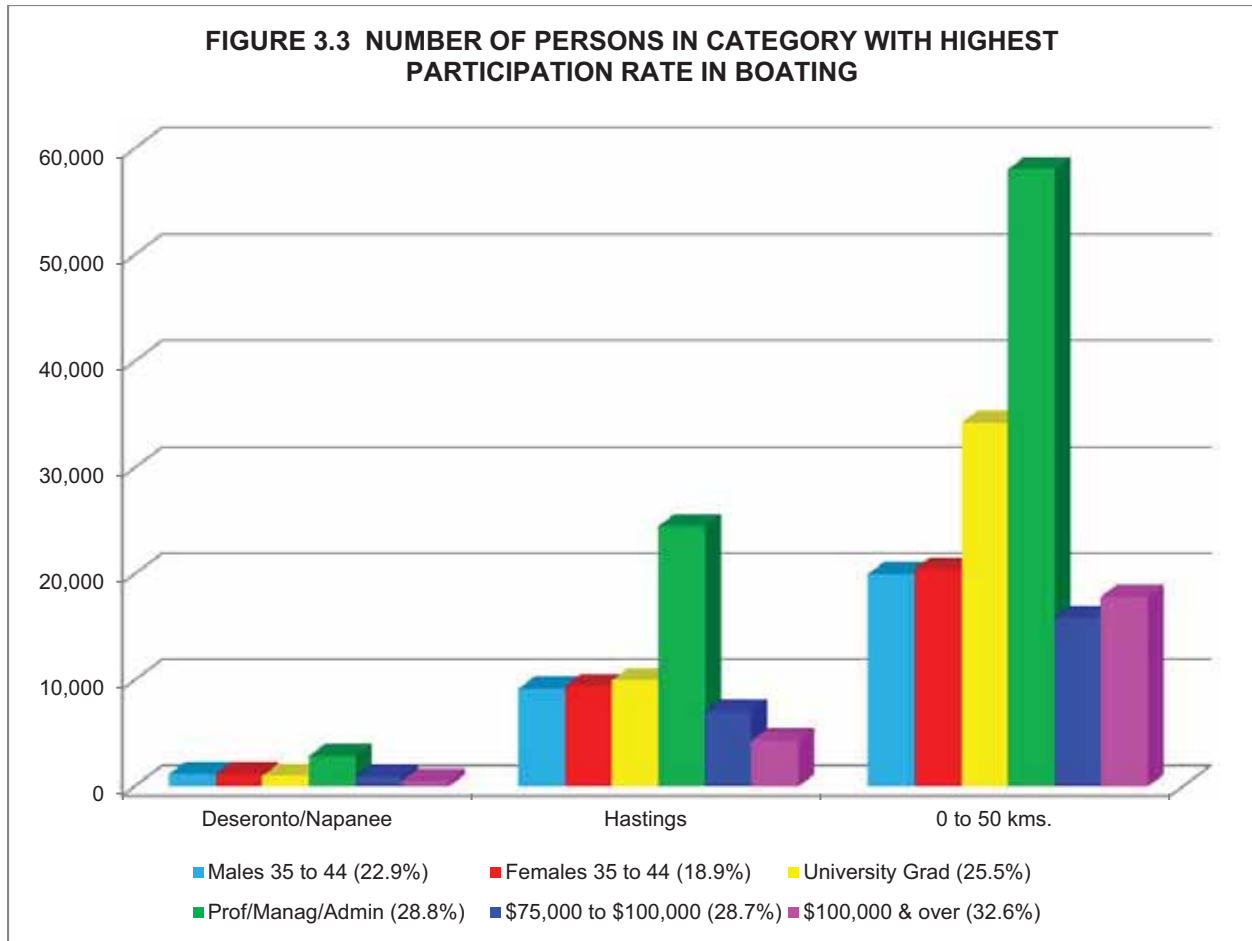
¹ Includes in-board and out-board motor boating and sailing, excludes canoeing, kayaking and motorized personal watercraft

Occupation is a socio-demographic characteristic that is a strong determinant of participation in boating. Within Deseronto, Napanee, the County and overall market area there are proportionally fewer individuals in professional/managerial/administrative occupations (i.e. 31.0%, 34.0%, 37.7%, and 40.7% respectively compared to the province's 45.7%), the occupation category with the highest participation level in boating (i.e. 28.8%). On the other hand, skilled labour persons who have the second highest participation rate in boating (i.e. 24.6%) are over-represented in all areas except Deseronto (i.e. 16.0% in Deseronto, 26.4% in Napanee, 22.3% in the County of Hastings, and 23.1% in the overall market) compared to 21.1 percent in Ontario.

Household income is the strongest determinant for participation in boating. Median household income in Deseronto is 39.4 percent lower than the province (i.e. \$36,619 versus \$60,455). The income levels in the other geographic areas are also lower than the province but less severely so (\$50,281 in Napanee, \$49,811 in Hastings County, and \$54,066 in the overall seasonal boater market area). Within the income group \$75,000 to \$99,999 which has the second highest participation rate in boating (i.e. 28.7%), Napanee is slightly over-represented by 0.5 percent and the overall market area is slightly under-represented by 0.5 percent (i.e. 14.9% and 13.9% respectively compared to 14.4% for Ontario). Households with an average income of \$40,000 to \$74,999 have the third highest participation rate in boating at 19.2 percent. In this case, Napanee is slightly over-represented by 1.1 percent (i.e. 32.1%) and the overall market area slightly under-represented by 1.1 percent (i.e. 29.9%), compared to the province's 31.0 percent.

Based on our analysis of the socio-demographic characteristics of residents within Deseronto, Napanee, the County of Hastings and the area within 50 kilometres of Deseronto's waterfront, it is clear that Napanee, the County and the broader 50 kilometre seasonal market area will be strong sources of seasonal slip demand at the proposed marina.

FIGURE 3.3 following shows the number of persons in each category with the highest participation rate in boating (i.e. there are 1,200 males in Deseronto/Napanee; 9,200 males in Hastings County; and 20,000 males within 50 kilometres of the proposed waterfront sites in the 35 to 44 age group category).



3.3 Strength of the Local Economy

The strength of the local economy is also an indicator of the business owners and residents ability to support and use a marina in the Deseronto. The majority of the businesses in Deseronto and Napanee have been located there for a long enough period of time that it reflects stability. Our interviews with the Napanee Chamber of Commerce and the ten leading employers in Deseronto and Napanee indicates that prospects for future growth are good despite the recent softening in the provincial and national economy. A number of the businesses felt they would be in a position to hire additional staff by the middle to end of 2012. Our interviews with the residents of Deseronto and business owner/operators in the two municipalities indicated a strong interest and support for the proposed marina. A number of business owner/operators in Deseronto commented on the potential impact that transient boaters in particular would have on increasing their business. Two of the larger businesses in Napanee indicated that the development of a marina on the Deseronto waterfront would be an added inducement in hiring new staff from outside the area.

3.4 Need for Seasonal Slips in Proposed Deseronto Marina's Market Area

Based on our interviews with marina owner/operators in the market area of the proposed marina sites we have assumed that the boats requiring seasonal slips are 6 metres or more in length (i.e. approximately 20 feet or more). As shown in **EXHIBIT 10**, we estimate that there were 3,400 boats 6 metres or more in length in the market area in 2010. Since data on the number of registered boats in Ontario are not county or region specific, we have arrived at our estimate of boats by dividing the number of boats in Ontario by the population. This provides us with the number of persons per boat (i.e. 88.2) or that there is one boat of this size for every 88.2 persons. By dividing the population of each of the counties making up the market area within 50 kilometres of Deseronto's waterfront by the number of residents per boat in the market area we arrive at the number of seasonal boats (e.g. $298,460/88.2 = 3,384$ seasonal boats). Since we are using averages, it is recognized that some areas may be over-estimated and some under-estimated. Overall we believe that it provides a reasonable estimate given the data available. This approach is widely used by private and public sector marina developers to estimate the number of boats in the market area. The U.S. National Park Service and the Tennessee Valley Authority (TVA) use this approach in their watershed area studies in the United States as does Parks Canada.

In arriving at the number of boats that require seasonal slips at commercial marinas it is necessary to eliminate those that are moored at private docks or boathouses and those that are trailered to a launch ramp on a per use basis. Our discussions with local planners and officials at Conservation Authorities indicated that there is no readily available data regarding the number of residences in the market area with docks or boathouses. They suggested that a conservative estimate would be that 5% of the households with waterfront property on Lake Ontario within 50 kilometres of the Deseronto waterfront have boats moored at private docks or boathouses. Our discussions with the National Marine Manufacturers Association - Canada and a number of Canadian boat trailer sellers suggests that approximately 5% of boats 6 metres to less than 8 metres, and 1% of boats 8 metres or longer are trailered to launch ramps on a per use basis. See **EXHIBIT 11** at the end of this report.

By comparing the number of seasonal slips available in the market area in 2011 with the number of seasonal boats as derived in **EXHIBIT 11**, it is evident that there is more demand than supply and that additional slips are needed. Our interviews with planning officials in Belleville, Quinte West, Napanee, Kingston Hastings, Prince Edward, Frontenac and Lennox & Addington indicated that other than the 324 seasonal slip Bayshore Park Marina planned for Quinte West's waterfront there are no known plans for new marinas in any of these areas that will result in additional slips being in place within the next 4 to 5 years. Plans for a new marina in Weller's Bay have been stalled for a number of years; upgrades at Tip of the Bay in Picton will not increase the number of slips; additional slips at Loyalist Cove Marina in Bath are in the planning stages with no decision to put them in place; the City of Kingston would like to add more longer slips at Flora MacDonald Confederation Basin and Portsmouth Olympic Harbour but at

present there is no timetable for implementation. It is also possible that the addition of longer slips at the two facilities in Kingston will result in a reduction in the overall number of slips due to the fixed size of the marina basins. In addition the Ontario Marine Operators Association indicates that there has been a reduction of over 1,000 slips in Ontario in the past two to three years due to smaller privately run 100 to 150 slip marinas closing and re-developing as alternative-use recreational and residential properties. There is also a theory among marina operators and boat manufacturers today, that if there are no adequate slips at a port, the number of boats in the area will reflect this deficiency. However, if on the other hand, quality facilities are offered, these facilities will actually foster boat ownership and activity in the area. Cobourg Marina and Meyer's Pier are direct examples of this theory.

We estimate that at the end of the boating season in 2011 there was a need for between 868¹ and 1,167² slips. Assuming that Bayshore Park Marine has 324 seasonal slips in place in time for the 2013 boating season, the need for additional seasonal slips will reach between 750¹ and 1,060² in 2013. There will be a need for 940 additional slips by 2015; 1,390 by 2020; and reach 1,700 by 2023. See **EXHIBIT 11**.

The trend toward longer and wider boats will have a significant impact on a number of the older existing marinas in the market area of the proposed Deseronto marina, especially some of those in Belleville and Picton where the finger docks are short and the fairways narrow. It is evident that there is a current and future need for seasonal slips in the 10.67 metre (35 foot), 12.12 metre (40 foot), and 15.24 metre (50 foot) range. Shoreplan Engineering's concept designs for the proposed Deseronto marina reflects this need for longer finger docks and wider fairways. See Section 6 following.

Clearly, there is a need for additional slips in the eastern end of Lake Ontario, and an existing and growing market for seasonal slips that the proposed Deseronto marina would be able to attract.

¹ Adjustment made for boats using private docks and boathouses and trailered to launch ramps

² No adjustment made for boats using private docks and boathouses and trailered to launch ramps

4. Market for Potential Transient Boats Visiting Proposed Deseronto Marina

Two sources of information were used in determining the likely market area for transient slips at the proposed Deseronto marina: a 2005 Great Lakes boating survey and our interviews with 75 yacht and boating clubs on Lake Ontario and the St. Lawrence River in Ontario and New York within the market area of Deseronto. The *2005 Great Lakes Boating Survey*, was conducted by the U.S. Department of Transportation, Michigan Department of Natural Resources, and Michigan State University, Department of Parks, Recreation and Tourism Resources.

4.1 Transient Boater Market Area

According to the Great Lakes Boating Survey, 60 percent of boater's days away from their home marina are spent within 20 nautical miles. A further 20 percent are spent within 21 and 40 nautical miles, 10 percent within 41 to 60 nautical miles, 6 percent within 61 to 80 nautical miles, and the final 4 percent beyond 80 nautical miles. See **EXHIBIT 12** at the end of this report.

Our telephone interviews with the yacht and boating clubs in Ontario and New York State situated on Lake Ontario and the St. Lawrence River provided an indication of the boating trips' characteristics, their likelihood of using a transient slip in the Town of Deseronto, and their comments on other marinas they frequent. The information obtained through our boater survey confirmed the results of the larger Great Lakes survey. For this reason, we have defined the transient boater market area for the proposed Deseronto marina as follows:

- 60 percent of boater demand will come from the Bellville to Picton area (i.e. within 20 nautical miles of the Deseronto site). During the 2011 boating season, there were 12 marinas and yacht clubs within 20 nautical miles, all within Ontario, mooring a total of 781 boats.
- 80 percent of boater demand will come from within 40 nautical miles of Deseronto (i.e. Bellville to Brighton in the west, and Napanee to Kingston in the east). During the 2011 boating season there were 28 yacht clubs and marinas within 21 to 40 nautical miles, all within Ontario, mooring 1,681 boats.

- 90 percent of transient boater demand will come from within 60 nautical miles of the Deseronto site (i.e. Brighton to Cobourg in the west; Quinte West to Hastings on the Trent Severn Waterway to the northwest; Kingston to Gananoque to the east; and Cape Vincent to Mud Bay in New York to the southeast). There were 15 marinas and yacht clubs operating seasonal slips during the 2011 boating season within 41 to 60 nautical miles of Deseronto. Ten of these facilities were in Ontario, mooring 843 boats, and five in New York State hosting 266 boats, for a total of 1,109 boats within the 41 to 60 nautical mile market area.
- As indicated previously, 96 percent of transient boater demand will come from within 80 nautical miles of Deseronto (i.e. Cobourg to Bowmanville to the west; Hastings to Bensfort Bridge on the Trent Severn Waterway to the northwest; Gananoque to Rockport on the Ontario side of the St. Lawrence River to the east; Cape Vincent to Alexandria Bay on the south side of the river in New York also to the east; and Sackets Harbor to Carlton, New York on the south side of Lake Ontario). Ninety eight marinas and yacht clubs were open for business in this area during the 2011 boating season, mooring 8,253 boats. Of these 1,693 boats were kept at 26 marinas in Ontario and 6,560 at 72 marinas and yacht clubs in New York.
- During the 2011 boating season, there were 4,998 Ontario boats moored at marinas and yacht clubs within 80 nautical miles of the proposed Deseronto marina site and 6,826 New York boats.
- Approximately 4 percent of transient boater demand will come from beyond 80 nautical miles, typically generated by long distance sailors or cruisers belonging to clubs like America's Great Loop Cruisers' Association.

4.2 Existing Number of Transient Boats in Market Area

The number of transient boats visiting the proposed Deseronto marina is dependent on the number of boats within the market and their distance from the proposed marina. In the 2011 boating season there were 11,824 occupied slips (i.e. 11,824 boats) within 80 nautical miles of Deseronto. See **EXHIBIT 16**. Of these, 781 were within 20 nautical miles and would have the greatest likelihood of visiting the marina on one or more occasions. The least likely are those 8,253 boats within 61 to 80 nautical miles.

According to surveys conducted by the National Marine Manufacturers Association in the U.S. in 2007 and the Department of Fisheries and Oceans in Canada in 2008 the average number of days that a boater is typically away from his/her home marina differs for power and sailboats. In Canada the average for power boats is 30 days and for sailboats 22 days. In the U.S. the averages are lower; 24 days for power boats and 20 days for sail boats. See **EXHIBIT 12**.

The number of potential transient boats is a function of the number of power boats and sailboats within the market area (See **EXHIBIT 17**) multiplied by the number of days that the boat is expected to leave its home marina (See **EXHIBIT 13**) and the distance it has to travel to get to Deseronto (i.e. 0 to 20, 21 to 40, 41 to 60, or 61 to 80 nautical miles). These projections include boats that are out racing, cruising, water skiing, wakeboarding, and anchored away from the home marina for swimming, sunbathing, picnicking, etc. It is assumed that not all of these boats would be looking for a transient slip. Based on this approach the 11,824 boats within the market area in 2011 would generate 34,890 boater days away from their home marinas. See **EXHIBIT 18**.

Every year between 150 and 200 boats (normally 10 to 14 metres in length) belonging to members of America's Great Loop Cruisers' Association complete "the Great Loop" through the Oswego Canal (i.e. New York State Canal System) and the Trent Severn Waterway. "A full service marina in Deseronto would represent a good location for their boaters travelling east of Prince Edward County to fuel up, pump out and take on supplies before entering the Trent Severn to head northwest or after exiting the Trent Severn to enter Lake Ontario and head southeast across the Lake to the Oswego Canal or up the St. Lawrence River"¹.

4.3 Projected Number of Transient Boats in Market Area

Based on the expected growth rate of boats 6 metres in length (i.e. 20 feet in length or longer) in Ontario and New York, we have projected that the number of boats within the market area of the proposed Deseronto marina will increase from 11,824 in 2011, to 12,650 by 2015, to 13,810 by 2020, and reach 14,580 by 2023. See **EXHIBIT 19** at the end of this report.

The projected number of potential transient boaters within the market area of the proposed Deseronto marina is shown in **EXHIBIT 20**. In 2011 there were approximately 33,430 transient boaters within 80 nautical miles of Deseronto, of which 11,710 were within 20; 8,220 were within 21 to 40; 2,660 were within 41 to 60; and 10,840 were within 61 to 80 nautical miles of the proposed marina site. By 2015 the total number of transient boaters within the overall market area is projected to increase to 37,270; to 42,120 by 2020; and reach 45,430 by 2023. See **EXHIBIT 20** at the end of this report.

It should be noted that the projections of potential transient boaters have been reduced by 4 percent to account for bad weather days within the 138 day boating season (i.e. May 15 to September 30) when waves may exceed one metre and prevent most boats from leaving their home port.

¹Interview with Janice Kromer, Founder and Executive Director of America's Great Loop Cruisers' Association, November 11, 2011.

As was the case with seasonal slips, there is clearly an existing and growing transient boater market that the proposed Deseronto marina would be in a position to attract. The proposed marina's idyllic setting at the confluence of the Bay of Quinte and Long Reach channel and close proximity to the boating waters of Lake Ontario and the Thousand Islands greatly increases its' potential to capture a significant and sustainable transient boater market. The numbers provided by other marinas within Deseronto's market area and those from Parks Canada for the nearby Trent Severn Waterway and Murray Canal in **EXHIBIT 21 and 22** confirm this. The challenge for the proposed Deseronto marina will be in drawing the longer distance transient boaters (i.e. 60 nautical miles and more away) from passing by to the south of Prince Edward County. Services, attractions and special events will be crucial in attracting a significant transient boater market to Deseronto.

5. Natural Environment and Coastal Conditions

Baseline inventory of the site was completed. It is based largely on review of existing information acquired from various sources. The work includes a review of a number of background reports provided by the Town of Deseronto, reports available from other sources and discussions with various governmental agencies. The review focused on the natural environment, soils and groundwater and specifically on the coastal environment. The natural heritage inventory and soil and ground water quality review was completed by Tarandus Associates Limited. Coastal conditions were reviewed by staff of Shoreplan Engineering Limited.

5.1 Natural Heritage

5.1.1 Vegetation

There are no apparent records of any species-at-risk (SAR) vegetation in the immediate vicinity of the Deseronto waterfront. The nearest occurrences of SAR plants noted in the Ministry of Natural Resources Natural Heritage Information Centre (NHIC) database are two reports of Carolina Whitlow grass (*Draba reptans*) dating back to 1974 and 1983 at a site 10 km northwest of the proposed marina and Ogden's Pondweed (*Potamogeton ogdenii*) reported in 1873 at a location 73 km to the north. The first is deemed provincially rare and the second is classified as both provincially and federally rare. Given the dated records and the distant locations, we consider these to be of no relevance to any proposed marina at Deseronto.

5.1.2 Herpetofauna

The northern map turtle (*Graptemys geographica*) has been reported approximately 10 km to the northwest. This turtle is considered a "species of special concern" federally and provincially. The northern map turtle may be found in both lakes and rivers, preferring slow-moving waters with muddy bottoms. Although this turtle could potentially be found along the Deseronto waterfront, we don't consider this a significant concern in regards to any proposed marina development in the study area.

5.1.3 Birds

No SAR birds are reported by NHIC as being in the vicinity of the Deseronto waterfront. The Ontario Breeding Bird Atlas (OBBA) reports 5 SAR bird species within the 10 km grid square in which Deseronto is located:

- Least Bittern (threatened provincially and federally)
- Red-headed Woodpecker (threatened federally, special concern provincially)
- Barn Swallow (threatened federally)

- Savannah Sparrow (special concern federally)
- Bobolink (threatened federally and provincially)

While it is possible these species may be observed occasionally in the vicinity of the Deseronto waterfront, there is no “significant” habitat present for these species. As such, we don’t consider these species to be of concern in regards to any proposed marina development.

5.1.4 Mammals

No mammalian species-at-risk have been reported by NHIC as being in the vicinity of the Deseronto waterfront.

5.1.5 Fish

No fish species-at-risk have been reported by NHIC as being in the vicinity of the Deseronto waterfront.

5.2 Soil and Groundwater Quality

We have completed a preliminary review of two reports by Malroz Engineering Incorporated titled *Phase I Environmental Site Assessment, Arctic Gardens, 11 Mill Street, Deseronto, Ontario* (1999), and *Environmental Investigation, Former Arctic Gardens Property, 11 Mill Street, Deseronto, Ontario*. A third document which is reportedly a Phase II ESA apparently exists, but the municipality has been unable to provide this to us.

Based on the present concept for the proposed marina at Deseronto, it is our understanding that the site at 11 Mill Street may be used for vehicular parking during the summer and boat storage during the winter. If this is indeed the case, it is our understanding that the use of the site (i.e. commercial/industrial/community-property use) would not be deemed to have changed and that an MOE Record of Site Condition would not be required.

The Malroz reports note the presence of some locations of contamination on site, largely consisting of a few heavy metals (copper, lead, zinc) and some petroleum hydrocarbons in soil as well as several PAHs in groundwater. Please note that the guideline standards existing at the time of the Malroz reports have been superseded by newer standards. Based on our preliminary review, it appears that when the results in the Malroz documents are compared to contemporary guidelines, there are more sample locations at which relevant standards are exceeded. Please also note that accepted collection techniques and laboratory protocols have been updated since the Malroz reports were completed.

Given the changes to guidelines and to collection/laboratory protocols, we would recommend that the Malroz reports be peer reviewed in more detail. The purpose of such a review would be:

- to clarify the appropriate standards/guidelines for use in evaluating soil and groundwater data;
- to identify data gaps;
- to clarify regulatory requirements, if any, regarding site contamination and the proposed use of the site; and
- to make recommendations as appropriate.

5.3 Coastal Conditions

Review of coastal conditions includes review of water levels and wave conditions. A discussion of the water levels and navigation and a discussion of breakwaters for reduction of wave activity are also provided.

5.3.1 Water Levels

Water levels at the site are controlled by the water levels of Lake Ontario. The water levels of Lake Ontario fluctuate on short, seasonal and long term bases. A brief summary of the water levels is provided below.

Average water levels of Lake Ontario fluctuate between approximately 74.5 m and 75.0 m International Great Lake Datum (IGLD). High water levels are generally reached in June and low water levels in early December. However, historical monthly water levels have reached as high as 75.7 m and have dropped as low as 73.7 m IGLD. The historical low water levels predate the construction of the St. Lawrence Seaway. The water levels have not gone below chart datum (elev. 74.2 m) since 1966.

Design high water level, used for flood control of shore development, is estimated to be 75.8 m GSC (MNR, 1989).

5.3.2 Navigable Depth

The bathymetry shown on **FIGURE 5.1** is based on field sheet data obtained from the Canadian Hydrographic Service. Chart datum, elevation 74.2 m IGLD, is commonly considered to be the appropriate reference elevation for marinas on Lake Ontario. Although water levels have gone below chart datum, this generally happens in the winter months and has occurred only twice since the opening of the St. Lawrence Seaway. A typical draft used for the design of a recreational boat marina is 1.8 m or 2.0 m. Therefore, the bottom elevation in recreational marinas should be at elevation 72.2 m or lower. For the purposes of concept development of the marina at Deseronto the 2 metre water depth below chart datum will be used.

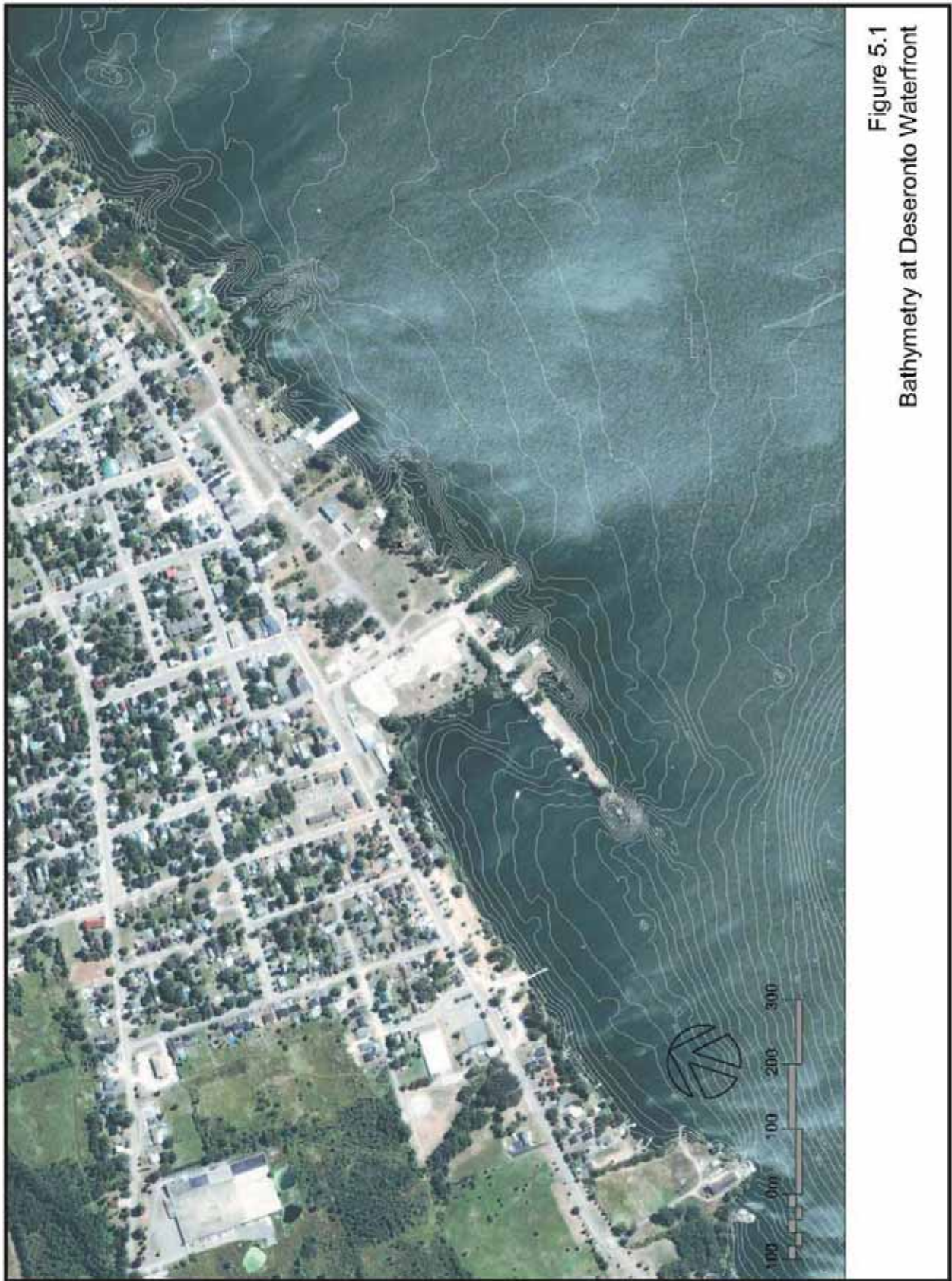


Figure 5.1
Bathymetry at Deseronto Waterfront

5.3.3 Wave Conditions

A wind-wave hindcast was carried out using a parametric hindcast model suitable for use on small bodies of water. Wind data from the Trenton airport was used to hindcast 48 years' worth of hourly estimates of significant wave height, peak wave period, and mean wave direction. The hindcast considered only winds during an average annual open water (ice free) period defined as April 1 to December 31.

FIGURE 5.2 is a wind rose for the wind data used in the 48-year hindcast. It can be seen that there is a higher frequency of occurrence of south-west winds than any other direction. The highest recorded winds speeds also come from the south west, wind sustained wind speeds of 80 kph occurring during the average open water season.

FIGURE 5.3 shows the directional distribution of the highest wave heights hindcast per direction sector and the directional distribution of the total hindcast wave energy. The wave energy distribution is more “peaked” than the wave height distribution, particularly in south and southwest sectors, due to off-wind wave generation. This is a phenomenon which occurs on fetch limited bodies of water with significant fetch gradients. When winds blow over open water, the generated waves propagate in the same direction as the wind. Wave heights increase until they become fetch limited, which is the maximum wave height that can be generated for a given wind speed acting over a given length of open water. That length of water is known as the fetch length. Once wave heights become fetch limited, the wave directions can change to become aligned with longer fetches. For example, under south to southwesterly winds, once the waves become fetch limited the wave direction will shift to the longer fetches towards either Long Reach or Telegraph Narrows, giving the dip in the wave energy distribution in **FIGURE 5.3**.

FIGURE 5.2 Trenton Airport Wind Rose, April 1 to December 31 Annually, 1963 – 2010

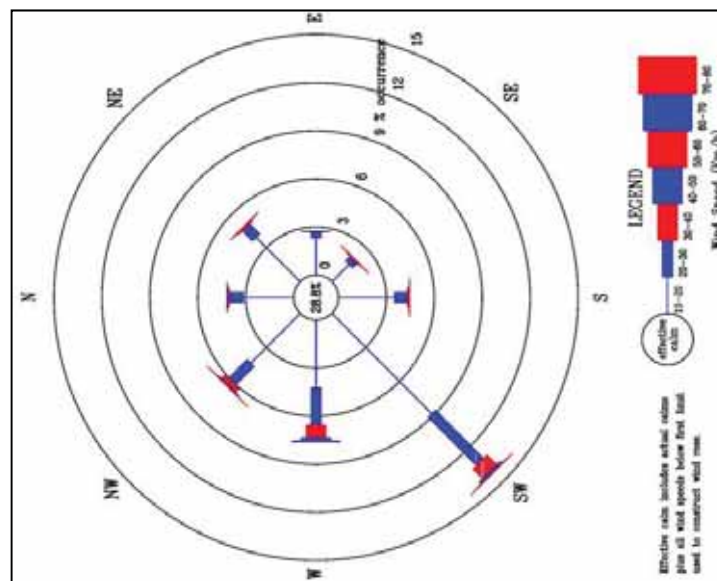


FIGURE 5.4 shows wave height and period exceedance curves for the hindcast wave data. These plots show the percentage of time that any given wave height or period is exceeded. **FIGURES 5.4, 5.5 and 5.6** show the results of peak-over-threshold extreme value analyses of peak storm conditions from the 48-year hindcast. The results of those analyses are used to estimate extreme storm conditions with a low probability of occurrence. The 100-year storm (which has a 1% probability of occurrence) was estimated to have a significant wave height of 1.0 metres and a peak wave period of 3.8 seconds.

FIGURE 5.3 Wave Height and Wave Energy Distributions

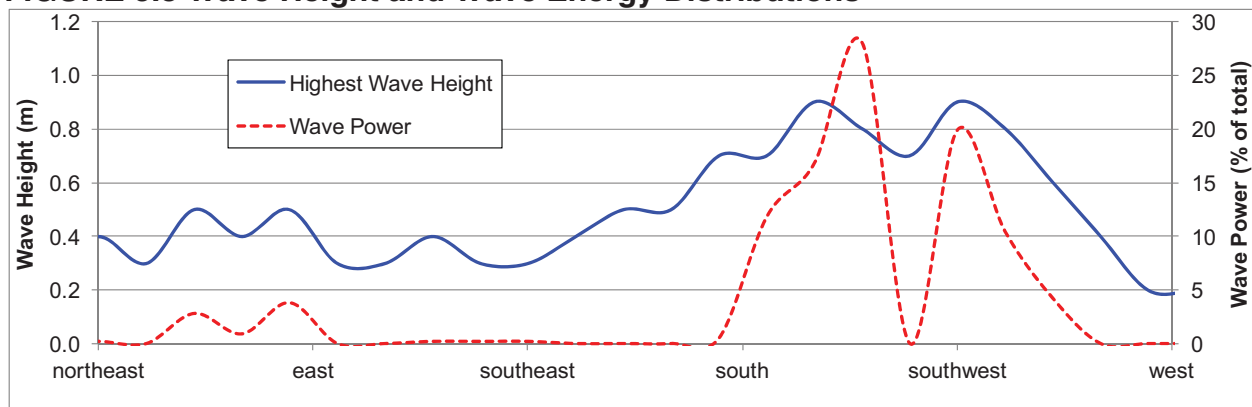


FIGURE 5.4 Wave Height and Wave Period Exceedance Curves

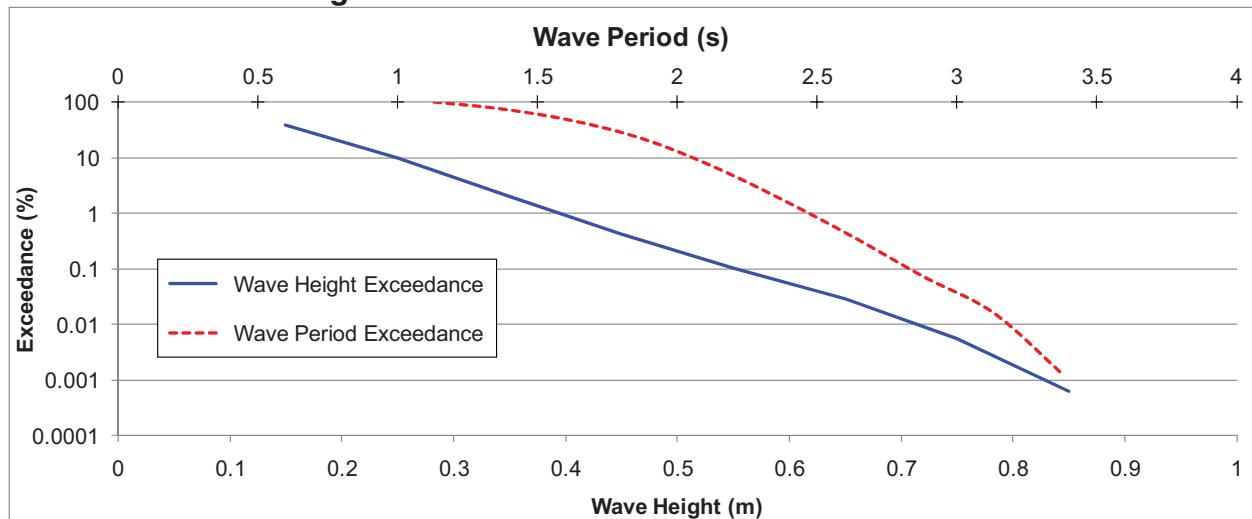


FIGURE 5.5 Extreme Value Analysis of Significant Wave Heights

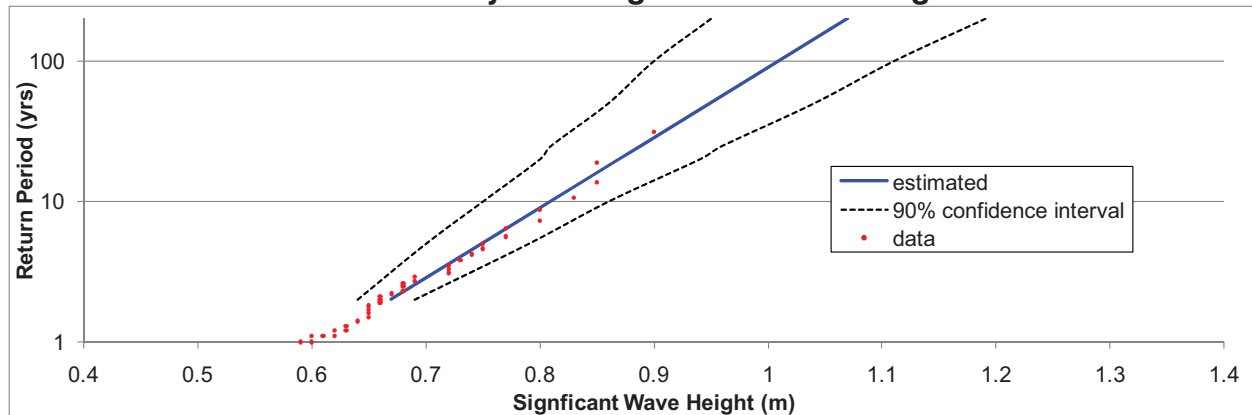
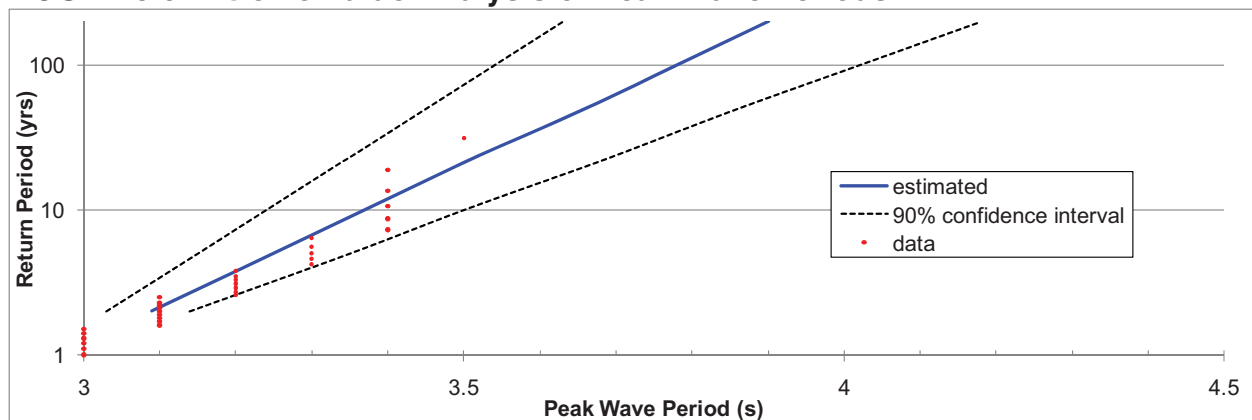


FIGURE 5.6 Extreme Value Analysis of Peak Wave Periods



5.3.4 Breakwaters

A review of the wave activity in the area presented above indicates that the basin must be protected from waves coming from the south-east through to the west quadrants. Breakwaters can consist of fixed structures, such as rubble breakwaters, cribs or caissons, or floating breakwaters.

The use of floating breakwaters is suggested as preferred wherever costal conditions allow for a number of reasons. These reasons include lower capital cost, lesser impact on the environment and better water circulation between the mooring basin and the lake.

The review also indicates that the wave conditions at the Deseronto waterfront can be controlled with floating breakwaters. The design wave conditions at this site are under 4.0 second wave period which can be controlled with commercially available floating breakwaters. There are a number of types of floating breakwaters available in the market place. The concrete pontoon type is expected to be the most suitable for this location. The breakwater would be likely anchored to concrete block anchors placed on the lake bottom. The sides of the breakwater can be equipped with fenders to accommodate temporary boat docking and the surface treated with wood or other types of material for pedestrian access.

6. Marina Concepts

Five concepts for marina development were prepared and assessed at a preliminary level. Of these five concepts two were considered more promising and were further refined. This was followed by a review with the Town of Deseronto representatives and selection of the preferred plan. The selected plan was refined, including further development of on-shore components to produce a preferred concept plan which is presented in detail.

6.1 Location and Site Conditions

The terms of reference identified lots 1 and 5 as properties in municipal ownership. These lots, along with the adjacent Lake Ontario waterlots, were identified in the terms of reference as the preferred locations for a marina facility. Locations of these parcels and a general plan of the Deseronto waterfront and downtown area are presented on **FIGURE 1.1** as Parcel #1 and Parcel #2. The two potential locations are on the west and east side of Mill Street. The first location, identified as Parcel #1, is located on the west side of Mill Street, south of Main Street and north of Yacht Club lane. It includes a small waterlot. The second location, identified as Parcel #2, is located east of Mill Street and south of Water Street. It also includes a small waterlot.

A review of bathymetry fronting the two potential marina locations indicates that water depth of 2 meters below datum is not reached until some distance from the shore. In front of Parcel #1 this 2 metre depth is not reached until approximately 200 meters offshore. In front of Parcel #2 the same depth is reached approximately 50 to 60 meters from the existing shoreline. These site constraints were considered in the preparation of the concept plans. Specifically, plans developed for Parcel #2 looked at concepts with and without the possibility of dredging.

It should also be noted that since most power boats draw less than 1 metre depth, a marina can operate with a portion of a basin providing less than standard draft by allocating seasonal boats according to draft. Although this does not describe ideal operating conditions, it is a feasible approach, particularly as a temporary measure.

6.2 Initial Marina Concepts

Five marina concepts were developed initially. The concepts vary in size from 158 slips to 228 slips and accommodate boats between 9 and 14 meters at regular slips. Larger boats could be accommodated at specific locations within these concepts, such as the end of main docks. However, this would reduce the total number of slips provided. Concept 4 is the only concept that allows additional docking for larger boats along an exterior side of a main dock without reducing the presented slip count. Concepts 1 and 2 develop a marina basin fronting Parcel #2 with dredging being required to provide full navigation depth in the entire basin. Concepts 3 and 4 present concepts fronting Parcel #2 without any dredging requirements.

Concept 5 is the only concept developed for Parcel #1 on the west side of Mill Street. Descriptions of the concepts are provided below. Two concepts were then refined and developed in more detail and including on land facilities, service docks and a boat launch ramp.

Many of the features included in the concepts are similar. Therefore, a detailed description is provided for Concept 1 and Concepts 2 to 5 are described in less detail with the description focusing on the differences between the concepts.

6.2.1 Concept 1

A plan of Concept 1 is presented on **FIGURE 6.1**. This concept is the second smallest of the five options considered. It accommodates 158 slips. There are 88 nine metre long slips, 54 eleven metre long slips and 16 fourteen meter long slips. The docks are arranged along four main docks extending from the shore. The two west main docks accommodate the nine metre slips. The eleven metre long slips are located along the third main dock from the west. The fourteen metre slips are located along the most easterly main dock along with additional nine metre docks. All docks have power and water supplied to pedestals on the main docks. Thirty Amp service is proposed for nine metre slips and fifty Amp service is proposed for the larger slips. Each main dock is accessed directly from the shore. Security gates would be located at the base of each of the main docks. The main docks are up to 110 meters long. A service dock is proposed to be located along the east side of the existing headland east of the Mill Street headland. The east side of this pier would be reconstructed to include a vertical wall to provide access directly to the shore. Since the docks are located in close proximity to the shore dredging is required in approximately one half of the basin.

A review of the wave activity in the area, presented in the previous chapter, indicated that the basin must be protected from waves coming from the west, south and south east quadrants. Three floating breakwater structures are proposed in this concept. The west breakwater is located approximately along a projected line of Mill Street. The east breakwater is located approximately along the projected east boundary of the water treatment plant property. Both the west and east breakwater could be connected to shore and provide pedestrian access. The breakwater may be unsafe for access during severe storms and access would need to be controlled. The south breakwater is the longest and extends in front of the four main docks and “overlaps” with the east and west breakwaters.

Boat access to the marina basin can be obtained at two locations. Main access would be at the south west corner of the marina between the central and the west breakwater. Access can also be provided at the east end of the central breakwater.

The shore of the park is proposed to be naturalized and its alignment modified very slightly. There would be no net lake infill as a result of the shoreline works. The edge of the shoreline would be raised above the lake flood level. The shoreline treatment is expected to consist of stone revetment with planting pods and other features to enhance aquatic habitat.

The construction cost estimate for Concept 1 is estimated to be approximately \$4,606,400 or \$29,154 per slip. This amount does not include any construction contingency, approval process costs, design costs or HST. It is prepared for comparison of alternatives only. A summary of the costs is presented in **TABLE 6.1** and a detailed breakdown of the estimated cost is provided in **EXHIBIT 23A**.

TABLE 6.1 Summary of Construction Costs of Preliminary Concepts*

Concept	No of Slips	Cost/Slip	Construction Cost
Concept 1	158	\$29,154	\$4,606,400
Concept 2	234	\$24,503	\$5,733,600
Concept 3	156	\$23,212	\$3,621,100
Concept 4	228	\$22,550	\$5,141,500
Concept 5	138	\$57,257	\$7,901,600

*Construction costs are presented for comparison of alternative concepts and do not include on shore facilities, construction contingencies, taxes and design fees.

6.2.2 Concept 2

Concept 2 is a very similar layout to Concept 1 except that it attempts to increase the capacity of the marina basin by increasing the length of the main docks up to approximately 150 meters. Concept 2 provides 234 slips. There are 128 nine metre slips, 82 eleven metre slips and 24 fourteen metre slips. Other features associated with the marina are similar to those described for Concept 1. The concept is presented on **FIGURE 6.2**.

The construction cost estimate for Concept 2 is estimated to be approximately \$5,733,600 or \$24,503 per slip. This amount does not include any construction contingency, approval process costs, design costs or HST. It is prepared for comparison of alternatives only. A summary of the costs is presented in **TABLE 6.1** and a detailed breakdown of the estimated cost is provided in **EXHIBIT 23B**.

6.2.3 Concept 3

Concept 3 attempts to create a marina without any dredging requirements. This is achieved by extending a wide main dock/breakwater from the existing headland located at the base of Mill Street. The secondary main docks are then extended in the easterly direction from the main access dock/breakwater. The main docks are up to 210 metres long. The nine metre docks are located along the north main dock and a service dock is located at the west end of that dock. The eleven and fourteen metre docks are located along the south dock.

Concept 3 provides 156 slips in total. There are 84 nine metre slips, 56 eleven metre slips and 16 fourteen metre slips. There are four floating breakwater required to protect the basin from excessive wave action. The west breakwater provides access. Entrance to the basin is provided from the east side of the basin. Concept 3 is presented on **FIGURE 6.3**.

The main disadvantage of this concept is the possibility of restricted access during severe storm conditions from the west. The west breakwater could be subject to notable motion and substantial wave spray under these conditions. This could be overcome by providing a separate dock and breakwater at additional cost.

The construction cost estimate for Concept 3 is estimated to be approximately \$3,621,100 or \$23,212 per slip. This amount does not include any construction contingency, approval process costs, design costs or HST. It is prepared for comparison of alternatives only. A summary of the costs is presented in **TABLE 6.1** and a detailed breakdown of the estimated cost is provided in **EXHIBIT 23C**.

6.2.4 Concept 4

Concept 4 is the second of the two concepts that create a marina basin without any dredging activities. This concept connects the main access dock to the parkland area east of Mill Street rather than to the headland at the south end of Mill Street. An extra wide main access dock is connected to the shore and extends out into deep water. The first set of secondary main docks is located approximately 90 meters from the shore. The secondary main docks extend in easterly and westerly directions 125 and 110 metres respectively from the access dock. The eleven metre docks are located on the west side of the basin and most of the nine meter docks are located on the east side. The fourteen metre docks are located on the north side of the most southerly dock east of the main access dock. Additional docking for large boats is available along the south side of this dock. A service dock is located on the north side of the mooring area.

Concept 4 provides 228 slips in total. There are 118 nine metre slips, 88 eleven metre slips and 22 fourteen metre slips. There are four floating breakwater required to protect the basin from excessive wave action. Entrance to the basin is provided from the south-east corner of the basin. Concept 4 is presented on **FIGURE 6.4**.

The main disadvantage of this option is the long distance boaters need to travel from the drop off area on shore to the end of the docks. The slips are as much as 320 meters from the shore. This operational difficulty can be reduced with an extra wide main access dock and the use of golf carts to bring supply and travel on the main docks.

The construction cost estimate for Concept 4 is estimated to be approximately \$5,141,500 or 22,550 per slip. This amount does not include any construction contingency, approval process costs, design costs or HST. It is prepared for comparison of alternatives only. A summary of the costs is presented in **TABLE 6.1** and a detailed breakdown of the estimated cost is provided in **EXHIBIT 23D**.

6.2.5 Concept 5

Concept 5 is the only concept developed for Parcel #1. It was recognized that extensive dredging would be required to develop a marina concept in this area. However, development of this concept allows the dredging activity to be quantified. This concept uses dock access from a dock along the north side of the basin. This dock is located approximately thirty metres from the north shore of the bay and is approximately 190 metres long. Secondary main docks extend south from the north main dock. The docks are up to 110 metres long. The nine metre slips are located along the inner main docks and fourteen metre docks are located along the outside of the most westerly dock. The eleven metre docks are located between these two areas. A service dock is located along the north part of the most easterly main dock.

Concept 5 provides 138 slips in total. There are 80 nine metre slips, 40 eleven metre slips and 18 fourteen metre slips. One floating breakwater is required to protect the basin from excessive wave action from the west quadrant. An existing land spit on the south side provides protection from the south. The entire area of the mooring basin requires dredging to accommodate the boats. Entrance to the basin is provided from the south-west corner of the basin. Concept 5 is presented on **FIGURE 6.5**.

The construction cost estimate for Concept 5 is estimated to be approximately \$7,946,600 or \$50,295 per slip. This amount does not include any construction contingency, approval process costs, design costs or HST. It is prepared for comparison of alternatives only. A summary of the costs is presented in **TABLE 6.1** and a detailed breakdown of the estimated cost is provided in **EXHIBIT 23E**.

The main disadvantage of this concept, aside from the high cost, is the close proximity of the docks to existing on-shore development. This location is not considered feasible.

6.3 Refined Concepts

Two concepts were selected after presentation of the five preliminary concepts and discussion with the representatives of the Town of Deseronto. The two concepts are refinements of Concept 2 and Concept 4. These concepts accommodate the largest number of boats, which is required for the economic success of the marina and to allow for the best integration with available public lands both on the east and west side of Mill Street.

6.3.1 Concept 2A

Concept 2A accommodates 274 boats. Concept 2A is presented on **FIGURE 6.6**. The main docks layout is very similar to that of Concept 2 except that the docks extend further offshore. The main docks are up 175 metres long. There are 152 nine metre slips, 94 eleven metre slips and 28 fourteen metre slips. The exact distribution of seasonal and transient slips by size is provided in **TABLE 6.2**. The largest slips are located along the east side of the basin, eleven metre docks in the central part of the smallest nine metre slips along the two westerly docks.

TABLE 6.2 Slip Size and Type Distribution, Concept 2A

	9 m	11 m	14 m	Total
Transient	14	8	3	25
	5%	3%	1%	9%
Seasonal	138	86	25	249
	50%	31%	9%	91%
Total	152	94	28	274
	50%	40%	11%	100%

A service dock is provided along the east side of an existing pier east of Mill Street. The service dock is proposed to be to be approximately 35 metres long. It will provide pump out service and fuel.

The basin is protected with three floating breakwaters. Two entrances to the mooring basin are provided, at the south-east and south west corners. The breakwaters overlap sufficiently at the corners to prevent excessive wave penetration into the mooring basin. Public access could be potentially provided to the east and west breakwaters. These breakwaters, if constructed as caissons type, could be up to approximately 4 metres wide and can be constructed to accommodate wheelchair access and fishing activities. However, fishing would need to be restricted on the marina side of the breakwater to prevent conflict with boats. Access to the breakwaters, if provided, would need to be controlled during stormy conditions.

During the winter months, the docks and breakwaters will need to be relocated to the sheltered part of the lake directly east of the proposed service dock. This will shelter the docks and breakwater against ice movement. The docks will need to be disconnected to minimize the space requirement for storage. The breakwaters will be placed on the outside to minimize the potential for ice damage. The ice in the storage area may need to be controlled by “bubbling” or other means. Local experience is the best determinant of the extent of ice interaction with floating docks and breakwaters.

The north part of the mooring basin is proposed to be dredged to bottom elevation of 72.2 m. This bottom elevation will provide a water depth of 2.0 metres below datum. Ideally, the basin will be dredged at the same time as the initial construction is undertaken. However, part of the basin can operate with no dredging and approximately 40% of the docks in the dredge area could operate prior to dredging during average water levels. Therefore, dredging could be delayed until after the establishment of the marina. However, it should be undertaken as soon as possible to ensure that the marina can stay in operation during an unexpected low water level period.

A boat launch ramp is located within the protected basin between the Mill Street headland and a smaller pier to the east that will be developed as a service dock. The launch ramp is proposed to be a two lane ramp with docks along both sides. Boaters using the launch ramp will have direct access to the basin entrance at the south-west corner of the basin, thus minimizing disturbance to the mooring basin.

The shore of the park is proposed to be naturalized and alignment modified very slightly. There would be no net lake infill as a result of the shoreline works. The edge of the shoreline would be raised above the lake flood level. The shoreline treatment is expected to consist of stone revetment with planting pods and other features to enhance aquatic habitat. The shore of the service dock along the east side of the pier will consist of steel sheet pile walls or similar vertical walls to accommodate docking of boats.

On-land facilities associated with the marina include a marina building, parking for the marina and launch ramps, access road to the marina drop-off area and summer recreational facilities. Parking for the marina is allocated at 0.5 parking spaces per slip. This means that 100 parking spaces are required. The marina building is proposed to be 350 sq. m in size. The building will provide a marina office, showers, washrooms and meeting rooms.

The construction cost estimate for Concept 2A is estimated to be approximately \$9,416,200 or \$34,366 per slip. This amount does not include any construction contingency, approval process costs, design costs or HST. It is prepared for comparison of refined alternatives only. The construction cost estimate includes the cost of on land facilities such as the marina building, parking, and seasonal fencing for the winter storage area and an allowance for playground equipment. A summary of the costs is presented in **TABLE 6.3** and a detailed breakdown of the estimated cost is provided in **EXHIBIT 23F**.

The dredging cost used for assessment of Concept 2A and others in previous estimates, assume that the material will be moderately contaminated only and extraordinary measures will not be required during dredging operations and disposal. A review of available literature dealing with soil and sediment contamination in the area does not provide any direct information regarding sediment quality in the dredge area of Concept 2A. Historic industrial activities in the area suggest that there may be a possibility of some level of contamination of sediment in the area. A detailed sampling program will need to be developed and undertaken prior to developing a detailed dredging plan for the marina basin.

TABLE 6.3 Summary of Construction Costs, Refined Concepts

Concept	No of Slips	Cost per Slip	Construction Cost
Concept 2A	274	\$34,366	\$9,416,200
Concept 4A	266	\$33,105	\$8,805,800

6.3.2 Concept 4A

Concept 4A accommodates 266 boats. Concept 4A is presented on **FIGURE 6.7**. The main docks layout is very similar to that of Concept 4 except that the most southerly dock extends further in the easterly and westerly directions. This necessitates that the south breakwater is located slightly further offshore and both the west and east breakwaters are slightly longer. This means that the furthest dock is located approximately 300 metres from the shore measured along the docks.

There are 132 nine metre slips, 106 eleven metre slips and 28 fourteen metre slips. The exact distribution of seasonal and transient slips by size is provided in **TABLE 6.4**. The largest fourteen metre slips are located along the south dock on the east side of the basin. The eleven metre docks are located in the northwest part of the basin and the smallest nine metre slips are located in the northeast part of the basin and also along the north side of the south dock on the west side of the basin. Additional docking for large boats is available along the south side of this dock. A service dock is provided along the east side of an existing pier east of Mill Street.

TABLE 6.4 Slip Size and Type Distribution, Concept 4A

	9 m	11 m	14 m	Total
Transient	14	8	3	25
	5%	3%	1%	9%
Seasonal	118	98	25	241
	44%	37%	9%	91%
Total	132	106	28	266
	50%	40%	11%	100%

The basin is protected with three floating breakwaters. Two entrances to the mooring basin are provided, at the south-east and south west corners. The breakwaters overlap sufficiently at the corners to prevent excessive wave penetration into the mooring basin.

A boat launch ramp is located within the protected basin between the Mill Street headland and a smaller pier to the east that will be developed as a service dock. The launch ramp is proposed to be a two lane ramp with docks along both sides. Boaters using the launch ramp will have direct access to the basin entrance at the south-west corner of the basin, thus minimizing disturbance to the mooring basin.

The shore of the park is proposed to be naturalized and its alignment modified very slightly. There would be no net lake infill as a result of the shoreline works. The edge of the shoreline would be raised above the lake flood level. The shoreline treatment is expected to consist of stone revetment with planting pods and other features to enhance aquatic habitat. The shore of the service dock along the east side of the pier will consist of steel sheet pile walls or similar vertical walls to accommodate docking of boats.

On land facilities are the same as described above for Concept 2A.

The construction cost estimate for Concept 4A is estimated to be approximately \$8,805,800 or \$33,105 per slip. This amount does not include any construction contingency, approval process costs, design costs or HST. It is prepared for comparison of refined alternatives only. The construction cost estimate includes the cost of on land facilities such as the marina building, parking, and seasonal fencing for the winter storage area and an allowance for playground equipment. A summary of the costs is presented in **TABLE 6.3** and a detailed breakdown of the estimated cost is provided in **EXHIBIT 23G**.

6.4 Preferred Concept

The preferred concept was selected after presentation of the five preliminary concepts and the two refined concepts and discussion with the representatives of the Town of Deseronto and the public. Concept 2A is selected as the preferred option. The main reasons leading to the selection of this concept are:

- Highest slip capacity of the concepts considered
- Most integrated water and land facilities
- Most functional dock layout that minimized length of docks

6.5 Approvals

The development of the marina will be subject to a number of approvals. Municipal approvals for the building and site servicing will be required. Details of these municipal approval processes are not discussed since it is the municipality that is expected to be the proponent of the project.

Other approval agencies include Transport Canada, Department of Fisheries and Oceans, Ministry of Natural Resources, Quinte Conservation, Ministry of the Environment and possibly other agencies as may be required under the environmental review process. A brief description of each approval is provided below.

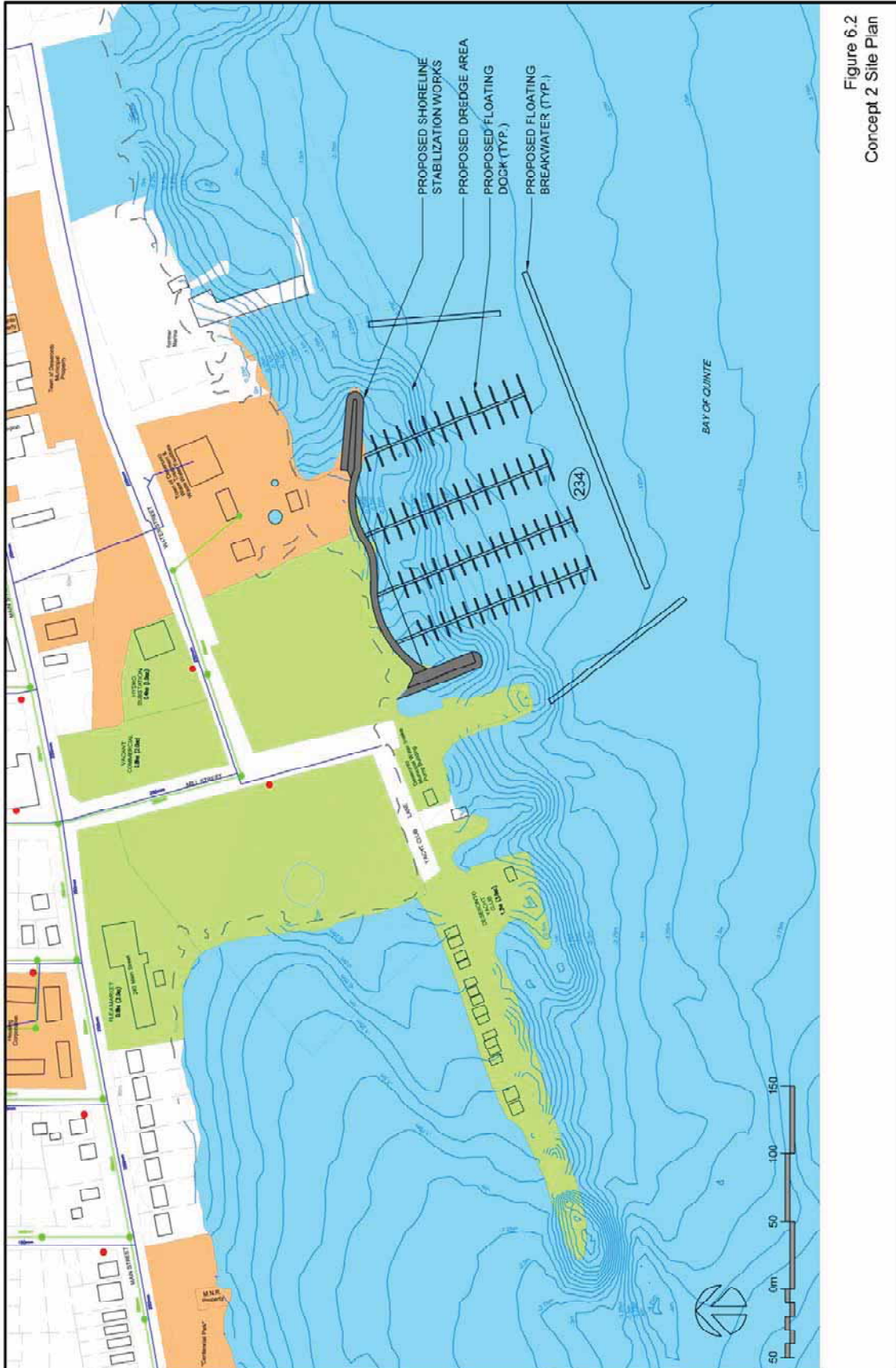
Approval by Transport Canada (TC) is required under the Navigable Waters Protection Act (NWPA). Only aspects of the project that impact the right to navigate are considered under this Act. A screening of the project by Transport Canada results in an exemption or a full approval process. Submission under NWPA requires detailed design drawing to be completed. The timeline for the process is generally three to six months from submission.

The Department of Fisheries and Oceans (DFO) will review the application under the Fisheries Act. No destruction or alteration of fish habitat is permitted without the authorization of the Minister. There are two possible approval processes under the Fisheries Act, referred to as “Letter of Advice” or “Authorization”. It is likely that the proposed project will require an “Authorization”. Submission under Fisheries Act requires detailed design drawings to be completed, although discussion with the department should be undertaken in the early stages of the project and throughout the Environmental Assessment process. The discussions with DFO will be supported by the local conservation authority.

Approval from the Ministry of Natural Resources will be required under the Public Lands Act. This approval covers the use of public lands and all lake bottoms are considered public lands in the province of Ontario except those deeded to other owners. The Public Lands Act also covers work completed in the shore lands, which is the area below high water mark. The town will need to purchase or lease additional water lot for the operation of the marina. The cost of the water lot is normally assessed at fair market value. There is a prescribed process for the assessment of the value. The cost of the water lot is not included in the provided estimate.

Quinte Conservation will need to issue a permit under their Regulations 319/09, Development, and Interference with Wetlands & Alterations to Shorelines and Watercourses. Their concerns would relate to shoreline hazards and protection of the natural environment.

The Ministry of the Environment (MOE) will be involved in two aspects of the approval process. They will be concerned with the sediment quality and dredging and with the environmental assessment process. A permit or approval document is not issued under either process. It is the responsibility of the proponent to ensure that work is undertaken in accordance with applicable regulations and legislation. An appropriate sediment sampling program and dredging operations program will need to be designed and discussed with MOE. The Provincial Environmental Assessment Act applies to the project. Enforcement of this legislation is also the responsibility of MOE. Our recent experience indicates that marina projects are subject to an Individual Environmental Assessment.



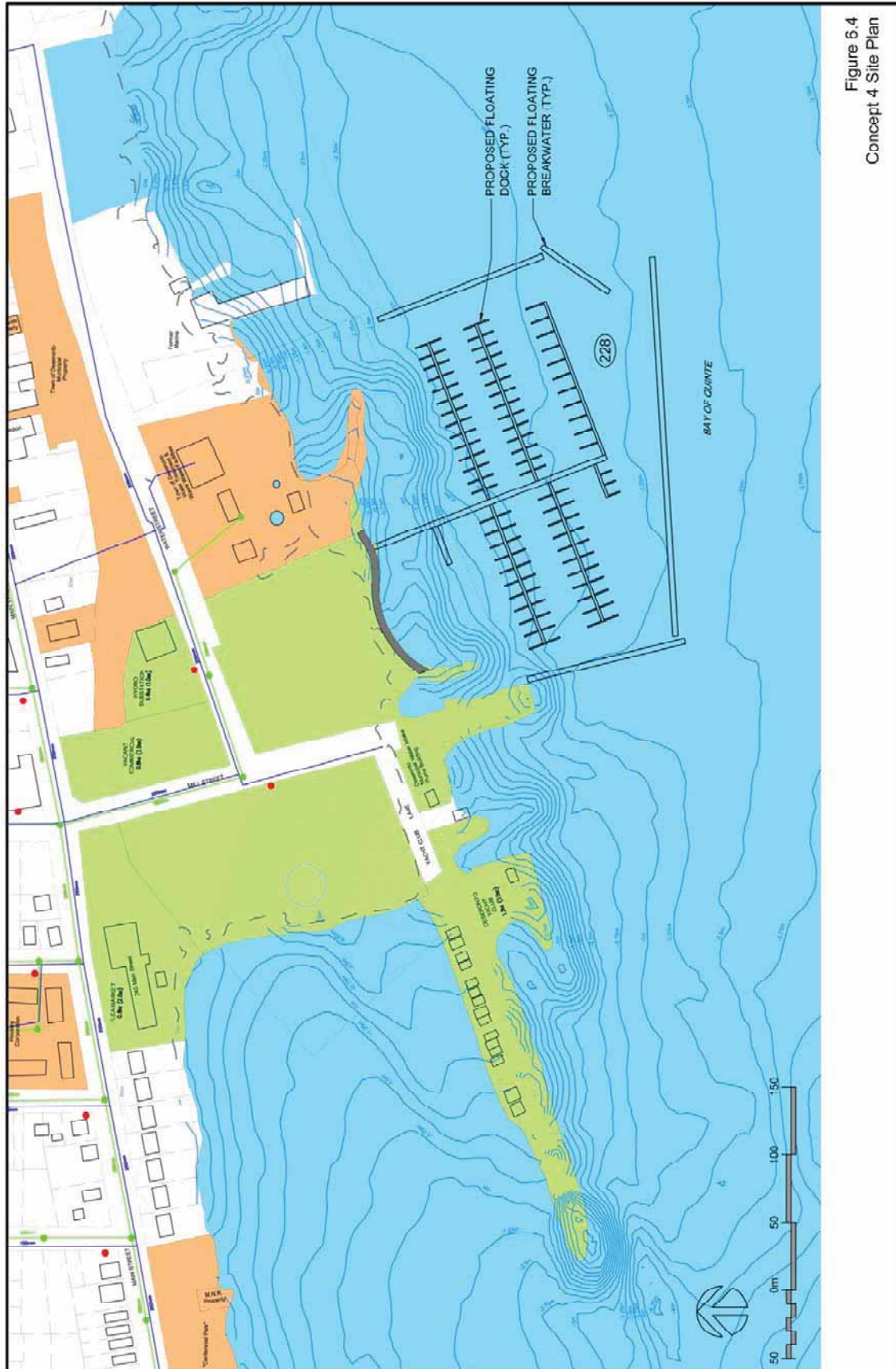
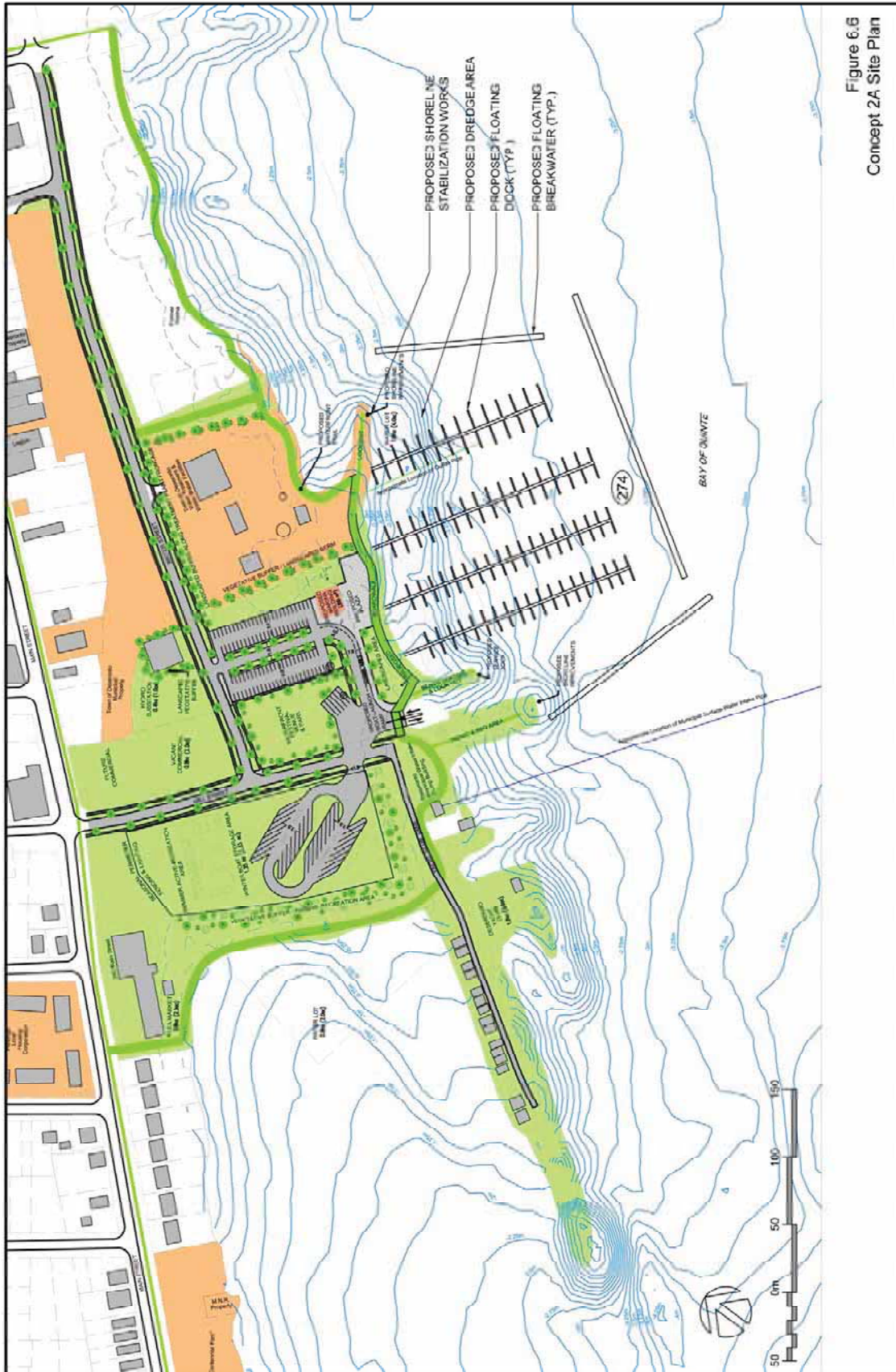


Figure 6.4
Concept 4 Site Plan



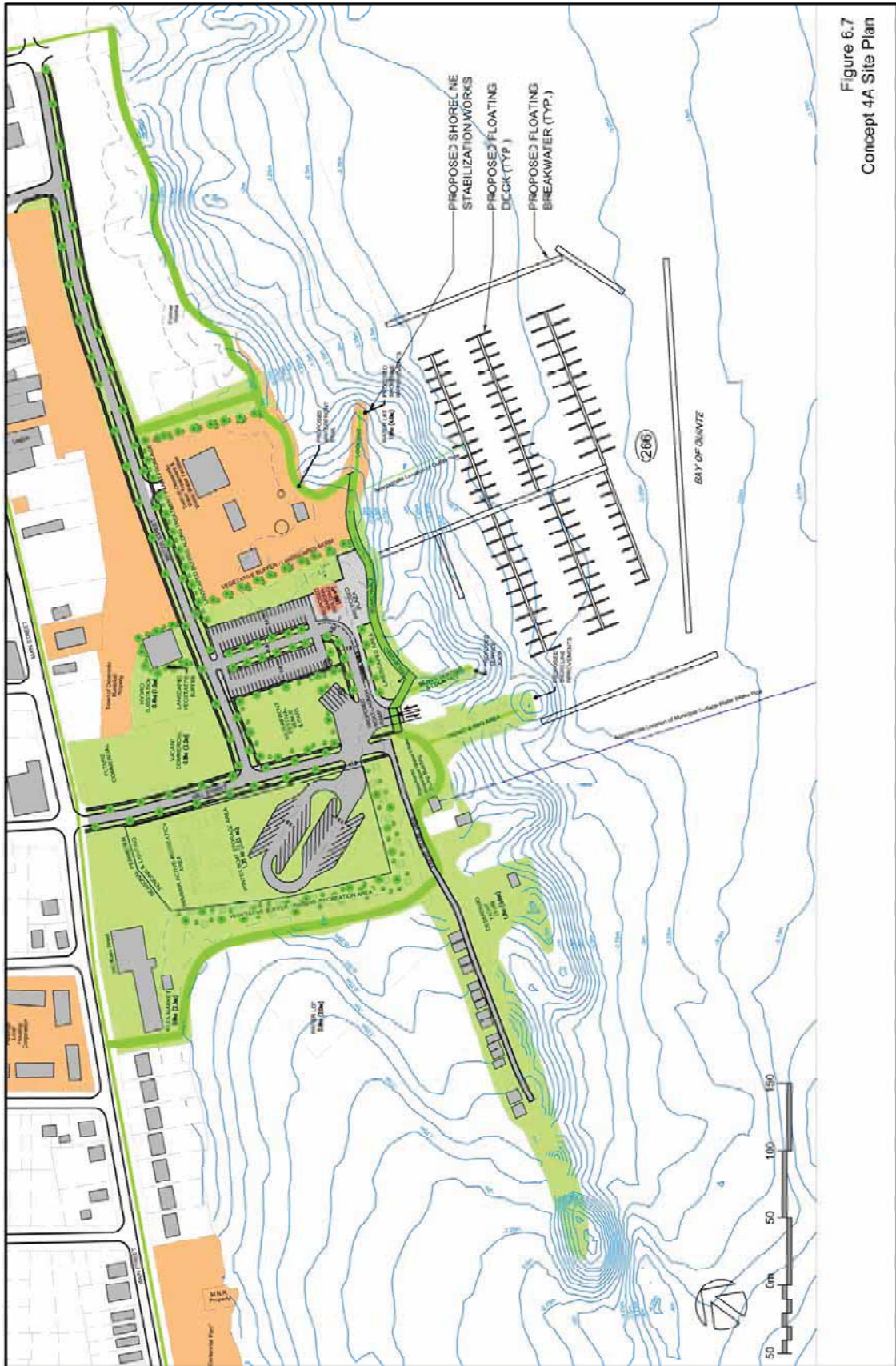


Figure 6.7
Concept 4A Site Plan

7. Land Use Planning Analysis & Recommendations

7.1 Study Area Analysis

7.1.1 Background/Context

The analysis of the study area extends beyond the Term of Reference and includes the former marina property, the property immediately to the east of the old marina, other publicly-owned properties along Water Street and the central portion of Main Street – between Mill and 5th Streets – per the results of the stakeholder meeting.

In preparation of this analysis, various site visits were undertaken from the perspectives of both land and water. **FIGURE 7.1 Site Photos** was prepared, providing a pictorial representation of the study area on an overlay of the base plan. The photos were taken during November, 2011 during lower water levels while the majority of trees had dropped their leaves. This provided good opportunities for site analysis. The intent of the Site Photos figure is to illustrate the existing conditions and the suitability of the proposed marina and complementary land uses. Comparison of the study area analysis and the proposed marina and complementary land uses reveal they are in keeping with the surrounding low and medium density residential and commercial character of Downtown Deseronto.

The land uses surrounding the study area are characterized as predominantly residential and commercial. The Deseronto Water Pump Station and Waste Treatment Plant are immediately adjacent, sharing the peripheral study area boundary. It should be noted that the other structures and uses within the study area include the Flea Market building, hydro substation, former marina buildings and public surface-parking lot.

7.1.2 Topography and Natural Features

There is a gradual gradient change from the head of Mill Street, at the Main Street intersection, sloping towards the Bay of Quinte, generally levelling south of Water Street.

All of the study area parcels are maintained as manicured-grass landscaping with mature trees, save and except the former Arctic Gardens industrial property, south of the Flea Market building – which includes a large concrete pad over the majority of the parcel's land base, informally used by the public works department for open storage of materials, and by the public for basketball court and skateboarding uses.

The study area shoreline is enveloped by the floodplain of the Bay of Quinte, which informs the arrangement of the proposed marina building and complementary land uses on the plan. For the purposes of concept development of the marina and complementary land uses, a 15 metre setback from the established flood line is used.

This is the setback enforced by Quinte Conservation as well as applicable planning documents.

7.1.3 Findings

Various strengths, weaknesses and opportunities were observed during the assessment of the study area. The following outlines our findings:

- Relative overall quality and charm of Downtown Deseronto and study area, in both built and natural heritage
- Recent open space and streetscape improvements were apparent in downtown area, including Centennial Park to the west
- Large amount of land in the downtown area owned by Town
- Informal visual and pedestrian linkages from downtown Main Street to the Bay of Quinte and vice versa from Water Street to Main Street
- Landmark Canada Post office can be seen from numerous viewpoints along Mill and Water Streets
- Landmark Skyway Bridge to the west can be seen from former industrial property
- Pedestrian activity was observed on Main, Mill Streets – fulfilling daily needs, walking dogs, etc.
- Mix of local restaurants and shops and services present on downtown Main Street
- Sidewalks are present on both sides of a portion of Mill Street; no sidewalks are present on Water Street
- Street parking currently available along Main Street and most downtown side-streets – Mill, St. George, Centre and Edmon
- Portion of Mill Street and all of Water Street have been asphalt paved as of November, 2011, with gravel shoulder
- Waste Treatment Plant and hydro substation are a detriment visually to the Water Street streetscape
- Existing-grassed berm present along west property line of Waste Treatment Plant
- Existing barbed-wire chain-link fencing around the entire perimeter of Treatment Plant and hydro substation
- Limited to no street-trees on Mill and Water Streets
- Inconsistent street lighting of the downtown area – south side of downtown Main Street includes new, improved light standards
- Numerous vacant and underutilized properties and buildings are available for re-development – Flea Market and former marina properties currently for sale; public parking area behind central downtown buildings, various properties on Main between Town Hall and Mill Street
- Unused road allowance adjacent east of Treatment Plant provides potential public access to a waterfront trail

In conjunction with the site analysis, the stakeholder meeting provided the basis for the Land Use Concept Plan that was formulated.

7.1.4 Public Open House

The consultant team and Town of Deseronto hosted a public open house meeting, inviting members of the general public to the Deseronto Lion's Club Hall on March 20th, 2012. The public were asked to review the consultant team feasibility study analysis – from the base map and stakeholder comments to the draft land use concept plan – and complete comment forms for the purpose of obtaining feedback on the study issues and the recommended design.

Of the approximately 40 public open house meeting attendees, only one (1) did not agree with the preliminary recommendations, three (3) selected a partial agreement and non-agreement and the remainder agreed with the preliminary recommendations. The following is a summary of public open house concerns and comments:

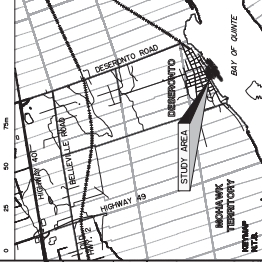
- Positive comments for proposed recreational activities (skate park, etc.) – recreational features in proposed Concepts plans consisted the majority of all comments
- Concept Plan 2A received the most positive comments
- Support received to undertake dredging (proposed in Concept Plan 2A)
- Positive comments for the proposed level of public access to waterfront
- Other uses proposed: Farmer's market, amphitheatre and Bingo parlor
- Positive comments for the proposed waterfront trail, boardwalk and other family-oriented uses (children's play area, BBQ area, etc.)
- Positive comments regarding potential increase in tourist activity
- Call for more residential uses and higher density
- Call for affordable seniors' apartments (for apartment/condo building) at no greater than three (3) stories
- Call for non-boaters and Deseronto residents to have complete access to the proposed facilities and grounds at all times
- Financial concerns and affordability for Deseronto residents
- Concern regarding proposed docking fees
- Concern with regard to the state existing Deseronto businesses
- Concern over "boutique" type businesses
- Concern over potential for too much development of waterfront
- Concern over loss of water views from portions of proposed development
- Concern over Mohawks of the Bay of Quinte 2006 land claim
- Private developer versus Town proposed for project (which portion of project not stated)

Overall, the public open house meeting comments were positive and no changes to the study analysis or concept plans have been made as of the submission of this report.

FIGURE 7.1

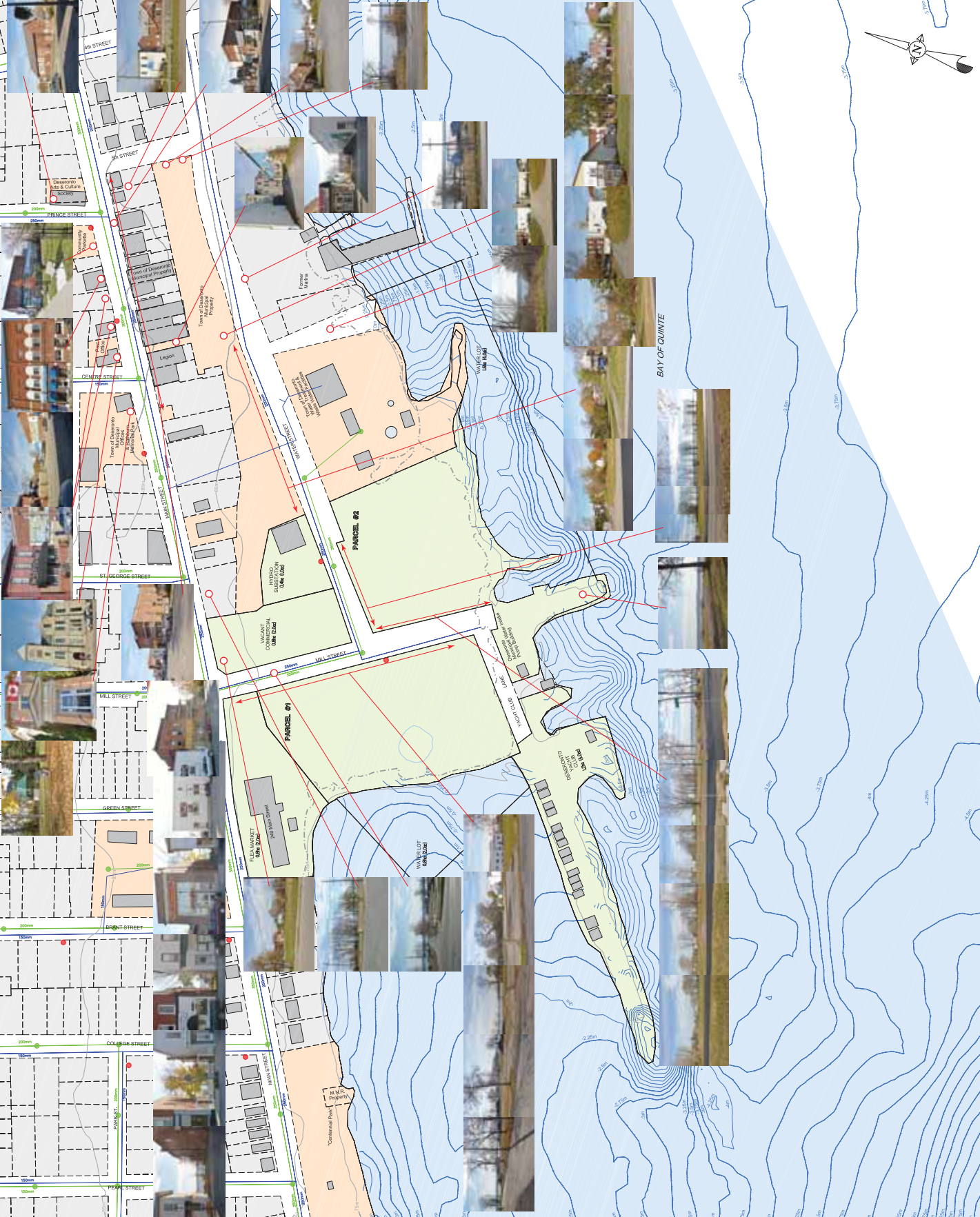
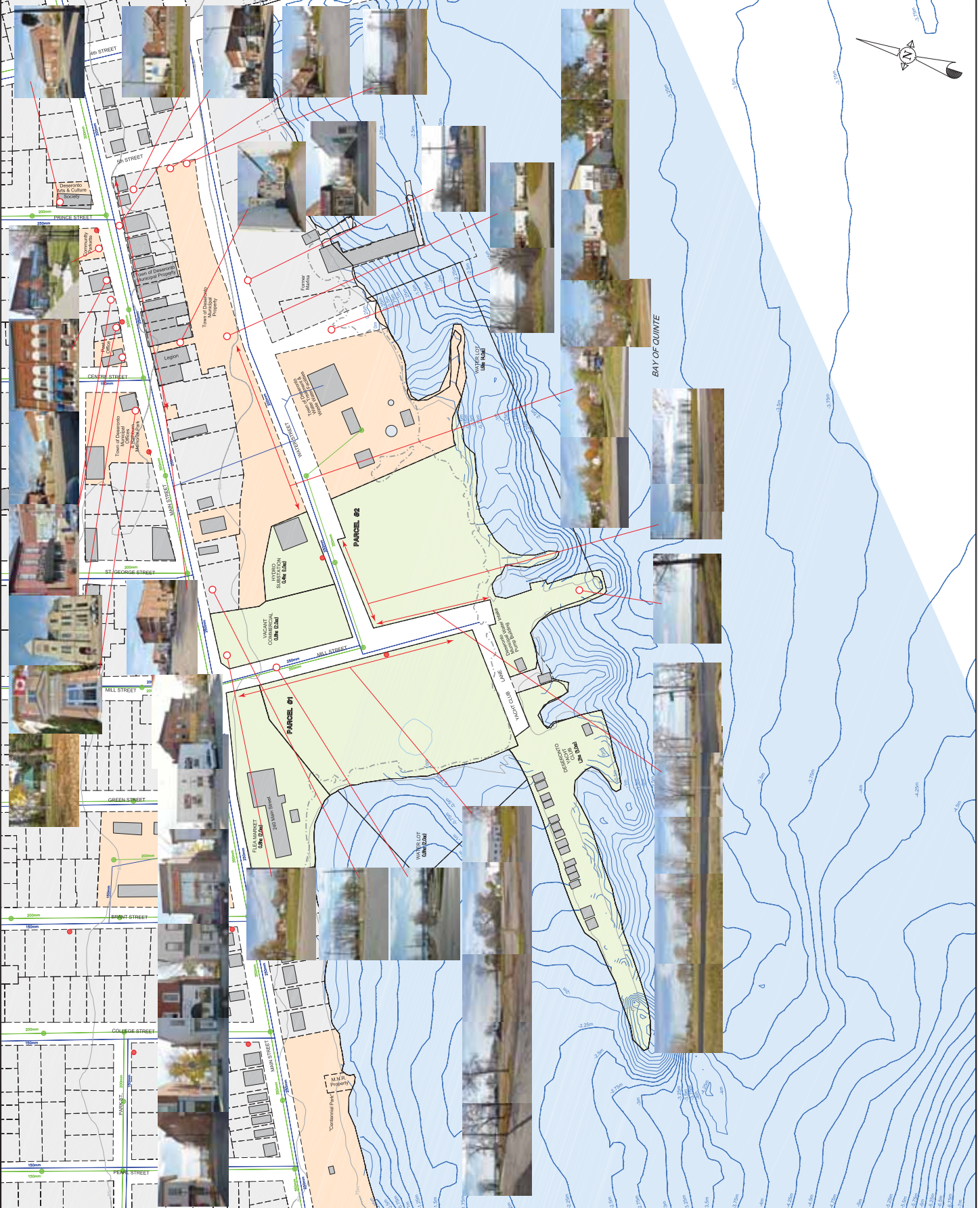
SITE PHOTOS
DESERONTO INWATERFRONT
DEVELOPMENT FEASIBILITY STUDY
 TOWNSHIP OF DESERONTO
 COUNTY OF HASTINGS

SCALE = 1:1,500 METRIC



LEGEND

- PRIVATE-OWNERSHIP PARCEL
 - PUBLIC-OWNERSHIP PARCEL
 - MUNICIPAL ROAD ALLOWANCE
 - BUILDINGS
 - STUDY AREA PARCEL
 - LIDAR DERIVED FLOODLINE CONTOUR (76m a.s.l.)
 - SEWER MAIN & MANHOLE
 - WATER MAIN
 - HYDRANT
- TOWN OF DESERONTO
 MUNICIPAL PROPERTIES
 PARCEL #1 - Former Industrial Site
 11 Mill Street
 2.0ha (5.0ac)
- PARCEL #2 - Vacant Waterfront
 2.4ha (6.0ac)



7.2 Marina Plan

Through the design process following the stakeholder meeting, seven (7) marina plans were generated. Two (2) preferred options, Concept Plans 2A and 4A, were recommended as described in Section 6 of this report.

Central common on-land features of marina Concept Plans 2A and 4A are:

- Establishment of a public waterfront trail, beginning along west property line of Flea Market parcel at Main Street, following a 6-metre wide corridor along water's edge, turning east at Yacht Club Lane continuing along water's edge and terminating at 4th Street;
- A 6-metre wide boardwalk, from the proposed boat launch to east lookout south of the Waste Treatment Plant, along the full extent of the waterside portion of the marina;
- Marina building, 350m² (3,767ft²) in area, located at the south-east corner of the east waterfront parcel – containing various ancillary uses to the marina operation, such as food services, showers, marina office, etc.;
- Public boat-launch ramp located at the terminus of Mill Street;
- Parking for 38 boat-trailers, located immediately west of the boat-launch ramp;
- Parking for 100 cars, located between Water Street and the proposed marina building;
- Looping internal marina roadway, connecting Mill and Water Streets – including flanking tree-lined boulevards;
- Winter boat-storage, 1.35 ha (3.33 ac) in area, located between the Bay of Quinte and west flank of Mill Street;
- Summer active-recreation area, located immediately north of boat-trailer parking area – including proposed removable basketball nets and skateboarding park;
- Passive-recreation area and vegetative buffer, located between the Bay of Quinte and boat-trailer parking area;
- Waterfront Festival venue and park, located centrally between the boat-trailer parking, car parking and boat-launch ramp areas;
- Plaza and formal landscaped area, located between marina-loading area, marina building and proposed boardwalk;
- Children's play area, located at the east side yard of the marina building – including proposed play equipment and bench seating;
- Picnic, barbeque, seating and lookout areas located on the three (3) prominent peninsulas subject to proposed shoreline improvements;
- Consistent sidewalk, street-tree planting, and street-lighting enhancements along Mill and Water Streets; and
- Enhanced landscaped buffering around hydro substation and Waste Treatment Plant.

Parking-area and access-roadway aisle-widths range from 7 metres to 7.5 metres. Car parking spaces are designed to a standard of 3.0m x 6.0m and boat-trailer parking space to a standard of 3.0m x 15.0m.

Concept Plan 2A, shown on **FIGURE 6.6**, is the first variation of the two (2) preferred options for the proposed marina. This concept features 249 seasonal-boat slips and 25 transient-boat slips. This Plan does require water-bed dredging for inadequate depth for the boat-slips that are closer to the shoreline. Please refer to Section 6.3 of this report for further dredging detail.

Concept Plan 4A, shown on **FIGURE 6.7** is the second variation of the two (2) preferred options for the proposed marina. This concept features 241 seasonal-boat slips and 25 transient-boat slips. No dredging is required to implement this draft marina design being the boat-slips are far enough from the shoreline to have sufficient water depth.

7.3 Complementary Land Use Development

Developed from the stakeholder meeting comments, the Land Use Concept Plan was overlaid on to marina Concept Plan 2A and then refined from the site planning analysis. This is shown as **FIGURE 7.2 Land Use Concept Plan**.

The presence of the Waste Water Treatment Plant poses a constraint to the development of the study area. The Ministry of Environment land use guidelines require a setback of 150 metres from the noise/odour-producing source structure of a sewage treatment plant to sensitive (residential) land uses. Proposals for sensitive uses within this 150-metre setback will require a feasibility study; however, siting such uses within this setback is generally undesirable and discouraged.

The anchor of the complementary land use plan is the proposed plaza and parking area flex-spaces and the surrounding commercial, live/work and townhome units on the north side of Water Street. In order to accommodate this development, a 6.7-metre wide rear lane is proposed, creating dual-frontage blocks and the desired “second face” of Main Street to Water Street expressed during the stakeholder meeting. The commercial and live/work structures are envisioned to have a multiple-unit built form and house retail and limited residential-apartment uses. Comparable townhome units for similar infill situations would have a garage on the ground floor and two storeys of living space on the upper levels.

FIGURE 7.2

LAND USE CONCEPT PLAN
DESERONTO MARINA/WATERTOWN
DEVELOPMENT FEASIBILITY STUDY
 TOWN OF DESERONTO
 MUNICIPAL DISTRICT OF WESTERN
 COAST BRITISH COLUMBIA
 SCALE = 1:1,500 METRIC

SCHEDULE OF LAND USE - MARINA (2A)

LAND USE	No.
LOT PARKING	100
SEASONAL BOAT SLIPS	240
TRANSIENT BOAT SLIPS	25
TOTAL MARINA BOAT SLIPS	274

LEGEND

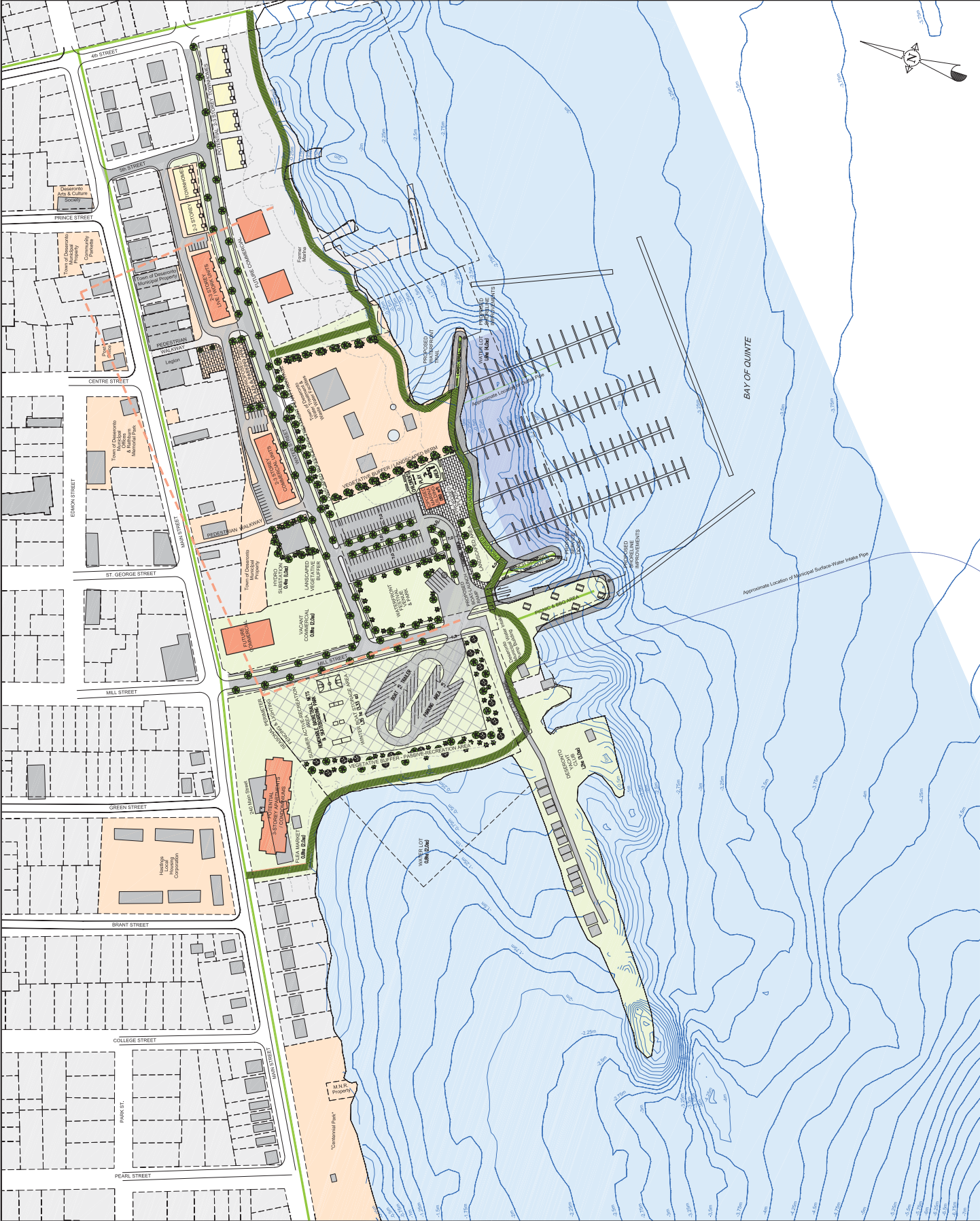
- PRIVATE-OWNERSHIP PARCEL
- PUBLIC-OWNERSHIP PARCEL
- MUNICIPAL ROAD ALLOWANCE
- BUILDINGS
- STUDY AREA PARCEL
- PROPOSED DREDGING AREA
- WATERFRONT TRAIL (8m WIDE CORRIDOR)
- 15-METRE FLOODLINE SETBACK
- LIDAR DERIVED FLOODLINE CONTOUR (75 METRES WALK)
- 15M METRE SETBACK FOR SENSITIVE LAND USES FROM WASTE-WATER PLANT

Town of Deseronto
 on the water's edge

TOURISTICS

SHOREPLAN

MARCH 20, 2012



Flanking the plaza, commercial and residential uses to the south are modest commercial units and residential townhomes between Water Street and the Bay of Quinte – located on the former marina site and the adjacent property to the east. The commercial buildings are envisioned to be structured for single-occupant waterfront-restaurant use. It is the intent to provide generous side yards between each structure so as to afford the best through-views to the Bay as possible.

A future commercial building is illustrated on the vacant commercial parcel, located at the intersection of Mill Street and Main Street. The intent behind the layout of the commercial building is to push the footprint along the north-west corner of the property to afford better pedestrian access to the building from Mill and Main Streets. Corner lots are historically the most important properties in an urban block, and are typically for destination uses such as cafes, taverns and local grocery establishments.

It is proposed to re-develop the Flea Market property for residential apartment/condominium use. The site lends itself well to this type of development, which is proposed to cover a similar sized footprint as the existing Flea Market building. Due to the topography of the property and gradient change from Main Street down to the Bay, a three-storey structure would blend in well with the existing surrounding uses.

The final addition to the Land Use Concept Plan is the formal pedestrian connections proposed from Main Street to Water Street – located adjacent to the St. George and Centre Street intersections and running south to Water Street. The proposed pedestrian connections are intended to enhance the existing visual connections present from Main Street to the Bay and increase the connectivity between the greater Town north of Main Street, the downtown and the proposed marina and complementary land uses.

It shall be noted that all building heights proposed are two to three storeys. It is envisioned that the proposed building heights and densities represent appropriate development in the Waterfront Development Area and are consistent with applicable planning documents. It is the intent of the Land Use Concept Plan to provide a range of complementary uses, built-form densities and rental/ownership opportunities in order to promote a well-planned waterfront community in the future.

7.4 Planning Policy

The County of Hastings Official Plan was approved by the Ministry of Municipal Affairs in 2002. The study area is designated “Urban” on Official Plan Land Use Plan Schedule “A17-1”.

7.4.1 Urban Policies

The study area is designated Urban on Schedule “A17-1.” The Urban policies are found in Section 3.5 of the Official Plan. The proposed marina and land use concept plans conform to the policies of the Urban designation. The relevant Urban policies are reviewed below.

There are several relevant policies in the General Urban provisions of Section 3.5.1. The policy encourages future growth be directed to settlement areas for the purpose of utilizing services and facilities efficiently, meet population threshold for commercial activity, conserve natural resources. The Town of Deseronto has been identified in the Official Plan as a focus for future growth in Hastings County. No amendments to the Official Plan are required for changes of land use within the Urban designation.

Urban recreation policies (3.5.2) support the features proposed in the Land Use Concept Plan – permitting parks, passive and active recreational activities, picnic areas, trails, golf courses and other similar open space activities.

Residential development is permitted in various built forms – single-detached, semi-detached (or duplex), multi-unit dwellings (i.e. triplex, fourplex, townhouse and low-rise apartment). Various complementary uses are encouraged, such as parks, playgrounds, places of worship, cemeteries, libraries and local commercial. The Land Use Plan meets the planning criteria for locating and buffering of townhouse and apartment residential uses.

Commercial development is intended to be located in the Urban designation, specifically in the downtown core and on arterial roads. Permitted urban commercial uses include – retail and personal service establishments, recreation, motels and hotels, places of entertainment, taverns, business and professional offices, eating establishments, funeral homes, tourist homes, medical clinics, etc. Residential uses are also permitted in either the upper storeys or at the rear of the buildings where commercial uses are permitted. The Land Use Plan meets the locational criteria set out in the Official Plan. Future commercial development will be required to have adequate parking, loading and buffering from adjacent land uses.

It shall be noted that all future development proposals will be subject to statutory planning application requirements.

7.4.2 Community Improvement & Waterfront Development Policies

In May, 2006, an amendment to the County Official Plan (OPA No. 7) was passed to incorporate the Town of Deseronto Community Improvement Area policies. The specific Deseronto Community Improvement policies are found in Section 9.4 of the Official Plan and additional Waterfront Development policies are found in Section 9.5. Lands subject to the Town of Deseronto Community Improvement Area follow the “Urban” designation limit of the Hastings Official Plan. Lands subject to the Waterfront Development Area fall between Main Street, Bay of Quinte, West Street and Boundary Road. The Land Use Concept Plan conforms to the Community Improvement and Waterfront Development policies of the Plan.

There are several relevant Community Improvement policies found in Section 9.4.2. The proposed recommendations in the Marina/Waterfront Development Feasibility follow the goals and objectives for the Community Improvement Area, specifically as part of the Town’s program of community improvements for the purpose of stabilizing and improving the property and business tax base. The study recommendations are intended to increase the recreational and social facilities of the Town; improve pedestrian, vehicular and visual linkages between the downtown-commercial core and the waterfront; and improve public access along the waterfront.

One component of the Feasibility Study mandate is to address some of the key priorities set out in Section 9.4.4, particularly, to make recommendations for the under-utilized and abandoned buildings and land and the feasibility of marina facilities.

Land use policy for the Deseronto Waterfront Development Area permits commercial, residential and industrial uses directly relating to water activity. Specific uses include those listed in the Urban designation of the Official Plan – retail and personal service establishments, business and professional offices, eating establishments, public and institutional uses, hotels, recreation, workshops, marinas and medium and high-density residential.

The Waterfront Development Area includes the same location and buffering of uses policies outlined in the Official Plan. In addition to the Urban policies, open storage of goods and materials is discouraged in Waterfront area. With respect to appearance and design, development proposals in the Waterfront area will be held to a high standard. Waterfront access policies require a minimum 6-metre wide corridor to and along the water’s edge as well as the maintenance of visual contact with the water; which has been addressed on the Land Use Concept Plan in the form of a waterfront trail and appropriate land use placement.

It shall be noted that residential development is permitted on the former marina property and the parcel immediately to the east, legally known as part of Lot 20, Block A and part of Lot 57, Block B on Registered Plan 162; however, a by-law is required for the implementation of flood-proofing construction measures and a storm water management plan, per Section 9.6 of the Official Plan. These lands are not part of the study area mandate; however, have been included in the overall Land Use Concept Plan of the waterfront area.

7.4.3 Municipal Planning Policy Recommendations

The proposed marina and land use concept conform to the municipal planning policies. The plan to re-develop the waterfront will take place over many years. It is anticipated that the construction and use of a marina in Deseronto will act as a catalyst for the surrounding proposed development. It will be important for the local and County-municipal staff and Council to ensure that the recommendations of this study are implemented through the review and approval of development proposals. This includes ensuring that the waterfront is retained as a publically accessible community resource. The establishment of design standards and zoning criteria for the Deseronto Waterfront Area should also be implemented.

8. Demand Projections for Proposed Deseronto Marina

Based on the growth in size and number of boats and boaters within the market area of the Deseronto marina sites for the period between 2011 and 2023, we have projected use levels for seven potential concepts on two sites. Concepts 1, 2, 3, 4, 2a, and 4a are located on the east side of the foot of Mill Street (Parcel 2) and take in a portion of the waterfront in front of the Water Treatment & Waste Water Facilities. Concept 5 is located to the west of the foot of Mill Street between the Deseronto Yacht Club boathouses and the Flea Market building site (Parcel 1). All seven concepts require a water basin extending beyond the water lots owned by the town adjacent to Parcels 1 and 2.

- Concept 1 - marina with 158 slips (assumes dredging), located on Parcel 2;
- Concept 2 - marina with 234 slips (assumes dredging), located on Parcel 2;
- Concept 3 - marina with 156 slips (assumes no dredging), located on Parcel 2;
- Concept 4 - marina with 228 slips (assumes no dredging), located on Parcel 2;
- Concept 5 - marina with 158 slips (assumes dredging), located on Parcel 1.
- Concept 2a - marina with 274 slips (assumes dredging), located on Parcel 2;
- Concept 4a - marina with 266 slips (assumes no dredging), located on Parcel 2;

Given that the environmental, planning and construction steps involved in bringing the proposed Deseronto marina to fruition will likely take up to two years (i.e. planning, environmental assessment process and design (6 months); approvals by various government agencies (one year); construction (6 months)); we have assumed that whichever scenario is chosen the earliest the marina can be in operation is the start of the 2014 boating season. Concepts 3, 4, and 4a assume that the marina will be put into operation without initial dredging of the basin. This approach will require that slips are allocated according to draft. Dredging will be required to put Concepts 1, 2, 5, and 2a into operation. Operation of the basin with these four concepts may be impacted if below average water levels are experienced until the dredging is completed. Completing the dredging operation may delay the opening by up to one year.

Each of the seven concepts include seasonal and transient slips and a mix of 9, 11, and 14 metre long slips roughly proportional to the mix of boats within the market area expected to use the marina. (i.e. 55%, 6 metres to less than 9 metres; 35%, 9 metres to less than 12 metres; and 10%, 12 metres and longer). The number of slips in each size category varies slightly from the above mentioned proportions due to the design consideration required for the marina basin in each concept.

In arriving at these demand projections we have assumed that a large number of the facilities and amenities recommendations provided in **EXHIBIT 24** which will be revenue generators, broaden the market appeal and address future market demand will be incorporated into the final land- and water-side components of the marina design.

8.1 Projected Demand for Seasonal Slips

It is expected that demand for seasonal slips will come from latent demand existing because of the short-fall of seasonal slips within the 50 kilometre market area of the proposed Deseronto sites and trade up from existing marinas as Deseronto will be the newest full-service marina in the market area with much sought after 11 and 14 metre slips.

We have provided a breakdown of the size of slips likely to be occupied at the marina under the seven potential concepts listed above during the first 10 years of operation (i.e. 2014 to 2023). This breakdown reflects the projected size mix of boats expected within the market area of the proposed Deseronto marina as discussed previously in Section 2 of this report.

8.1.1 Concept 1 - Marina with 158 slips - 143 seasonal (with dredging), located on Parcel 2

As indicated in **EXHIBIT 25A** we have projected that the marina will attract 125 seasonal boaters in its first operating year (2014), increasing to 131 in 2015, and reaching full capacity by 2019 with all 143 of the slips allocated for seasonal slip holders filled. In 2014, approximately 74 seasonal slips will be occupied by new boaters or boaters who until this time have been unable to locate a suitable slip for their boat. It is expected that the marina will also attract an industry average of approximately 2 percent of the seasonal boaters currently at other marinas in the area who will trade up (i.e. 51) because of the newer facilities available at the Deseronto marina and/or because it is more conveniently located. Due to the shortage of longer docks at other marinas in the market area, we have projected that the marina will fully occupy the 14 fourteen metre slips and 43 of the 49 eleven metre slips allocated for seasonal boater from its opening year.

8.1.2 Concept 2 - Marina with 234 slips - 209 seasonal (with dredging), located on Parcel 2

With 209 seasonal slips available we have projected that the marina will attract 156 seasonal boaters in 2014, 169 in 2015, 199 in 2019, and reach full capacity at 209 by 2022. Latent demand is expected to account for 106 seasonal boaters in 2014, increasing to 118 in 2015, 148 by 2019, and reach 158 by 2022. The number of boaters trading up from their existing marinas within the market area will remain at 51 as shown in **EXHIBIT 25B**. Due to the shortage of longer docks at other marinas in the market area, it is expected that the marina will occupy 56 of 74 eleven metre slips in 2014, increasing to 61 in 2015, 71 in 2019 and reach a full 74 in 2022. Sixteen of 21 fourteen metre slips will be occupied in 2014, 18 in 2015, and all 21 by the fourth year of operation (i.e. 2017).

8.1.3 Concept 3 - Marina with 156 slips - 143 seasonal (no dredging), located on Parcel 2

We have projected that the 143 available seasonal slips will attract 112 boaters in 2014, increasing to 120 in 2015, 137 by 2019, and reach full occupancy by 2021. We believe that this scenario will take two additional years to reach full occupancy compared to the same sized Concept 1 marina, due to the added distance that boaters will be required to walk and haul equipment to reach slips at the end of the docks. The opening year occupancy of approximately 78 percent will increase to 84 percent in 2015, 96 percent in 2019 and 100 percent by 2021. Approximately 54 percent of the overall boaters attracted to the marina in 2014 will be new boaters or boaters who until this time have been unable to locate a suitable slip. We have also projected that 51 of the slips will be occupied by boaters trading up from other area facilities. As shown in **EXHIBIT 25C**, we expect that all 14 fourteen metres slips will be taken in the first year of operation and 40 of the 49 eleven metres slips. All of the 9 and 11 metre slips will be fully occupied by 2021.

8.1.4 Concept 4 - Marina with 228 slips - 209 seasonal (no dredging), located on Parcel 2

With 209 seasonal slips for lease we have projected that 150 will be occupied in 2014, increasing to 160 in 2015, 190 by 2019, and reach full occupancy by 2023 a year later than the similar sized Concept 2, due to the added distance that boaters will be required to walk and haul equipment to reach slips at the end of the docks. Latent demand, as shown in **EXHIBIT 25D**, is projected to account for 99 seasonal boaters in 2014, 109 in 2015, 139 in 2019 and 158 by 2023. The 21 fourteen metre slips will reach full occupancy by 2017, the fourth year of operation, due to the shortage of longer docks at other marinas in the market area.

8.1.5 Concept 5 - Marina 158 slips - 143 seasonal (with dredging), located on Parcel 1

As indicated in **EXHIBIT 25E** we have projected that the marina will attract 130 seasonal boaters in its first operating year (2014), increasing to 137 in 2015, and reaching full capacity by 2019 with all 143 of the seasonal slips occupied. In 2014, approximately 79 seasonal slips will be occupied by new boaters or boaters who until this time have been unable to locate a suitable slip for their boat. It is expected that 51 of the slips will be filled by boaters trading up from the other marinas in the market area. As was the case with the other scenarios the shortage of longer docks at area marinas will mean that all 16 fourteen metre slips will be occupied during the first year of operation. Forty six of the 55 eleven metre slips are expected to be occupied in 2014, 49 in 2015 and all 55 by the sixth operating year (2019). Due to the size of the water basin this concept includes only 72 nine metre slips of which 68 will be occupied in 2014. All of the 9 metre slips will be occupied from Year 2 on.

8.1.6 Concept 2a - marina with 274 slips - 249 seasonal (with dredging), located on Parcel 2

We have projected that the marina will attract 185 seasonal boaters in its first operating year (2014), increasing to 199 in 2015, to 232 by 2019, and reach full capacity by 2023 with all 249 of the seasonal slips occupied. See **EXHIBIT 25F**. In 2014, approximately 134 seasonal slips will be occupied by new boaters or boaters who until this time have been unable to locate a suitable slip for their boat. As with all the other scenarios it is expected that 51 of the slips will be filled by boaters trading up from the other marinas in the market area. Also, as was the case with the other scenarios, the shortage of longer docks at area marinas will mean that 16 of the 25 fourteen metre slips will be occupied in Year 1, 18 by Year 2, with full occupancy being reached by Year 7 (2020). Sixty five of 86 eleven metre slips will be filled in 2014, 70 in 2015, 81 in 2019 and all 86 by 2023. The 138 nine metre slips will also be fully occupied by 2023, with 104 filled in 2014, 111 in 2015 and 127 in 2019. We have projected that this concept will be approximately 74 percent occupied in Year 1, 80 percent occupied in Year 2, and 93 percent occupied in 2019.

8.1.7 Concept 4a - marina with 266 slips - 241 seasonal (no dredging), located on Parcel 2

With 241 seasonal slips available we have projected that the marina will attract 170 seasonal boaters in 2014, 181 in 2015, 212 in 2019 and 232 by 2023. Due to the added distance that boaters will be required to walk and haul equipment to reach slips at the end of the docks we expect that this concept will reach 96.3 percent of its full capacity by 2023. Latent demand will account for 119 seasonal boaters in 2014, increasing to 130 in 2015, to 161 by 2019 and reach 181 by 2023. The number of boaters trading up from their existing marinas within the market area will remain at 51 as shown in **EXHIBIT 25G**. Eighty four of the available 118 nine metre slips will be occupied in 2014, 88 in 2015, and 116 by 2023. Seventy of the 98 eleven metre slips will have boaters in 2014, increasing to 75 in 2015, to 84 by 2019 and reach 91 by 2023. The longest 25 slips (14 metres in length) will be fully occupied in the seventh year of operation (i.e. 2020).

8.2 Projected Demand for Transient Slips

The boating season in the Deseronto area is approximately 138 days (beginning in the latter half of May and concluding at the end of September). Historically, holidays and weekends, in particular special event weekends are the most important source of boater demand for transient slips. Within Deseronto marina's 138 day boating season there are approximately 16 holiday weekend days, 14 normal weekend days, and 92 normal week days (i.e. Monday through Friday). The Town of Deseronto and the nearby MBQ currently play host to five events close to the proposed marina site (i.e. Waterfront Festival/Canada Day, Deseronto Yacht Club Fishing Derby, Annual MBQ Pow Wow, Mohawk Landing; and Mohawk Fair) that contribute another 10 weekend days to the

boating season. We believe it is possible and desirable to organize three new special event weekends around the new marina and the other marine-oriented activities that may be part of the desired further development of the Deseronto waterfront. Based on the current schedule of events in the Town of Deseronto and Napanee, we believe that one additional event could be organized in May, June, and August or September, thus accounting for all 138 days of the boating season.

In arriving at the demand for transient slips in Deseronto, we have taken into consideration the recommended facilities and amenities at the marina (See **EXHIBIT 25**) and the attractions and other services that Deseronto and Napanee offer to boaters vis-à-vis other transient ports.

Within the seven proposed concepts for the development of Deseronto's marina, we have recommended that Concepts 1 and 5 contain 15 dedicated transient slips, Concepts 2, 2a and 4a twenty-five dedicated transient slips, Concept 3 thirteen, and Concept 4 nineteen. While it is the policy among many marinas to allow transient use of seasonal slips when those slips are known to be vacant for a minimum of 24 hours and with the permission of the seasonal lessee, this policy can lead to disgruntled seasonal boaters. The most successful marinas provide dedicated transient slips for visiting boaters. Some (e.g. Flora MacDonald Confederation Basin in Kingston) separate the dedicated transient slips into day-use and overnight use.

8.2.1 Concept 3 with 13 Transient slips

Due to the large number of projected boater days within the market area of the Deseronto marina, it is expected that the 13 transient slips would reach a high level of occupancy almost immediately upon opening, particularly during holiday weekend days and weekend days associated with special events. As a result we have projected that the number of transient boats will increase from 100 in 2014 (i.e. 76.9% occupancy) to 190 by 2021 (i.e. 91.3%) on holiday weekends. See **EXHIBIT 26A**. Likewise the number of boats visiting the marina on already established special events weekend days will start off with the same high occupancy in the opening year (i.e. 76.9%) but will not likely increase quickly due to the fact that two of the existing special events are similar to those in other locals along eastern end of Lake Ontario (i.e. fishing derby, sidewalk & yard sale). To increase the attraction of Deseronto as a stopover for transient boaters we recommend some form of discounted transportation rate with the local transportation service (e.g. Chase Taxi, Napanee Cab, Deseronto Transit) or discounted entrance fee be arranged with off-site attractions (e.g. Old Hay Bay Church, Alan MacPherson House, Tyendinaga Cavern & Caves, etc.) on special event weekends. The only limiting factor will be the number of slips available on any given weekend day. We would expect that turn-aways will occur on a number of weekend days especially Canada Day weekend.

We believe it will be possible to host one additional special event weekend oriented toward the marina in May, June and August or September. Events might include a weekend Craft Show with a nautical theme, in-water Boat Show emphasizing early wooden boats, a historical re-enactment portraying Deseronto's early industry and its ties to the waterfront, local music or cultural event featuring the Quinte Singers, etc. We project that the new marina-oriented special event weekends will attract 30 boats in 2014, increase to 50 by 2016 and reach 60 by 2018. Industry statistics indicate that transient marinas "make their money" on holiday weekend days, special event days and weekend days.

The visitation pattern on normal weekend days and week days (Monday through Friday) is expected to be similar to that of other marinas in the market area offering transient slips. It is not unusual to have less than 10 to 15 percent occupancy during the normal Monday to Friday time period. In order to encourage increased use on these days we recommend that discount incentives be offered such as 25 percent off on Senior's Thursdays, every third week day is free, 20 percent off entrance to some local attractions, etc. A map showing a route for the self-guided walking tour featuring the Post Office building, Town Hall (old Bank of Montreal building) and Naylor's Theatre should be prominently displayed at the marina office building, to encourage visiting boaters to visit the downtown particularly on these low visitation days. We have projected that the 13 transient slips will attract 90 boats in the opening year, increasing to 100 by 2016 and reaching 130 by 2023.

We have provided projections by length of slip used and length of stay for the 13 transient slips. Initially we expect that stays of less than one day will make up the largest percentage of the transient boaters. As the marina becomes more established in the market place and visitors become more familiar with the Town and local area we expect that boaters will stay longer and the proportion of boaters staying one day or longer will increase dramatically.

Overall we have projected that the 13 transient slips will attract 460 boats in 2014, increasing to 470 in 2015, to 520 by 2019 and reach 600 by 2023.

8.2.2 Concepts 1 and 5 with 15 Transient Slips

We have projected that the 15 transient slips included in Concepts 1 and 5 would attract 180 boaters on holiday weekends in 2014 (i.e. 75.0% occupancy, increasing to 210 in 2016, and reach 220 by 2022 (i.e. 91.7% occupancy). Existing special event weekends such Waterfront Festival/Canada Day or the annual MBQ Pow Wow are expected to attract 110 boats in the opening year, increasing to 120 by 2016, and reach 130 by 2023.

Based on our belief that Deseronto will be able to organize three additional new special event weekends, we have projected that the 15 transient slips will attract 50 boats in 2014, 60 in 2015, and 70 by 2020. On normal weekends we expect that the marina will be able to attract 90 boats in 2014, increasing to 100 by 2017, 110 by 2019 and reach 130 by 2023. Our projections for the weekdays fall just below the industry averages of 8 to 12 percent occupancy in the opening year with 90 boats in 2014 (i.e. 6.5% occupancy), increasing to 110 by 2016 (i.e. 8.0% occupancy), 120 by 2019 (i.e. 8.7% occupancy) and reach 150 by 2023 (i.e. 10.9% occupancy). Depending on the creative programs that the marina is prepared to offer on the low weekdays it is conceivable that these occupancy numbers could be nearer the top of the industry averages. Overall, we have projected 520 transient boats will be accommodated in the opening year, increasing to 600 by 2017 (Year 4) and reach 700 by 2023. See **EXHIBIT 26B** at the end of this report.

The eight 9 metre slips will attract 290 boats in 2014, increasing to 310 by 2016, 320 by 2019, and reach 380 by 2023. The five 11 metre slips will attract 180 boats in the opening year, increasing to 200 by 2016, 210 by 2019, and reach 220 by 2022.

We believe that stays of less than one day (i.e. less than 12 hours) will dominate the market until the marina is well established in boater's minds likely by Year 6 when longer stays will predominate.

8.2.3 Concept 4 with 19 Transient Slips

We have projected that the 19 slips included in Concept 4 will attract 680 boats in 2014, 720 by 2016, 780 by 2019 and reach 870 by 2023. As with the 13 and 15 transient slips, the 16 Holiday weekend days will attract the largest proportion of boats visiting the marina. Beginning with 230 boats in 2014, we have projected that this number will increase to 250 by 2016, and reach 280 by 2021. Existing special event weekends and new special event weekends are projected to attract 140 and 60 boats respectively in 2014, increasing to 150 and 70 boats respectively by 2016. Existing special event weekends will attract 160 boats by 2019, and new special event weekends 90 boats by 2018.

Due to the configuration of Concept 4, 11 metre slips dominate the slips available to transient boats (i.e. 14 of 19 slips). In 2014 we project 490 boats will use the 11 metre slips, increasing to 520 by 2016, 570 by 2019, and reach 640 by 2023. The four 9 metre slips will accommodate 150 boats in 2014, 160 by 2018, 170 by 2021 and reach 180 by 2022.

Boats staying less than one day (i.e. less than 12 hours) are projected to increase from 330 in 2014, to 350 by 2016, 370 by 2018, and reach 390 by 2021. Boats staying one day (i.e. 12 hours to less than 24 hours) and more than one day will increase from 210 and 140 respectively in the opening year, to 240 and 160 respectively in Year 5 (i.e. 2018), and reach 300 and 180 respectively by 2023. See **EXHIBIT 26C**.

8.2.4 Concepts 2, 2a and 4a with 25 Transient Slips

With a larger number of total slips available with Concepts 2, 2a, and 4a we have recommended that 25 slips be dedicated for transient boaters in each of these three scenarios. As was the case with each of the other transient slip concepts, we expect that Holiday weekends will see the greatest number of boats using the slips in Deseronto. Beginning with 310 boats in 2014, we have projected an increase to 320 boats by 2016, 330 by 2017, 350 by 2020, and 360 by 2022. Due to the high level of interest in the existing Deseronto and MBQ events, we expect that 190 transient boats will be attract to these events in 2014, increasing to 200 by 2018, and reach 210 by 2022. The six weekend days dedicated to three new special events are projected to attract 80 boats in 2014, 100 boats by 2016, and 110 boats by 2018. The 14 days of normal weekends will attract 150 boats in 2014, 160 by 2017, 180 by 2019, 190 by 2021 and reach 210 by 2023. We have projected that the 25 transient slips available from Monday through Friday will attract 170 boats in the opening year, increasing to 180 by 2016 and reach 250 by 2023.

The fourteen 9 metre slips will attract 500 boats in 2014 and 2015, increasing to 530 in 2016, and increase each year thereafter until 2023 when 640 transient boats will be at the Deseronto marina. The eight 11 metre slips will attract 290 boats in the opening year, 300 by 2016, and reach 380 by 2023. The three 14 metre slips are expected to accommodate 110 in 2014, increasing to 120 by 2020.

Due to the greater number of 11 and 14 metre transient slips available with Concepts 2, 2a and 4a we have projected that stays of one day or more will form the largest portion of the transient market right from the opening in 2014. In 2014, 440 boats will stay less than one day and 460 for one or more days (i.e. 280 and 180 boats respectively). By Year 5, (i.e. 2018), 470 boats are expected to stay for less than one day while 340 will stay for one day and 190 for more than one day. By 2023, 500 boats will stay for less than one day, 410 for one day (i.e. 12 hours to less than 24 hours), and a further 230 boats for more than one day.

Overall, we have projected that the 25 transient slips will accommodate 900 boats in 2014, 940 boats by 2016 and increase every year until 2023 with 1,140 transient boats staying at the marina. See **EXHIBIT 26D**.

9. Financial Projections for Deseronto Marina

Operating revenues and expenditures have been based on our discussions with marina operators and results achieved by other marinas of a similar size and character as that proposed for Deseronto. In preparing our estimates of revenues and disbursements for the marina we have made the following assumptions:

- We have assumed a 1.5 percent annual inflation rate (as per the Royal Bank of Canada) where stated. Any variance in the actual inflation rate would have a direct effect on the projected operating results.
- Targeted and direct marketing efforts will be undertaken on an on-going basis.
- The rental rates and other sales percentages will be in keeping with a marina of this quality, yet reflect local and regional market conditions.
- The marina will be competently managed by professional staff with experience in their areas of responsibility.
- When rates and percentages are quoted in these financial calculations they are representative of industry averages from our data base for this size and type of marina and are approximate.
- Amounts for depreciation and financing are excluded and the results show a net cash flow position.

9.1 Specific Financial Assumptions

Financial projections are provided for the years 2014 to 2023. As shown in **EXHIBIT 27** we have provided financial projections for each of the seven concepts discussed in the previous section regarding projected demand.

9.1.1 Revenues

Seasonal Slip Rental Fees: In keeping with market area rental rates we have assumed a rate of \$45.00 per linear foot in 2014 with 30 amp power and water available to each 9 and 11 metre slip and \$47.00 per linear foot with 50 amp power and water available to each 14 metre slip. Rates increase by inflation in 2015, by one percent above inflation from 2016 through 2018 and 5 percent per annum thereafter.

Transient Slip Rental Fees: We have assumed transient slip rental rates in keeping with the surrounding marinas in the market area in the opening year of: \$1.30/ft. for less than one day (i.e. 12 hours or less), \$1.50/ft. for stays of one day, (i.e. more than 12 and a maximum of 24 hours), and \$4.45/ft. for stays up to 7 days in 2014. Rates increase by inflation in Year 2 and one percent above inflation each year thereafter.

Winter Storage: Based on market area rates we have assumed \$18.75/ft. for boats 11 metres or less and \$21.00/ft. for boats more than 11 metres in 2014, increasing by inflation in Years 2 and 3 and by one percent above inflation each year thereafter. This rate includes the following services; gas stabilizer, bottom power wash, battery charge, removal of engine drain plugs, removal of hull plugs, non-toxic anti-freeze solution in engine, fogging of outboard motor, and lower unit oil change. Storage also includes shrink-wrap or tarped covering depending on boater's preference and summarization of the boat the following spring. It does not include use of a crane, travel-lift, hydraulic packer or haulout/launch fees. We have assumed that 20 percent of the seasonal boats less than 9 metres in length will be trailered by their owners to another site and thus not stored over the winter on the marina site.

Lift/Haulout/Launch fees/Mast Stepping-Unstepping: Based on market area rates we have assumed \$6.25/ft. in 2014 for boats up to 9 metres, \$7.00/ft. for boats more than 9 metres and up to 11 metres, and \$7.75/ft. for boats more than 11 metres. This fee includes movement of the boat to and from the water by means of a crane. It also assumes the use of an owner provided cradle or boat trailer for on-site winter storage. The fee for stepping/unstepping masts is set at \$3.10/ft. in 2014 and assumes that approximately 48 percent of all seasonal boats will be sail boats. Rates increase by inflation in Year 2 and 3 and by one percent above inflation each year thereafter.

Dry-land Summer Storage: Based on the experience of other marinas in the market area we have assumed a rate of \$104.50 for cradle storage, and \$128.50 for trailer storage for the period from May 15th until October 1st. We have assumed that 50 percent of all seasonal boats 9 metres or less will store their trailers on site and 20 percent of the remaining seasonal boats will store their cradles on site. As per industry averages we have assumed that 2 percent of the seasonal boats in any season will be stored on-shore due to non-water use, required mechanical repairs or hull work not completed. The rate for temporary storage is set at \$26.00/ft. in 2014. All rates increase by inflation each year beyond 2014.

Fuel/Oil Sales: Assumes that approximately 52 percent of seasonal boats will be power boats as per market area averages. Boats 9 metres in length or less will charge \$2,000 for gas/diesel/oil for the boating season, boats up to 11 metres \$2,400, and boats longer than 11 metres \$3,100. One quarter of the transient boats will charge \$125 for gas/diesel/oil during their stay. Rates increase by inflation each year beyond 2014.

Pump-out Service: As per industry averages one quarter of transient boats will pump-out during their stay at a cost of \$15.00 per tank in 2014. Seasonal boaters 11 metres or less will be charged \$80.00 per season, and those more than 11 metres \$120.00 per season and have unlimited access to the pump-out system at the service dock. Rates increase by inflation each year beyond 2014.

Parking/Boat Launch Revenue: We have assumed that the marina will be able to attract an average of 25 boats per day to use the launch ramp. As some marinas in the market area charge for parking as opposed to a launch fee we have assumed revenue based on either \$6.00 per launch or \$1.20 per hour to park for a maximum of 5 hours. Rates increase by inflation each year beyond 2014.

Merchandise Sales: This includes the sale of sweaters, other clothing and materials with the waterfront/marina emblem from the tuck shop within the marina office complex. As per the industry average this has been set at \$10.00 per transient boat and \$25.00 per seasonal boat in 2014, increasing by inflation each year thereafter.

9.1.2 Disbursements

Full-time Labour Cost: Marina Manager \$85,000 per annum
Assistant Marina Manager \$60,000 per annum

Full-time labour costs are assumed to increase at 3 percent per annum beyond 2014.

Casual Labour Cost: Set at \$15.00 or \$17.50 per hour for 35 hour week for 20 weeks.

Dockhands	2	\$15.00 per hour
Marina Maintenance/Grounds Staff	2	\$15.00 per hour
Tuck Shop	1	\$15.00 per hour
Fuel Dock Attendant	1	\$15.00 per hour
Security	5	\$17.50 per hour
Total	11	

Since Concepts 1, 3, and 5 have a smaller number of finger docks we have assumed that only one marina maintenance/grounds staff person will be required for a total of 10 casual staff. The number of casual staff is in-keeping with other marinas of a similar size within the seasonal market area.

Overtime/Shift Premiums & Standby: Set at 3.5 percent of annual full and part-time labour costs as per industry averages.

Employee Benefits: Set at 13 percent of full-time labour cost and 6 percent of casual labour cost. These rates are higher than those currently offered by the Town of Deseronto, but reflect those provided to full and casual employees at marinas within the seasonal market area.

Utilities: Set at \$80 per slip and \$400 per month for the marina building in 2014 as per industry average, increasing by 3.5 percent per annum and percentage increase in use of hydro and water each year thereafter.

Telephone: Assumes 4 telephones @\$100/month for 5 months, two telephones @\$125/month for 12 months, increasing by inflation annually.

Office Supplies: Set at \$2,000 in 2014 to cover cost of materials used by marina manager and other full and part time staff. Reduced by 20% in Year 2 to reflect normal high first year start-up costs and increasing by inflation each year thereafter.

Guest Supplies: Set at a minimum of \$3,000 in 2014 for Concepts 3 and 5 with the fewest number of total slips and a maximum of \$4,900 for Concept 2a with the largest number of slips and increasing by inflation and the percentage increase in seasonal and transient boater traffic each year thereafter.

Concept 1	158 slips	\$3,300
Concept 2	234 slips	\$4,200
Concept 3	156 slips	\$3,000
Concept 4	228 slips	\$4,000
Concept 5	158 slips	\$3,000
Concept 2a	274 slips	\$4,900
Concept 4a	266 slips	\$4,500

Fuel Dock Cost of Sales: Set at 80 percent of revenue as per industry average.

Cost of Merchandise: Set at 65 percent of revenue as per industry average.

Insurance: Set at \$180 per slip in 2014 and increasing at 5 percent per annum thereafter as per industry average, includes the cost of insuring the marina office building. Depending on the Town's potential to include the marina under the insurance policy for all municipally owned assets it is possible this cost may be reduced substantially.

Maintenance & Repairs: Set at \$100 per slip in 2015 (Year 2) and increasing at 8 percent per annum each year thereafter. A provision of \$50 per slip has been made in 2014 to cover any unforeseen start-up systems failures.

Uniforms & Clothing: Set at \$3,500 in 2014 for Concepts 1, 3, and 5 and \$3,850 for Concepts 2, 4, 2a, and 4a to cover uniforms and dry cleaning for all staff, and increasing by inflation each year thereafter.

Marketing & Promotion: Set at \$30,000 in 2014; reduced by 25 percent in 2015 to reflect the additional promotional materials required in launching the pre-opening and opening ceremonies in 2013-2014. The marketing budget should be allocated to marina-specific trade shows (e.g. Toronto International Boat Show, Rochester Boat Show, etc.); publications (e.g. Lakeland Boating Ports O' Call, Ports Cruising Guides, Sail Magazine, etc.); and trade associations (e.g. Ontario Marine Operators Association, etc.).

Credit Card Commissions: Set at 3.0 percent of total revenues (excluding seasonal slip rentals) as per industry average.

Crane Rental: Set at \$156.85 per hour in 2014 (based on a 2011 charge of \$150.00/hr.) and increasing by inflation each year thereafter. We have assumed an average of 3 boats per hour can be handled by the crane.

Lease Expenses: Since each of the concepts extends beyond the waterlots owned by the Town of Deseronto a \$150.00 administrative fee plus a charge of \$0.72/ft of linear run of dock outside the Town owned waterlots is payable annually to the Province under an agreement negotiated by the Ontario Marine Operators Association on behalf of all Ontario marinas. We have assumed that a similar lease rate arrangement can be made with the Water Resources Commission regarding use of the small rectangular-shaped waterlot adjacent to the Town owned waterlot fronting on Parcel 2.

Concept 1	\$2,200
Concept 2	\$4,000
Concept 3	\$4,200
Concept 4	\$6,200
Concept 5	\$3,300
Concept 2a	\$2,500
Concept 4a	\$6,300

General & Administrative: Set at \$15,000 in 2014 for Concepts 1, 3, and 5 and \$20,000 for Concepts 2, 4, 2a, and 4a to cover fees, dues, subscriptions, memberships to organizations; mileage, cell-phones, professional services (i.e. accounting, consulting, legal; travel & entertainment; cleaning; and off-season security).

Capital Reserve for replacement: We have provided a standard reserve for replacement expense of 10 percent of revenues each year. It should be noted that while we have provided for a capital reserve expense toward the replacement of the full dock system every 25 years, it would be unreasonable to assume that any marina could afford to set aside sufficient funds on an annual basis to completely meet this 25 year replacement charge.

Miscellaneous: Set at \$10,000 in 2014 for Concepts 1, 3, and 5 and \$14,000 for Concepts 2, 4, 2a, and 4a to cover business licenses and permits; bank service charges other than credit card commissions; bad debt expenses, short term lease of non-capitalized equipment; etc.

9.2 Financial Projections

9.2.1 Concept 1 - Marina with 158 Slips (143 seasonal, 15 transient)

We have projected that revenues will increase from \$557,280 in Year 1 to \$682,180 in 2018 (Year 5), and reach \$808,280 by 2023. Disbursements will increase from \$631,770 in 2014 to \$725,620 in 2018, and reach \$830,170 by 2023. As shown in **EXHIBIT 27A** this concept is projected to operate at a loss in every year of the 10 year projection period. Even if the capital reserve for replacement is not taken the marina would still operate at a loss for the first two years. A marina of this size and configuration is not a viable option for the Town of Deseronto.

9.2.2 Concept 2 - Marina with 234 Slips (209 seasonal, 25 transient)

Revenues are projected to increase from an opening year \$722,420 in 2014, to \$944,570 in 2018, and reach \$1,181,560 by 2023. Disbursements are projected to increase from \$741,810 in 2014, to \$887,720 in 2018 and reach \$1,043,050 by 2023. Under this scenario the marina would operate at a loss in Year 1. Beginning in 2015 (Year 2) net income is expected to increase from \$1,060, to \$56,850 by 2018 and reach \$138,510 by 2023. The marina would break even if the capital reserve for replacement were reduced to approximately 8 percent in Year 1 rather than the recommended industry average of 10 percent. See **EXHIBIT 27B**.

9.2.3 Concept 3 - Marina with 156 Slips (143 seasonal, 13 transient)

Concept 3, although having the same number of slips as Concept 1, was configured to allow the marina to operate without dredging the shallow area closest to shore, thus reducing the overall capital cost. The revenue stream with this configuration increases from \$509,140 in 2014, to \$644,580 in 2018, and reaches \$800,170 by Year 10 (2023). See **EXHIBIT 27C** at the end of this report. With disbursements at \$611,300 in 2014, \$709,97 in 2018, and \$826,660 in 2023 the marina is projected to operate at a loss each year from 2014 through 2023. As was the case with Concept 1, a marina of this size and configuration is not a viable option for the Town of Deseronto.

9.2.4 Concept 4 - Marina with 228 Slips (209 seasonal, 19 transient)

Concept 4 was also configured to allow the marina to operate without dredging, in this case with 228 total slips. Beginning in 2014, revenues are projected to increase from \$688,740, to \$876,510 in 2018 and reach \$1,145,130 by 2023. During this ten year time period, disbursements are projected to increase from \$720,850 in 2014, to \$859,600 in 2018, and reach \$1,027,970 by 2023. Under this scenario the marina is projected to operate at a loss for the first three years. Beginning in Year 4 (i.e. 2017) net income is expected to increase from \$1,830, to \$117,160 by 2023. The marina would break-even if the capital reserve for replacement were reduced to approximately 2, 5, and 8 percent respectively in 2014, 2015 and 2016 rather than the recommended industry average 10 percent. **EXHIBIT 27D** provides a breakdown of each revenue source and the requisite disbursements.

9.2.5 Concept 5 - Marina with 158 Slips (143 seasonal, 15 transient)

This is the only concept designed for Parcel 1, and due to the small size of the marina basin is similar in size to Concept 1 (158 slips) and Concept 3 (156 slips). We expect that a marina in this location with 158 total slips would generate \$511,330 revenue in its opening year (2014). Revenues would increase to \$651,580 by 2018, and reach \$808,280 by 2023. With disbursements projected at \$613,050 in 2014, \$713,670 in 2018, and \$831,330 in 2023 the marina is projected to operate at a loss each year from 2014 through 2023. See **EXHIBIT 27E**. We do not believe a marina at this location of this size and configuration is a viable option for the Town of Deseronto.

9.2.6 Concept 2a - Marina with 274 Slips (249 seasonal, 25 transient)

By adding 40 slips to Concept 2, we project that revenues will increase from \$823,360 in 2014, to \$1,068,780 by 2018, and reach \$1,373,180 by 2023. Disbursements are projected to increase from \$792,660 in Year 1 to \$952,300 in 2018, and reach \$1,136,100 in 2023. Net income is projected to increase from \$30,700 in 2014, to \$116,480 in 2018, and reach \$237,080 by 2023. See **EXHIBIT 27F**.

9.2.7 Concept 4a - Marina with 266 Slips (241 seasonal, 25 transient)

Concept 4a, is an expansion of Concept 4 with 38 additional slips. As was the case with the smaller concept, this one has been designed to operate from Year 1 without the necessity of dredging the area closest to shore on Parcel 2. With this design and number of slips, we have projected the marina will generate \$776,930 in revenue in 2014, \$998,940 in 2018, and \$1,306,180 in 2023. In the corresponding years, disbursements will increase from \$774,130, to \$923,080, to \$1,108,660. As a result, the marina will have a small opening year net profit of \$2,800, but will generate a more positive cash flow from Year 2 (2015) on. Net income is project to increase from \$19,910 in 2015, to \$75,860 in 2018, and reach \$197,520. See **EXHIBIT 27G**.

9.3 Capital Cost Financing

We expect that a portion of the capital cost required to construct the marina and its land-based amenities will be financed through municipal debentures, and a portion offset through federal and provincial infrastructure grants. In order to reduce their portion of the capital cost we recommend that the Town approach the fuel supplier about paying for the capital cost of providing the fuel dock and pumps (i.e. \$320,000) in exchange for the exclusive rights to supplying gasoline, diesel fuel, propane and oil at the fuel dock for a period of 15 years. We further recommend the Town approach interested parties in hosting a major fishing derby from the marina to undertake all or part of the cost of providing the launch ramp (i.e. \$230,000) and a local service organization to fund the cost of the summer recreational equipment (i.e. \$10,000). Consideration should also be given to approaching a local or regional philanthropist or major business to cover a portion of the capital cost in exchange for naming rights. Additionally, we are aware of dock contractors who will supply third party financing, but not aware of any municipalities that have taken up the offer because the interest rates are a few percentage points above that of municipal debenture rates.

We have provided an indication of the cash flow position for Concepts 2a and 4a, under three scenarios. Scenario 1, assumes the Town of Deseronto will receive federal and provincial capital grants of 30 percent of the total capital cost, Scenario 2, assumes that the Town will receive federal and provincial capital grants of 40 percent of the total capital cost, and Scenario 3, assumes one half of the capital cost will be covered through federal and provincial grants. Since the major facilities in the marina (i.e. marina building, docks, breakwaters, and launch ramp) have an expected life that exceeds 25 years we have assumed it will be possible to obtain municipal debentures with either a 20 or 25 year amortization period to cover the Town of Deseronto's portion of the total capital cost of constructing the marina. We have used a 25 year amortization period for the scenarios below.

9.3.1 Concept 2a under Scenario 1 (Capital Grant of 30%, 70% financed through municipal debentures)

In the event that the Town of Deseronto receives only 30 percent of the total capital cost of \$9,326,200 from the federal and provincial governments, the annual principal and interest payments on the necessary municipal debentures amortized over 25 years will be \$115,060 in 2014 and \$380,120 from 2015 through 2033. See **EXHIBIT 29A** at the end of this report. Even if the Town were willing to forego the annual reserve for replacement, it would only be able to meet its financial obligations in Year 1 (i.e. 2014) and Year 10 (i.e. 2023) and beyond. See the Table following on the next page. We do not believe that this is a viable option for the Town of Deseronto.

9.3.2 Concept 2a under Scenario 2 (Capital Grant of 40%, 60% financed through municipal debentures)

If the Town receives 40 percent of the capital cost of \$9,326,200 from the federal and provincial governments, the annual principal and interest payments on the necessary municipal debentures amortized over 25 years will be \$94,880 in 2014 and \$321,990 from 2015 through 2039. In this case the Town of Deseronto would be unable to meet its financial obligations for the Years 2015 through 2020. This shortfall of \$553,640 will need to be covered by the Town's general funds or bridge financing.

9.3.3 Concept 2a under Scenario 3 (Capital Grant of 50%, 50% financed through municipal debentures)

With grants of 50 percent of the total capital cost of \$9,326,200 for the construction of Concept 2a, the annual principal and interest payments on the necessary municipal debentures amortized over 25 years will be \$74,700 in 2014 and \$263,860 from 2015 through 2039. Under this scenario, there will be a cash flow shortfall for the years 2015 through 2019 of \$121,200, \$94,610, \$70,440, \$40,500 and \$7,020 respectively. However, during the 10 year period between 2014 and 2013 there is sufficient cumulative cash flow to cover the \$333,770 with a \$10,290 surplus. It is therefore likely that bridge financing could be arranged for the intervening years.

Concept 2a		Combined Annual Net Income Before Debt Service and Capital Reserve for Replacement							
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
\$113,040	\$142,660	\$169,250	\$193,420	\$223,360	\$256,840	\$294,030	\$323,030	\$349,120	\$374,400

Source: EXHIBIT 27F

9.3.4 Concept 4a under Scenario 1 (Capital Grant of 30%, 70% financed through municipal debenture)

If the Town of Deseronto receives only 30 percent of the total capital cost of \$8,715,800 from the federal and provincial governments for Concept 4a, the annual principal and interest payments on the necessary municipal debentures amortized over 25 years will be \$110,690 in 2014 and \$353,490 from 2015 through 2039. See **EXHIBIT 29B** at the end of this report. Even if the Town were willing to forego the annual reserve for replacement, it would not be able to meet its annual financial obligations in any of the years between 2014 and 2023 (i.e. the first ten years of operation). We do not believe that this is a viable option for the Town of Deseronto. See the Table below.

9.3.5 Concept 4a under Scenario 2 (Capital Grant of 40%, 60% financed through municipal debenture)

In the event the Town of Deseronto receives 40 percent of the capital cost of constructing the marina from the federal and provincial governments, the annual principal and interest payments on the necessary municipal debentures amortized over 25 years will be \$91,140 in 2014 and \$299,160 from 2015 through 2039. In this case the Town of Deseronto would be unable to meet its financial obligations for the first eight years of operation i.e. Years 2014 through 2021. We do not believe that this is a viable option for the Town of Deseronto.

9.3.6 Concept 4a under Scenario 3 (Capital Grant of 50%, 50% financed through municipal debenture)

With grants of 50 percent of the total capital cost of \$8,715,800 for Concept 4a, the annual principal and interest payments on the necessary municipal debentures amortized over 25 years will be \$71,590 in 2014 and \$244,830 from 2015 through 2039. Under this scenario, the Town would be able to pay the debt service in Years 2014, 2021, 2022, 2023 and beyond. We have projected a cash shortfall from 2015 through 2020 of \$460,240 which will need to be covered by the Town's general funds or bridge financing.

Concept 4a		Combined Annual Net Income Before Debt Service and Capital Reserve for Replacement							
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
\$80,490	\$103,330	\$129,300	\$149,720	\$175,750	\$207,600	\$243,040	\$270,980	\$301,620	\$328,140

Source: EXHIBIT 27G

10. Economic Impacts

In this section, we describe the economic impacts resulting from the construction and operation of the proposed Deseronto Marina. While during the operating period we have considered only those impacts associated with the people using the marina and marina building, visitors attracted to the waterfront as a result of “boater activity” can also be an important source of revenue and economic spinoffs.

The Deseronto Marina will be an income producing asset, generating hundreds of thousands of dollars in annual revenue to the benefit of the taxpayers of the Town of Deseronto. It will increase public access to the waterfront (i.e. proposed boardwalk, lookout); provide more amenities on the waterfront (i.e. proposed waterfront festival venue and park, children’s play area, summer active-recreation area); add a new tourism attraction; enhance the physical appearance of the Town’s waterfront; raise real estate property values on the waterfront and in nearby neighbourhoods; act as a catalyst for new commercial and residential development, and in doing so increase the tax base; and create an improved aquatic habitat. All boaters and non-boaters desire convenient access to well-maintained restrooms, shelter and concession amenities. The marina will promote their development. The marina will provide greater opportunities for the general community to experience boating and other recreational activities on the waterfront. See **FIGURE 7.2** in Section 7. It will generate increased revenues for businesses in Deseronto and the surrounding area as well as creating additional full and part time employment positions. The marina will also be a catalyst for new commercial and residential development in the waterfront area. Belleville, Cobourg and Whitby are excellent examples of the positive impact that a marina can have on related waterfront developments. A marina on Deseronto’s waterfront could also lead to a number of related business opportunities or partnerships, among the most obvious are boat repairs, boat sales, boat and boater equipment sales, and boat building.

The economic impacts in this section are measured in terms of direct¹, indirect² and induced³ Gross Domestic Product (GDP) expenditures; labour income; direct, indirect and induced jobs; and federal, provincial and municipal tax revenues.

In arriving at the economic impacts for the proposed marina, we have used the widely accepted Ontario Ministry of Tourism’s *Tourism Regional Economic Impact Model* (TREIM).

¹ Direct Impact refers to the impact generated in businesses or sectors that produce or provide goods and services directly to those involved in the construction, operation and use of the marina and its amenities.

² Indirect Impact refers to the impact resulting from expansion of demand from front-line businesses or sectors, to other businesses or sectors.

³ Induced Impact refers to the impact associated with the re-spending of labour income and/or profits earned in the industries that serve the marina construction and operation directly or indirectly.

Economic impacts have been derived for the two options described in the previous section of this report as being viable: Concept 2a, a 274 slip marina (249 seasonal slips, 25 transient slips); and Concept 4a, a 266 slip marina (241 seasonal slips, 25 transient slips).

10.1 Economic Impacts Due to Construction of Deseronto Marina

The total estimated capital budget is projected to be spent over a two year period beginning in 2013. Construction of the marina building, other site work and dredging if required is expected to take place between October 2013 and April 2014. See **EXHIBITS 28A and 28B** at the end of this report. The marina would then be open for use in late May 2014.

10.1.1 Economic Impacts Due to Construction of Concept 2a (274 Slip Marina)

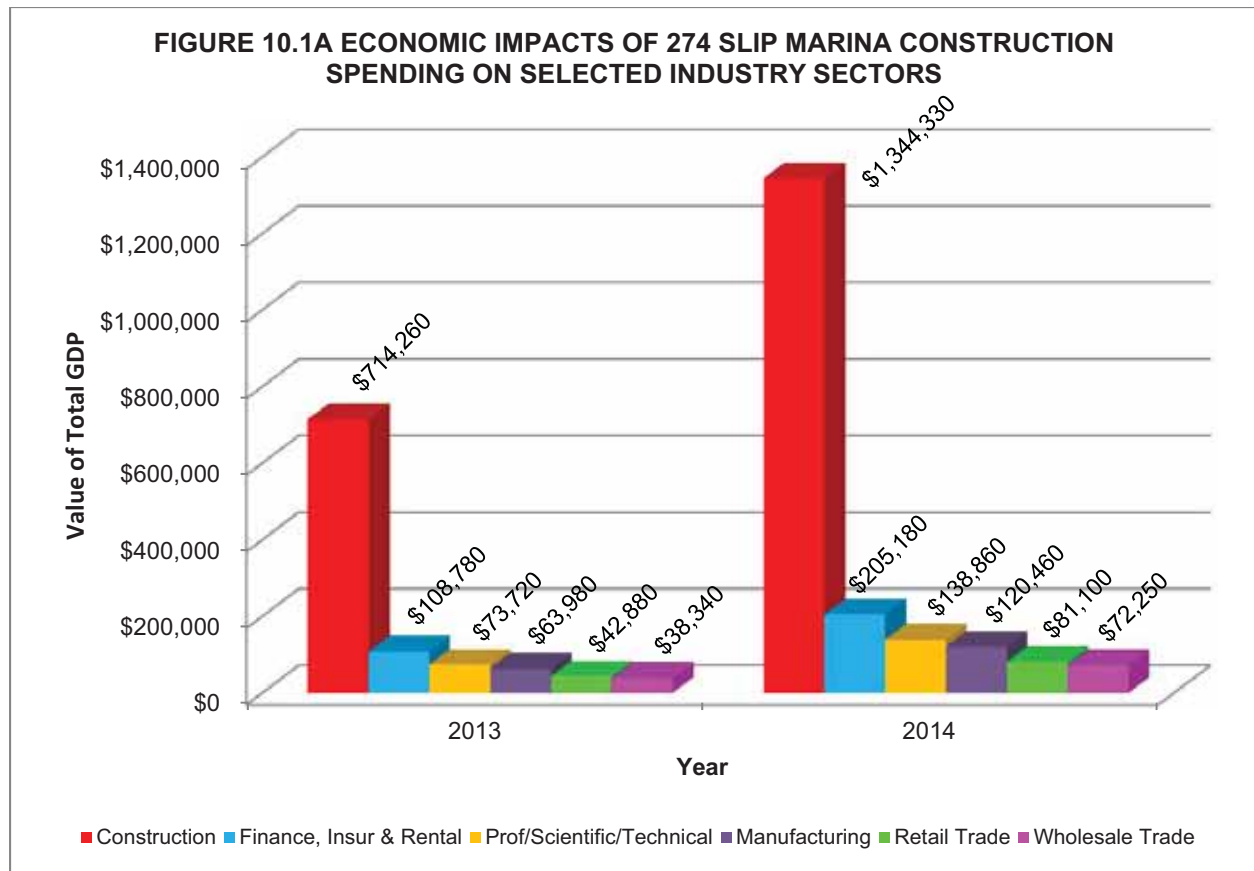
Approximately 35 percent (i.e. \$3,237,000) of the total \$9,326,200 capital budget for the 274 slip marina will be required in 2013 and 65 percent (i.e. \$6,089,200) in 2014. See **EXHIBIT 28A**.

10.1.1.1 Gross Domestic Product (GDP) – Direct, Indirect, and Induced

Direct, indirect and induced gross domestic product expenditures in the Town of Deseronto and Hastings County resulting from the construction of the 274 slip marina will increase from \$1,370,710 in 2013 to \$2,582,370 in 2014. See **Exhibit 30A**. The industry sectors impacted the most by the construction of the marina will be construction; finance, insurance, rental & leasing; professional, scientific and technical services; manufacturing; retail; and wholesale trade as shown in **FIGURE 10.1A** following

10.1.1.2 Labour Income and Number of Jobs Created

Total direct, indirect and induced labour income in the Town of Deseronto and Hastings County as a result of the construction of the 274 slip marina will be \$878,080 in 2013 and \$1,668,350 in 2014. This level of labour income will create 9 direct new jobs in 2013 and 18 direct new jobs in 2014. Using the Ministry of Tourism's Employment Multiplier in their TREIM model and applying it to the number of direct jobs created each year, we are able to project the total direct, indirect and induced jobs created as a result of the construction of the marina will be 14 in 2013 and 27 in 2014.



10.1.1.3 Tax Revenues Generated

The construction of the 274 slip marina will also generate total federal, provincial and municipal taxes of \$654,200 in 2013 and \$1,233,240 in 2014. The largest proportion of these taxes will accrue to the federal government i.e. \$333,360 in 2013 and \$630,240 in 2014. The total municipal taxes generated within the Town of Deseronto and Hastings County will be \$66,860 in 2013 and \$125,860 in 2014⁴.

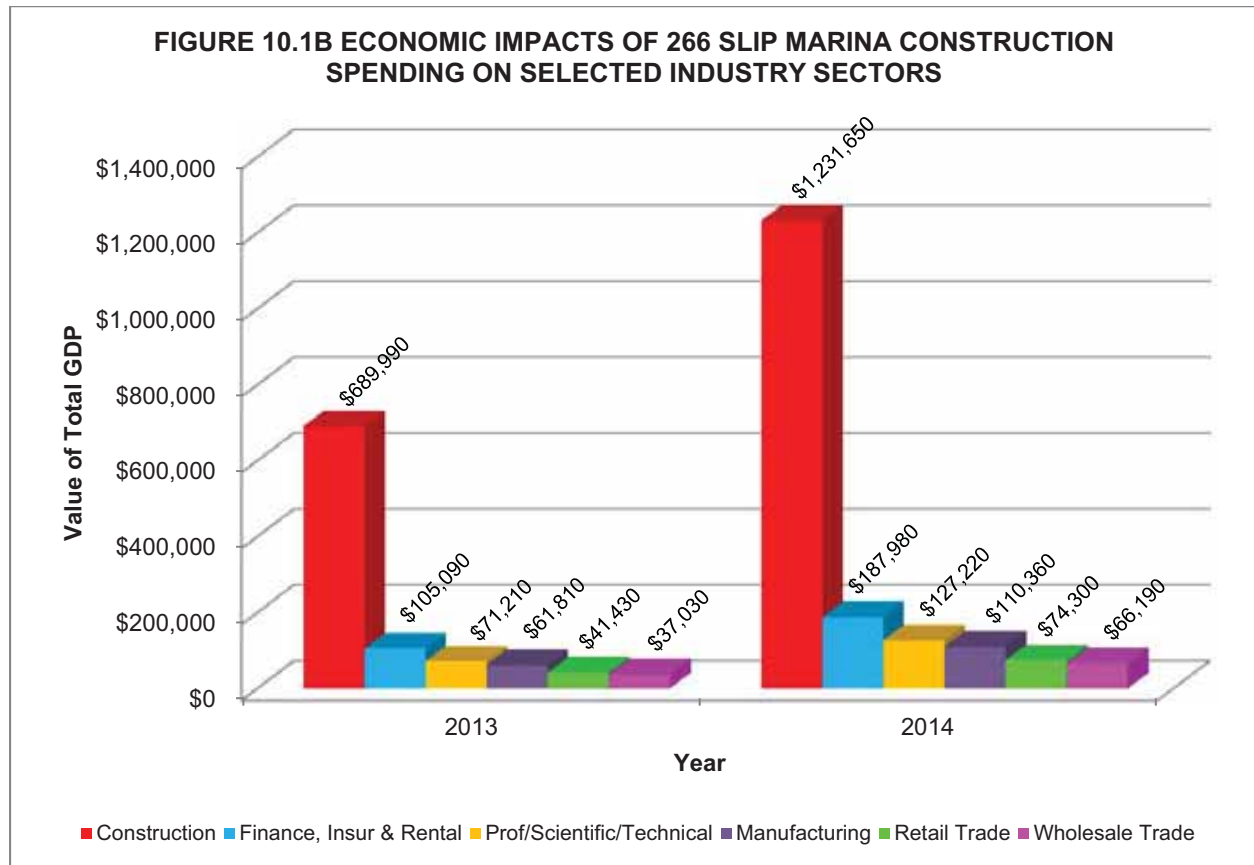
10.1.2 Economic Impacts Due to Construction of Concept 4a (266 Slip Marina)

We have assumed that \$3,137,000 of the \$8,715,800 capital budget for the 266 slip marina will be spent in 2013 and a further \$5,578,800 in 2014. See **EXHIBIT 28B**.

⁴Municipal Taxes result from direct, indirect, and induced spending within the Town and County. The increased spending as a result of the construction is reflected in the expansion of the supplier’s buildings and hence an increase in municipal taxes collected.

10.1.2.1 Gross Domestic Product (GDP) - Direct, Indirect, and Induced

With the construction of a smaller 266 slip marina direct, indirect and induced gross domestic product expenditures in the Town of Deseronto and Hastings County will increase from \$1,324,130 in 2013 to \$2,365,920 in 2014. See **EXHIBIT 30B**. The industry sectors impacted the most by the construction of the marina will be construction; finance, insurance, rental & leasing; professional, scientific and technical services; manufacturing; retail; and wholesale trade as shown in **FIGURE 10.1B** following.



10.1.2.2 Labour Income and Number of Jobs Created

Total direct, indirect and induced labour income in the Town and County resulting from the construction of the 266 slip marina will be \$848,240 in 2013 and \$1,528,500 in 2014. This level of labour income will lead to the creation of 9 direct new jobs in 2013 and 16 direct new jobs in 2014, and a total of 14 direct, indirect and induced jobs in 2013 and 24 in 2014.

10.1.2.3 Tax Revenues Generated

Total federal, provincial and municipal taxes generated through the construction of the 266 slip marina will be \$631,970 in 2013 and \$1,129,870 in 2014. As with the larger marina, the largest proportion of these taxes will accrue to the federal government with \$322,030 in 2013 and \$577,410 in 2014. The total municipal taxes generated within the Town of Deseronto and Hastings County will be \$64,590 in 2013 and \$115,310 in 2014.

10.2 Economic Impacts Due to Operation of Deseronto Marina

The following section describes the economic impacts due to the operation of the Deseronto Marina during each of the first ten years of operation beginning in 2014 and continuing through 2023. The expenditures used to determine the economic impact resulting from the operation of the marina come from three sources as shown in **EXHIBIT 31A** and **EXHIBIT 31B**:

- Total seasonal boater, transient boater, and non-boater resident and visitor expenditures at the marina;
- Total seasonal boater expenditures away from the marina but within the Town of Deseronto and Hastings County; and,
- Total transient boater expenditures away from the marina but within the Town of Deseronto and Hastings County.

10.2.1 Economic Impacts Due to Operation of Concept 2a (274 Slip Marina)

10.2.1.1 Total Direct Expenditures

Total direct spending by seasonal, transient, resident and tourist visitors at the 274 slip marina will increase from \$823,360 in 2014, to \$1,068,780 by 2018, and reach \$1,373,180 by 2023. Expenditures by seasonal boaters at grocery stores, marine supply outlets, other retail outlets, and marine repair shops within the Town of Deseronto and Hastings County are expected to increase from \$143,760 in 2014, to \$187,170 in 2018, and reach \$224,430 by 2023.⁵

⁵ Expenditures in Town of Deseronto and Hastings County exclusive of monies spent at marina. Based on number of occupied seasonal slips and an average annual expenditure of \$1,025.00 for sail boats, and \$1,780.00 for power boats. Assumes 55% of expenditure will be made in the Town and County.

Expenditures by transient boaters at grocery stores, restaurants, marine supply outlets, other retail outlets, marine repair shops and tourist attractions and events within the Town and County will remain the same, increasing from \$153,060 in 2014, to \$174,320 in 2018, and reach \$225,020 by 2023.⁶ Total direct expenditures at the marina and other locations within the Town and County will increase from \$1,120,180 in 2014, to \$1,430,270 in 2018, and reach \$1,822,630 by 2023. See **EXHIBIT 31A** at the end of this report.

10.2.1.2 Gross Domestic Product (GDP) - Direct, Indirect and Induced

Direct, indirect and induced gross domestic product expenditures in Deseronto and Hastings County will increase from \$691,640 in 2014, to \$885,670 in 2018, and reach \$1,128,630 by 2023. As shown in **FIGURE 10.2A** following, the industry sectors in the Town of Deseronto and Hastings County impacted the most by the operation of the marina will be retail trade; culture, entertainment and recreation; food & beverage services⁷; finance, insurance, rental & leasing; fuel and transportation⁸; wholesale trade, and manufacturing.

10.2.1.3 Labour Income and Number of Jobs Created

Total direct, indirect and induced labour income generated in Deseronto and Hastings County as a result of the operation of the Concept 2a 274 slip marina will increase from \$442,910 in 2014 (Year 1), to \$577,490 in 2018 (Year 5), and reach \$735,910 by 2023 (Year 10).

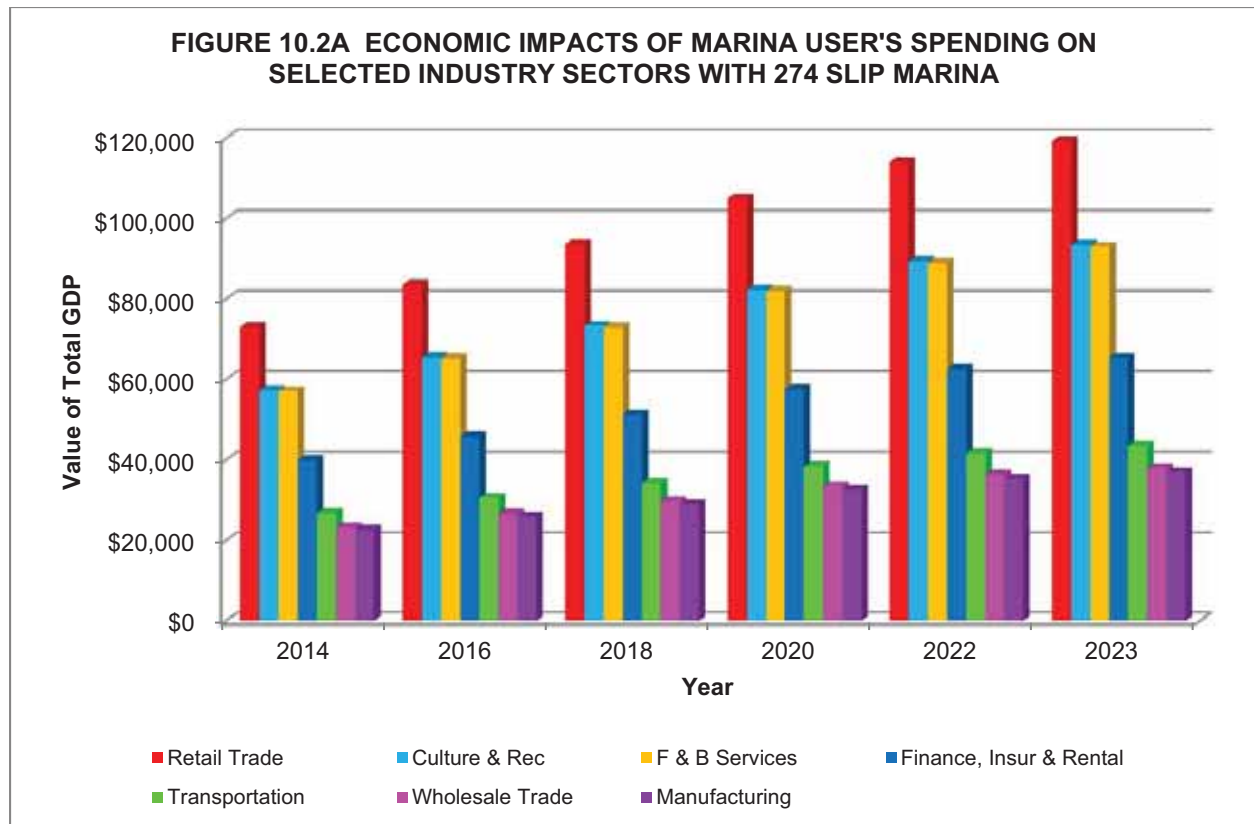
In 2014 the marina will generate sufficient expenditures to create 9 direct new jobs. By 2018, 11 direct new jobs will be created, and by 2023 the number of new jobs will reach 14. The total direct, indirect and induced jobs created as a result of the operation of the marina will increase from 12 in 2014, to 14 in 2018, and reach 19 by 2023.

Total federal, provincial and municipal taxes generated through the operation of the marina will increase from \$338,820 in 2014, to \$432,620 in 2018, and reach \$551,300 by 2023. The total provincial taxes generated within the Town of Deseronto and Hastings County as a result of the operation of the marina will increase from \$143,390 in 2014, to \$182,100 in 2018, and reach \$232,050 by 2023.

⁶ Based on the number of transient boats attracted to the marina as shown in EXHIBIT 26D and an average per person expenditure of \$19.10 for less than a 12 hour stay; \$33.90 for less than 24 hours and not overnight; and \$152.75 for an overnight stay (average stay 3 nights). Assumes 2.1 persons per boat as per industry average.

⁷ Approximately 53.9% of the food and beverage expenditures will be made at food and grocery stores and 46.1% at restaurants, bars and lounges within the Town of Deseronto and the County of Hastings.

⁸ Approximately 86.4% of the fuel and transportation expenditures will be boating related, 8.7% on public transportation, and 4.9% on local vehicle rentals within the Town of Deseronto and the County of Hastings.



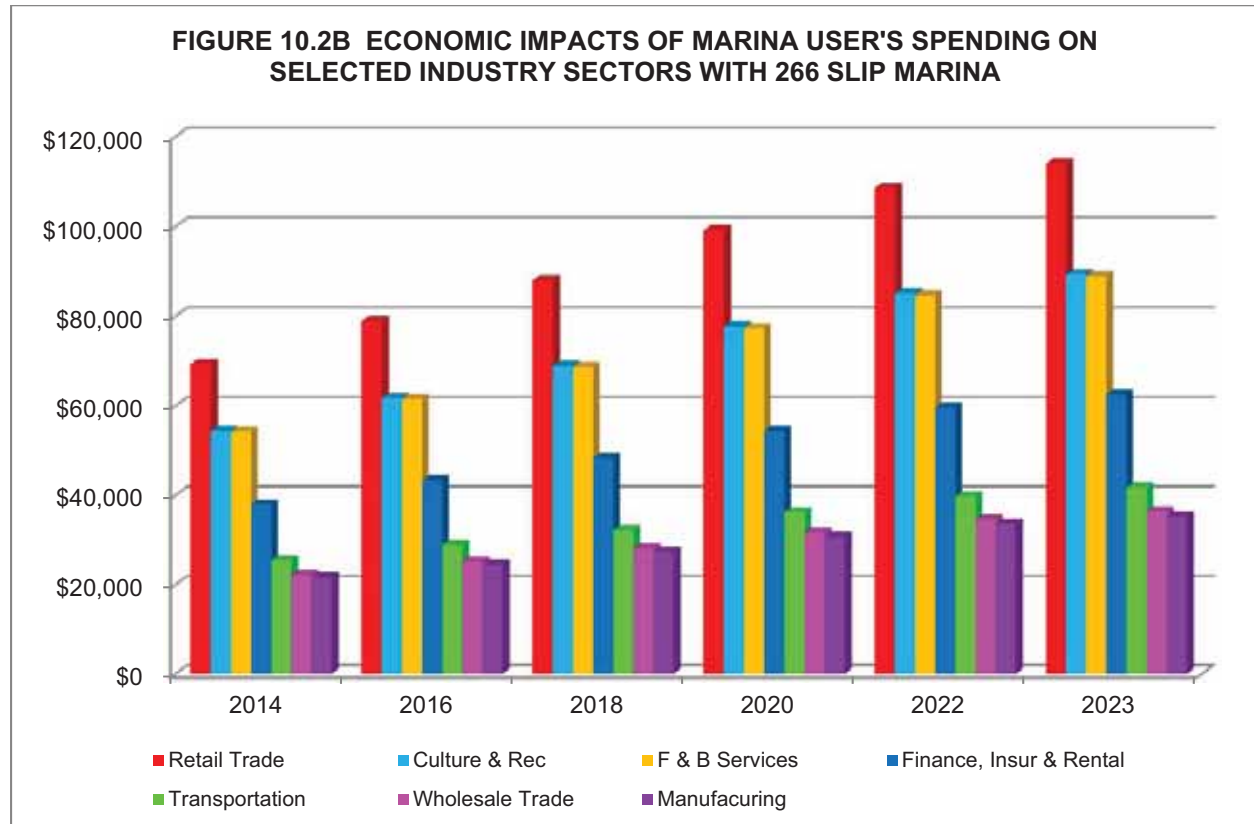
10.2.2 Economic Impacts Due to Operation of Concept 4a (266 Slip Marina)

10.2.2.1 Total Direct Expenditures

With 266 slips in the marina, total direct spending by seasonal, transient, resident and tourist visitors at the marina will increase from \$776,930 in 2014, to \$998,940 by 2018 and reach \$1,306,180 by 2023. Expenditures by seasonal boaters at grocery stores, marine supply outlets, other retail outlets, and marine repair shops within the Town and County are expected to increase from \$132,830 in 2014, to \$171,290 in 2018, and reach \$209,950 by 2023. Expenditures by transient boaters at grocery stores, restaurants, marine supply outlets, other retail outlets, marine repair shops and tourist attractions and events within the Deseronto and Hastings County will increase from \$153,060 in 2014, to \$174,320 in 2018, and reach \$225,020 by 2023. Total direct expenditures at the marina and other locations within the Town and County will increase from \$1,062,820 in 2014, to \$1,344,550 in 2018, and reach \$1,741,150 by 2023. See **EXHIBIT 31B**.

10.2.2.2 Gross Domestic Product (GDP) - Direct, Indirect and Induced

Direct, indirect and induced gross domestic product expenditures in Deseronto and Hastings County will increase from \$656,220 in 2014, to \$832,590 in 2018, and reach \$1,078,180 by 2023. As shown in **FIGURE 10.2B** following, the industry sectors in the Town of Deseronto and Hastings County impacted the most by the operation of the marina will be retail trade; culture, entertainment and recreation; food & beverage services; finance, insurance, rental & leasing; fuel and transportation; wholesale trade; and manufacturing.



10.2.2.3 Labour Income and Number of Jobs Created

Total direct, indirect and induced labour income generated in Deseronto and Hastings County as a result of the operation of the 266 slip marina will increase from \$420,230 in 2014 (Year 1), to \$542,880 in 2018 (Year 5), and reach \$703,010 by 2023 (Year 10).

Expenditures at the marina will lead to 9 direct new jobs in 2014. Eleven direct new jobs will be created by 2018, and by 2023 the number of new jobs will reach 14. The total direct, indirect and induced jobs created will increase from 12 in 2014, to 14 in 2018, and reach 18 by 2023

10.2.2.4 Tax Revenues Generated

Total federal, provincial and municipal taxes generated by the operation of the marina will increase from \$321,480 in 2014, to \$406,690 in 2018, and reach \$526,650 by 2023. The total provincial taxes generated within the Town of Deseronto and Hastings County as a result of the operation of the marina will increase from \$136,050 in 2014, to \$171,180 in 2018, and reach \$221,680 by 2023.

11. Marina Operation

11.1 Potential Operational Models for Deseronto Marina

While the vast majority of municipally owned marinas in Ontario and New York are operated by the municipality that owns them, there are examples of municipal marinas being leased to a private operator for a specified period of time. The Toronto Island Marina (on Centre Island in Toronto) and Bluffer's Park Marina (in Scarborough) are privately run by way of 20 year leases with the City of Toronto. Based on a call for tenders in 2006, separate 20 year license agreements commencing July 1, 2006, have been granted to private operators of these two marinas calling for 5% of gross annual revenues from mooring fees and 8% from gross annual revenues obtained from all other sources (includes winter storage, fuel dock, pump out, repairs and restaurant). The operators of these marinas are responsible for all operating costs, capital costs, dredging costs, utilities and property taxes. As part of the license agreements the operators of Toronto Island Marina are to invest approximately \$5,100,000 over the 20 year term in capital improvements and repairs and maintenance. Likewise, the operators of Bluffer's Park Marina are to invest approximately \$4,800,000 over the 20 year term in capital improvements and repairs and maintenance.

Port Dalhousie Pier Marina in St. Catharines is an example of a municipal, federal government and private operator arrangement. Port Dalhousie Pier Marina was constructed in 1991 on lands leased to Port Dalhousie Pier Inc. from the City of St. Catharines for the purposes of constructing and operating a marina. One of the four parcels of lands and water lots leased to Port Dalhousie Pier Inc. is leased from the Federal Government and then in turn leased to the private operator. The City has a 49 year agreement with the federal government to lease the one parcel of land at an annual cost of \$500.00 plus 20% of all gross revenues accruing to the City from that parcel of land. The City of St. Catharines's lease with Port Dalhousie Pier Inc. commenced May 15, 1992 and continues until April 14, 2012. There is an option to renew the lease for a further possible twenty year term in five year periods subject to renegotiated provisions of the lease. The lease which commenced at 15% of gross receipts for 1992 and 1993, calls for an increase of 1% of gross revenues every two years. It currently stands at 24% of gross receipts in 2011 and will increase to a maximum of 25% of the gross receipts collected in 2012 and thereafter for each year, or each part thereof, that the lease remains in effect. Lease payments are due and payable quarterly. All three facilities provide seasonal and transient docking. In our discussions with these three operators, it was clear that the provision of seasonal slips was the crucial element in allowing them to generate sufficient cash flow to be attractive to a private operator. In the case of New Harrison Marina, in Toledo, Ohio the private operator gets an annual management fee that increases three percent per year, plus 13.5 percent of net operating profit.

We are unaware of any municipally owned transient-only marinas that are operated privately through a long-term lease agreement. There are numerous examples where elements of municipally owned marinas are leased, these include the restaurant component, the repair component, marine services or chandlery store, and vending machine component.

Direct management contracts and long-term leases are the most prominent lease arrangements for municipalities. The following is a description of each.

Direct Management Contract: This is the preferred method when the municipality wants to retain ownership of the marina or when municipal, provincial or state law prevents a lease. The length of typical marina management contracts varies from three to 20 years, with 10 years the most common. Renewal is based on good revenues and performance. Generally, the municipality pays an annual management fee, which increases each year by a certain percentage, plus a percentage of revenues. In the United States, if there is any non-taxable bond money involved in the marina, IRS regulations prohibit giving a percentage of its income to a private entrepreneur.

Long-Term Lease: This is the preferred method when a municipal marina needs major repair and the municipality does not have the money to pay for it. A long-term lease allows cost recovery plus profit for the private operator.

There are two other means of developing a marina in a municipality, in both cases however, the municipality's only benefit is the taxes and economic impacts accrued as a result of the operation. The opportunity may exist to have the marina developed as part of an adjacent or nearby residential development which would then operate the marina. However, there are few examples where this arrangement is in place. Marinas have been developed in Midland, Victoria Harbour and Collingwood, Ontario as part of waterfront residential developments. In each case the marina slips were constructed as an enticement to purchasers of the residential units. The slips are not available to the general public for seasonal or transient use. The other possibility, dockominiums, is relatively new to Ontario and to-date has not proved to be very successful largely because of the short boating season and the relatively high cost to purchase the dock space versus reasonable annual increases in slip rentals. Dockominiums are highly successful in U.S. states like Florida and California where the boating season is virtually year round, and the potential for new marina developments in close proximity to major population centres is limited. Frenchman's Bay Marina in Pickering, Ontario offers dockominiums where the dock is purchased by the owner and he or she is then charged an annual maintenance/management fee. To-date sales have been extremely slow. As an extra incentive the marina allows lease of the dockominium for one season, and this cost will be credited towards the owners dockominium purchase price provided this occurs no later than July 31st.

While it is acknowledged that marinas are expensive to construct the vast majority of municipally owned marinas are highly successful and provide many benefits to the City or Town as mentioned in the previous section. Barrie, Belleville, Cobourg, Gananoque, Kingston, Leamington, Mississauga, Oakville, Port Colborne, Port Hope, Whitby, and Windsor successfully own and operate their own marinas.

New technologies have boosted marina profits and management efficiency in both public and privately owned and operated marinas. Advances in computer software have led to more efficient and timely allocation of transient slips. Docks and other structures are increasingly made of refined composite structures designed to withstand the elements more effectively than wood. Marinas have increasingly turned to new products with environmental and fire-resistant attributes. Engineers have redesigned boat yard and dockside disposal systems to meet more demanding environmental regulations. In some cases space limitations have been resolved with offshore islands for docking and refueling, and mixed-use facilities such as floating restaurants and lounges. New technology and equipment has also led to dry-stack storage where powerful forklift-type vehicles permit the lifting and stacking of boats into shelf-like racks for off-season storage. This method of winter storage also requires a smaller land area.

11.2 Exclusions

While it is a way to fill slips, most marinas in Canada do not allow live-aboards, where the boater uses his or her vessel as year-round living space. To our knowledge, Bluffer's Park Marina in Scarborough and Whitby Harbour Marina to a lesser degree are the only two marinas in Ontario that allow this practice and Metropolitan Toronto is in the process of decreasing the number of live-aboards at Bluffer's Park. Typically, the revenues generated from live-aboards through a combination of devices such as Live-aboard License Fees, slip rentals, and live-aboard moorage surcharges are insufficient to cover the municipality's cost of providing higher than normal hydro amperage year-round for heating and refrigeration, sewage and water systems, ice-free slips, and snow clearance and are not commensurate with property taxes for the same municipal services for land based living spaces. We therefore, recommend that live-aboards not be allowed in the proposed Deseronto Marina.

11.3 Necessary Marina Facilities and Services

11.3.1 Water Supply

Water usage requirements should be estimated on the basis of 95 litres per occupied slip per day for recreational boats and 250 litres per slip per day for commercial charter/tour boat operations. These numbers represent an estimate of the peak day demands and may be seasonally adjusted for overall water supply volume demands.

11.3.2 Sanitary Facilities and Waste Water Systems

Appropriate restrooms and shower facilities are a must in virtually every marina facility. A great deal of concern has been expressed about boats in marinas fouling the area waters by discharge of waste materials. One proven method to mitigate boater discharge of sanitary waste is to provide clean and accessible toilet facilities in numbers suitable for the volume of use by patrons in the marina. Sanitary facilities should be located within 150 metres of the shore end of every pier. Although marina design guidelines normally require a specified number of toilet facilities per number of boats, experience has shown that owners of power boats 11 metres (36 feet) in length and longer will rarely use the shoreside heads while owners of boats 9 metres (30 feet) in length and smaller will most often use the shoreside heads. Sail boaters with boats 10 metres (35 feet) in length and smaller will generally use the shoreside heads while boats of any type 15 metres (50 feet) and over will rarely use the shoreside facilities. Heads with private showers are the standard with new marina developments. There is sufficient space within the 350 square metre space estimate for the Deseronto marina building to allow for the latest standards for private heads and showers. Heads and showers should never be coin operated. The resentment resulting from pay toilets is not worth the small return in income. In fact, the restrooms should be the best that the project can afford and should be used as a marketing tool for prospective boaters.

Sewage pumpout facilities for boats should be provided at a minimum of one pumpout per 100 hundred recreational slips or fraction thereof. The slip count may consider only the size of boats normally fitted with sewage holding tank capability. Runabouts and day sailors not having provision for fixed sewage holding tanks need not be included in the boat count for pumpout capacity.

TABLE 11.1 below presents the suggested number of sanitary facilities appropriate for various size marinas.

TABLE 11.1 Recommended Number of Sanitary Facilities for Marinas of Varying Size

Number of Wet Slips	Heads (Toilets)		Urinals	Sinks		Showers		Pumpout Stations
	F	M	M	F	M	F	M	
0 to 50	1	1	1	1	1	0	0	1
51 to 100	2	1	1	1	1	1	1	1
101 to 150	3	2	2	2	2	2	2	2
151 to 200	4	2	2	3	2	2	2	2
201 to 250	5	3	3	4	3	3	3	3
251 to 300 ¹	6	3	3	4	4	3	3	3

¹For marinas exceeding 300 slips, increase the unit requirements by one unit per 100 additional slips
 Source: *Marinas and Small Craft Harbors*, Bruce Tobiasson and Ronald Kollmeyer, Van Nostrand Reinhold, 2001

11.3.3 Fire Protection Water Systems

Fire protection systems are becoming commonplace in modern marinas. The requirements for provision of water distribution systems for firefighting are perhaps the most varied of any utility furnished in a marina. Fire protection is most often the responsibility of the local fire department or fire marshal. There appears to be little consensus on the appropriate requirements for marinas and each fire department injects its own thinking and desires. We would recommend that Town officials meet with the fire department to discuss these issues prior to the final design of the water delivery system.

11.3.4 Solid Waste

The proper disposal of solid waste should be encouraged by placement of trash receptacles in convenient areas in a reasonable number. Generally as a minimum, a trash receptacle should be placed at the shore end of each main dock and in any area where people tend to gather such as a ship store, haul-out facility, launch ramp, etc. Container type dumpsters should also be provided to allow for the frequent emptying of smaller trash receptacles. The marina should be posted to advise users that overboard discharge of solid waste in the marina or waterways is prohibited. Solid waste generation is estimated at 3 pounds per slip per day.

11.3.5 Waste Oil

The marina should provide a suitable waste oil container for disposal of used engine oil, etc. The container should be designed to allow easy placement of the waste oil into the tank and the fill pipe should be fitted with a tight cover. The container should have a tray or other structure to contain any over-spillage resulting from the oil transfer operation. In general, a 950 to 1,050 litre waste oil tank will provide a suitable waste oil capacity for up to 150 boats.

11.3.6 Laundry Facilities

Providing laundry equipment in a marina can be a money maker and a positive marketing tool for attracting transient boaters. Outright purchase of laundry equipment is often favoured over leasing. The quality of commercial laundry machines is such that down time and repair costs are minimal. The machines are generally coin operated. Although the number of laundry units may vary by type of boat mix, a rule of thumb is to provide three washers and four dryers for each 100 slips in a transient marina. Money changing machines may also be desirable to keep users from bothering the marina staff for change and also for operation beyond the hours of manning by marina staff if desired.

11.3.7 Marina Office

The marina office is the heart of the marina operation. From here the marina manager must meet and greet the public, solve customer problems, provide operational guidance to marina staff and perform the administrative aspects of the marina operation. Its location should be central to the marina, since, all marina users will visit the marina office at one time or other during their stay at the marina. It should be easily accessible and well-marked. Preferably the marina office, or parts of it, should have a commanding view of the entire marina facility. It should have public and private spaces. The public should be welcomed into an area that is comfortable but arranged to expedite people on their business rather than providing a hangout. To accomplish this goal, a counter or dutch door is appropriate. Both convey a brief encounter and rapid completion of business.

The marina manager should have a private office to provide the proper climate for airing patron or employee grievances. The manager will also need time to complete paper work and scheduling. There is no given size that a marina office must be, nor any specific guidelines for its form, shape or extent, other than to fulfil the above mission. In or near the marina office there should be one or more pay phones for public use to prevent tying up the marina office phones. With the high number of cell phones currently in use, the provision of the phones is largely a public relations or good service offering to save boaters roaming and/or long distance charges on their out-of-area cell phones. The marina office lobby is a good place for a bulletin board and message centre. Some marinas will also have a weather station readout for the area in the lobby and other weather related information available and internet access. If vending machines are desired, this may also be the most appropriate location for security reasons.

The marina office should have a good array of communications equipment suitable for the marina operation. This generally includes landline telephones, marine VHF radio telephones (especially if you intend to take reservations), and local use walkie talkie type radio units for use by the marina manager and staff. The office should also have a status board with the marina layout painted or inscribed on the board together with slip assignments and other operational information. In lieu of the traditional status board, some larger marinas have computer generated slips layout presentations, that can provide a full range of information on slips, occupancy status, utilities availability, water depth, etc. Whatever system is selected, it should be useable by the marina staff and provide useful and rapid information. This aspect is especially important for transient marinas at peak use periods. Other computer software applications will also be necessary to perform bookkeeping, inventory, invoicing, and word processing functions. Ideally the marina office space should include a “mud room” for marina staff to get out of the weather and to remove wet and dirty foul weather gear.

11.3.8 Boat Yard Facilities

While we have not provided for an on-site repair service, a few marinas within the market area of Deseronto do. These services typically include the following: engine and mechanical services, carpentry, painting, electronics, and fibreglass repair. If such services are considered at a later date they should be located in an isolated location on the site due to their associated noise and odour concerns. The provision of these services is often provided through a partnership agreement with a private operator.

11.4 Operational Aspects

No matter how well sited, designed and constructed a marina is, if it is not well operated it will not be successful. Marinas are part of the service industry and the safety and needs of marina patrons must be provided in a knowledgeable and efficient manner. Most marinas are operated by a team of individuals that must function effectively and with a plan of action. In order to manage the team effectively, a well thought out plan of action must be developed. The plan of action will contain administrative aspects, operations guidance, rules and regulations for marina customers, and protocols to handle emergency situations.

11.4.1 Service Orientation

The success of the marina will rely on the ability to attract and retain customers. As with most high-end recreational pursuits, many customers will not appreciate the high capital cost of constructing the marina or the cost to properly maintain the facility. It is therefore extremely important to provide quality services at a fair price and in a friendly manner. Providing competent dockhands to assist in docking and undocking is a service well appreciated by most boaters, especially new boaters who may not be experienced boat handlers. Transient boaters will generally not be familiar with the marina layout or with the effects of wind and current at the marina location. The dockhands may represent the first impression of the quality of the marina and they should act and respond to the customer's requests accordingly. The dockhands can, in addition to helping dock the vessel, provide information on registration and marina policy and direct the transient boater to other marina or area services. Just as the buzz word for real estate marketing is location, location, location; it might be said that the buzz word for a successful marina operation is service, service, service.

11.4.2 Insurance

It is important to create an atmosphere that will mitigate liability and reduce insurance costs. Every marina manager and his or her staff should be on constant patrol for areas that create high insurance risks. The physical plant should be routinely scrutinized for defects. Missing handrails, tripping hazards, loose planks, exposed wiring, slippery floors, etc. should be tended to and repaired immediately.

The Clean Marine Eco-Rating Program under the auspices of the Ontario Marine Operators Association (OMOA) assists in this regard as it helps to protect the environment at the marina, which increases the value of the facility, while decreasing the risks and hazards, a factor that also shows up in reducing insurance premiums. Flying the Clean Marine flag also displays the marina's commitment to the environment and is an incentive in attracting the more environmentally conscious boaters. Under this program participating marinas have adopted environmental best management practices as set out in the OMOA's *Clean Marine Manual*. The manual was developed through the cooperation of the OMOA, Environment Canada, and the Ontario Ministry of the Environment (MOE). An audit of the marina is completed based on a variety of issues covered in the manual including setting "Clean Marine" policies, goals and objectives, waste, dock and yard management, and boat maintenance. Retail operations, visitor facilities, and subcontractor policies are also included. Scores are tabulated and converted to an Eco-Rating of from a low of one to a high of five Green Leaf Anchors. More than 350² marinas and yacht clubs in Ontario currently have a Clean Marine Eco-Rating.

11.4.3 Security and Surveillance

Providing adequate security is difficult because people legitimately using the marina often do not want to be subjected to intense security clearance to obtain access to their boat or other marina facilities. In the case of the Deseronto Marina, general public access should not be allowed on the main and finger docks. A card key or keyed gate should be sufficient to control access to these areas. It may be necessary to provide security wings around a dock gate to prevent people from swinging around the gate and thereby gaining access.

Adequate lighting should be carried out throughout the facility including washroom facilities, laundry area and all places where the boaters may have occasion to pass or use during darkness. Care must be taken however, not to create a lighting pattern that interferes with boat navigation or distracts from activities aboard the berthed boats. Low level lighting on the docks should be designed to illuminate the dock surface and immediate area for safe passage but should not be directed to the water berth or in any way blind the vision of a boat operator manoeuvring in the darkness.

²Within the seasonal market area Blue Woods Marina, Collins Bay Marina, Confederation Basin Marina, Kingston Marina, Loyalist Cove Marina, Portsmouth Olympic Harbour, and Waupoos Marina are all *Clean Marine Program* members.

11.4.4 Concierge Services

A current trend in the marina industry is to enhance the number and quality of services provide to the transient customers. The services provided are often beyond those that can be directly provided by the usual scope of the marina, and the procurement of the services may be difficult for the recent arrival unfamiliar with the local area. A fee for concierge services may or may not be levied by the provider. Arrangements are often made with the actual provider of the service to pay the concierge a commission for recommending the service. Many municipally operated marinas catering to transient boaters provide this service as a matter of course. Concierge services are varied but may include: assisting in obtaining provisioning, making reservations for restaurant dining, obtaining tickets to major cultural/entertainment/sporting events, arranging for medical assistance, arranging for local tours or excursions, assisting in making travel arrangements, and servicing other personal needs of the transient boaters.

11.4.5 Operations Manual

An operations manual should be prepared to define marina operations policy and define actions that operations personnel are expected to execute in the day-to-day operation of the marina. All operational personnel should be required to familiarize themselves with its content and goals. A start of the season workshop is constructive, especially since many of the dockhands will be first time employees.

A good operations manual will be comprehensive and tailored to the specific needs and requirements of the marina in question. Some typical operations manual categories include:

- Hours of operation and manning levels
- Personnel orientation
- Daily and weekly routine and work assignments
- Dress code and housekeeping
- Use and operation of marina equipment
- Security policy
- Fire prevention and control procedures
- Marine radio procedures
- Cash receipts and credit card policy
- Procurement of supplies and equipment
- Handling of outside contractors and vendors
- Transient vessel reservations and vessel handling
- Allowable work that may be performed by boat owners while at the marina
- Pumpout facility procedures

- Vending machine operations
- Procedures for arrival of foreign vessels
- Liaison with Coast Guard and other enforcement agencies
- Procedures in case of storms
- Emergency procedures

11.4.6 Maintenance

Maintenance is the cornerstone of the marina's safety and long term survival. It should be a continuing process with defined areas of scrutiny and scheduled follow-up repair and monitoring. Maintenance monitoring should be a part of the daily routine, at least in so far as observations of facility components and recording deficiencies that are observed. Maintenance may be generally grouped into two categories: unscheduled and scheduled.

Unscheduled maintenance is of a nature that requires immediate attention to protect life and property. Examples might include uneven or missing deck planks that might create a tripping hazard or a broken power post with exposed wire that might electrocute the unsuspecting user. Scheduled maintenance might include complete deck refastening or the installation of new mooring chains on a periodic basis. The best way to address maintenance is to develop a maintenance plan that addresses the specific marina and its staff.

The marina manager usually develops the maintenance plan with input from the marina owner and discussions with the marina staff. All items requiring scrutiny should be included. Depending on the level of sophistication desired, the plan should include time frames for inspection surveys, staffing of inspection teams, forms for reporting data, task initiation forms, and task completion forms, as well as cost itemization for maintenance costs.

In order to appropriately apply the results of a good maintenance plan, it is necessary to have available funding to implement the maintenance operation. We have provided a budget line item in the financial projections as presented in Section 9 and **EXHIBIT 27** of the report for Maintenance & Repairs, and Capital Reserve for Replacement. It is recommended that these two line items be continued in the annual operating budget. A maintenance account should be developed and updated from the conditions discovered in the maintenance surveys. Major maintenance items should be scheduled to be implemented in a time frame acceptable from the financial as well as from the need perspective. Assessing maintenance needs will allow for incremental funding creation in a reserve account and will not require major capital expenditure on short notice. Of course, major emergency items will require immediate attention, but these can be minimized by conscious applications of preventative maintenance and periodic maintenance surveys and inspections.