

BYRNE LOOBY



Cove Sailing Club in Conjunction with Cork County
Council

Whitepoint Marina

Planning Design Report

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Contents

1 Introduction 1

2 Berth Type/Size Demand Analysis 2

 2.1 Existing Marinas & Moorings 2

 2.2 Berth Demand 2

 2.3 Berth Size/Type 3

3 Marina Berth Design Information 4

 3.1 Number of Berths 4

 3.2 Marina Staff 4

4 Marina Layout & Protection 5

5 Marina Access 6

6 Pontoon & Anchorage System 7

 6.1 Pontoon System 7

 6.2 Anchoring System 7

7 Marina Water Depths 8

8 Marina Facilities & Services 9

 8.1 Service Bollards 9

 8.2 Effluent from Dinghy Park 9

 8.3 Effluent from Proposed Marina 9

 8.4 Fuel 9

 8.5 Water Supply 9

 8.6 Waste Reception Facilities 9

 8.7 Safety Equipment 9

 8.8 Lighting 10

 8.9 Security Systems 10

 8.10 Navigation Lighting 10

9 Landside Facilities 11

 9.1 Marina Office 11

 9.2 Car Parking 11

 9.3 Welfare & Amenity Facilities 11

10 Navigation & Existing Moorings 12

10.1 Navigation..... 12

10.2 Existing Moorings 12

1 Introduction

ByrneLooby are currently providing engineering consultancy services for Cove Sailing Club in relation to the proposed marina in Whitepoint, Cobh, Co. Cork.

The proposed marina development at Whitepoint, Cobh, Co. Cork will be all tide access marina suitable for the full range of power and sail craft in Ireland today. The marina incorporates the full range of facilities and services required for a modern marina. The marina has been designed and will be operated in accordance with the requirements of the Blue Flag for Marinas criteria. Details of these criteria are contained in the appendix. The marina design and specifications have been prepared in accordance with BS 6349 "British Standard Code of Practice for Maritime Structures", as well as Irish, UK, European & US marine leisure facility guidelines.

The location of this proposed marina in Cobh is very suitable for the development of a coastal marina. Preliminary discussions in relation to this marina with Cork County Council (CCC) Planning Officers, Department of Housing, Planning & Local Government (DoHPLG) technical officers and the Port of Cork (POC) have taken place. A foreshore lease from DoHPLG for development on the foreshore has been obtained.

2 Berth Type/Size Demand Analysis

While the development will concentrate on providing facilities for Cove Sailing Club, a detailed analysis of the type and size of boats using and visiting Cork harbour and the South West coast generally was carried out. The results of this analysis were used to determine the range of berths sizes required for a marina of this type in Cork Harbour.

2.1 Existing Marinas & Moorings

There are four existing marinas in Cork Harbour, with a total of circa 450 no. berths approximately. The Royal Cork yacht club marina has circa 220 no. berths and is currently full. Salve marina in Crosshaven has 50 no. berths and is currently full. The Crosshaven boatyard marina has 100 no. berths and is currently full. The marina at East Ferry (Great Island) has 80 no. berths and is currently full. All of the above marinas report strong demand for additional berths. Planning permission has recently been granted for a 280-berth marina in Monkstown, however, to date, only 90 berths have been constructed and in operation. The Port of Cork has recently installed berths at South Custom House Quay.

There are more than 1,050 no. moorings in Cork Harbour. These moorings are located throughout Cork Harbour with a number of moorings located in the site of the proposed marina. It is accepted that swing moorings are a poor alternative to berthing in a marina and they have very high health and safety risks associated with them. Swing moorings must be vacated during the winter/spring months due to weather conditions and they occupy a disproportionate area of foreshore compared to marina berths.

2.2 Berth Demand

Ireland currently has one of the lowest boat ownership rates in the EU, with per capita boat ownership of 1:171. By comparison Sweden has 1:7, Netherlands 1:30, France 1:66 and the UK 1:100. (World Marine Markets 2005)

Ireland also has one of the lowest berth rates, with 24 coastal marinas nationwide providing approximately 2,000 berths. (Marine Institute 2005)

There is strong demand for berths in Ireland, especially in the South and South West regions. Consultations with boat sales agents shows steady demand for the full range of power and sail boats in Ireland. Many agents reported that the lack of marina berths is a major disincentive for potential buyers when considering purchasing a boat.

The current density of boats in Cork Harbour is significantly lowering than other harbours in the UK, Europe and the USA. There is huge potential for the sustainable exploitation of the marine leisure resource in Cork Harbour, subject to proper planning, implementation and management.

2.3 Berth Size/Type

The general trend is for boat sizes to increase over time. The average boat length in Cork harbour is 10m (approx.) Approximately 67% of boats in Ireland are greater than 6m in length.

(Irish Sea Marine – The potential for marine leisure 2007)

The ratio of sail boats to power boats in Ireland is currently 60:40, although there is a gradual increase in the percentage of power boats to sail boats nationally. This has an impact on the design of marinas.

3 Marina Berth Design Information

3.1 Number of Berths

The results of the analysis in section 2.0 above were used to determine the range of boat types/sizes that would be attracted to the proposed marina in Monkstown.

3.2 Marina Staff

The number of staff proposed to manage the marina and its facilities is as follows:

Marina Manager/Administrator	1 no. Part time
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4 Marina Layout & Protection

The marina will be protected by an outer array of proprietary floating concrete breakwater units. These breakwater units will be 4m wide with 1.8m deep concrete skirts. The breakwater will form part of the berthing infrastructure.

The marina berths have been oriented in a north east – south west alignment to match the predominant wind and tidal flow direction and to maximise the use of foreshore. This alignment will aid vessel manoeuvring and minimise tidal drag on the berthed vessels and marina structures. The internal marina layout has been designed to facilitate easy and safe manoeuvring within the marina and allow for safe access to and from the berths.

The entrance channel to the marina is 19m wide. The inner navigation channel and the fairways vary in width to suit the expected design vessels.

The primary walkway, which will connect to the secondary walkways, will be 2.5m wide. The primary walkway will be comprised of proprietary floating pontoon units. The secondary walkway will be 2.5m wide proprietary floating pontoon units.

Floating finger pontoons are positioned perpendicular to the secondary walkways (on either side) to accommodate the double berthage of vessels. The widths of the double berths vary according to the class of vessel and allow for the safe manoeuvring of vessels into and out of berths. The length of the finger pontoons is 100% accommodated overall vessel length (LOA). The finger pontoons are between 0.65m to 1.0m wide, depending on the berth length.

The marina is located adjacent to the Port of Cork cruise liner turning basin. Following extensive consultations with the Port of Cork, it was established that a distance of 65m minimum should be kept between the turning basin and the nearest point of the marina. This is to allow for a factor of safety in the unlikely event of combined extreme weather event and failure of the liner bow thrusters (which aid in turning of the liners). This distance also allows for the marina to remain in view of the liner pilot at all times during the berthing procedure.

5 Marina Access

Access to the marina from the sea will be via the marina entrance channel to the west of the site.

Access to the marina from the landside will be controlled via the existing high-quality aluminium security gate which is located at the access platform, which is connected directly to the existing quay wall ("Five-foot way"). This fixed platform structure was granted under planning number 10/52015.

A keypad security access system is currently installed on the fixed platform to control access to the marina. Pedestrian movement around the marina will be via the primary and secondary walkways.

The gangway, which will be constructed from high quality aluminium, will be hinged at the landside connection and have a roller system at its base. The pin/roller system will allow the gangway to move freely in the vertical axis, thus accommodating the rise and fall of the tidal cycle. The maximum slope of the gangway will be 1:4, which will occur at Mean Low Water Springs (MLWS). The gangway will be 24m long and have a clear width of 1.5m.

6 Pontoon & Anchorage System

6.1 Pontoon System

The proposed pontoon system will be a high-quality proprietary system. The pontoons will be comprised of aluminium or steel frames, supported on concrete floats. The proposed decking material is a timber composite plank, which will have the visual appearance of hardwood and the stability and durability of plastic.

The outer breakwater will be of high strength reinforced concrete construction.

6.2 Anchoring System

The marina will be anchored using a chain and anchor system. 5 and 10 tonne anchor blocks will be placed on the sea bed and connected to the pontoons/breakwaters via 60mm chains.

The system has no visual impact to the marina as it is all underwater.

The final anchoring system specified will be governed by the results of site investigations and detailed design.

7 Marina Water Depths

The tidal range in Cork Harbour is 3.7m (MHWS to MLWS).

Dredging will not be required at the site due to the natural deep-water bathymetry and the layout of the marina.

Depths in the marina will vary from 3m to 11m approx.

8 Marina Facilities & Services

8.1 Service Bollards

High quality service bollards will be located throughout the marina. There will be a minimum of one bollard per four berths, with the larger berths having one bollard per two berths. The service pedestals will provide 240v electricity and lighting for the marina. Additional lighting will be provided along the primary walkway and the gangway.

8.2 Effluent from Dinghy Park

The effluent at the dinghy park will be generated from the use of toilets and showers. This system is connected to the public sewage system at Whitepoint.

8.3 Effluent from Proposed Marina

Non-anticipated.

8.4 Fuel

It is not intended to supply fuel at the marina. Diesel is available from other sources in the harbour.

8.5 Water Supply

Potable water will be available from the taps on the service bollards which will be strategically positioned on the secondary walkways. The water system will be connected to the public water supply system located on the public road.

8.6 Waste Reception Facilities

Waste reception banks will be located at the Cove Sailing Club Dinghy Park. The reception banks will be comprised of 3 no. separate bins for the following waste streams: Recyclables refuse & hazardous.

8.7 Safety Equipment

Fire extinguishers (6kg dry powder units) will be provided at a minimum ratio of one unit per fifteen berths.

Lifebuoys will be provided at a minimum ratio of one per 30 berths.

Escape ladders will be provided at a minimum ratio of one per 30 berths.

A first aid kit will be provided at the services berth and in the marina office.

A fuel spill emergency/clean up kit will be provided adjacent to the services berth.

8.8 Lighting

Pontoon lighting will be provided integrally in the service bollards. Additional foot lighting will be provided along the access gangway and primary walkways.

8.9 Security Systems

Access to the marina will be controlled via a key pad type security system. The card will control access to the marina and allow use of electricity from the service bollards. 2 CCTV cameras will be located at the security gate – one facing the marina and one facing the carpark. The system will be relayed to a monitor at the dinghy park.

8.10 Navigation Lighting

Navigation lighting will be provided along the outer breakwater in accordance with the requirements of the Marine Survey Office (MSO) and the Port of Cork.

The proposed locations for all of the above equipment and systems are detailed on the Marina Services Layout drawing.

9 Landside Facilities

9.1 Marina Office

The marina office will be located at the existing adjacent Cove Sailing Club facility.

9.2 Car Parking

The existing carpark adjacent to the 'Five Foot Way' will be used. The carpark is currently used by the general public and members of Cove Sailing Club. Boat owners at the swing mooring field also use the carpark. It is not envisaged that the marina development will increase parking requirements significantly as there will be no net increase in boat users at the site.

9.3 Welfare & Amenity Facilities

The welfare and amenity facilities will be located within the existing Cove Sailing Club facility.

10 Navigation & Existing Moorings

10.1 Navigation

The marina has been designed to comply with recognised standards and guidelines, and in consultation with the Harbour Master.

The proposed marina will be located away from the main navigation channel which lies to the south of the proposed marina and the Port of Corks cruise liner turning area. The marina location and layout has been refined, in consultation with the Port of Cork, to ensure that the marina does not impede or have any negative impact on the navigation of commercial vessels and operations.

Navigation access to the existing slipway at Whitepoint will not be impacted upon by the proposed marina. The marina will provide shelter to users of the slipway, which will be beneficial during times of poor weather.

10.2 Existing Moorings

The site for the proposed marina is partly within the existing swing mooring field at Whitepoint, which is used by a number of private pleasure craft owners for the mooring of their boats.

Swing moorings are extremely inefficient in terms of the area of foreshore occupied per boat. The technical staff from DoHPLG Foreshore Section have indicated that their preferred mooring option is marinas rather than swing moorings, wherever possible.

The users of these moorings will be encouraged to relocate to the new marina, which will provide safer sheltered year-round berthing. Users who do not wish to berth in the marina will be offered an alternative location for their mooring.

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