

Royal Air Force & Royal Southern Yacht Club

Pontoon Development

Method Statement

1. Introduction

This document outlines the construction methodology for the RAFYC & RSrNYC Pontoon Development. It is intended that the works will be let as a Design and Build contract and therefore the detailed design will be the responsibility of the selected contractor. However, the following method statement will form the basis of the contract agreed with the appointed contractor(s).

The scheme is described as:

Reconfiguration of berthing facilities and installation of additional pontoons to provide more flexible and efficient berthing provisions. Improved arrangements for access to water for a range of users including: floating all-tide dinghy slipway; disabled access berth; crane and holding berth; dedicated visitor and event berthing.

Capital dredging works to create additional water depth to berths and the associated facilities. A new sheet piled quay wall with suspended timber deck and infill behind to replace the existing failing structure and removal of inspection piles and existing slipway.

2. Construction

2.1 Phasing and Duration of Works

It is intended that the construction works will be completed in a single phase of works, however the following sequence is likely to be adopted:

1. Demolition, removal and clearance of landside areas and associated pontoon and access equipment to include inspection piles
2. Installation of new sheet pile wall and associated land side works
3. Removal of pontoon and piles (partial)
4. Capital dredge works
5. Reconfiguration of remaining pontoons and installation of new pontoon, pile and access equipment

The anticipated duration for the construction of each stage along with the likely periods of piling activity are outlined in Table 2.1 below.

| Stage | Cumulative Duration of Piling Activity | Total Duration of Construction Works |
|--------------|---|---|
| 1 | 0 weeks | 2 weeks |
| 2 | 6 - 8 weeks | 12 weeks |
| 3 | 0 week | 2 weeks |
| 4 | 0 weeks | 3 weeks |
| 5 | 8 - 11 weeks | 4 weeks |

Table 2.1 works period

2.2 Timing of the Works

The proposed works are planned to commence during the winter months from October to March when general activity on the water is at its lowest, thereby reducing the impact on the wider operations within the River. Each element of the construction will be undertaken in concert with the tides and all timeframes stated make allowances for weather conditions impacting upon construction activities.

Each stage of works will be completed in a sequential fashion to allow for the management and relocation of boats. To ensure any potential impacts to the designated sites and their features are kept to a minimum, all work will be planned with this in mind. In addition a Machinery Operating Protocol will be applied which introduces timing restrictions to noisy operations which are to be applied from 0700-1900 Monday to Saturday.

2.3 Construction Materials

Where possible low emission, recycled and sustainable materials will be incorporated into the construction.

The following material coatings will be applied to structures prior to delivery to site:

- Sheet and tubular Piles will be coated with a 300 micron coal tar epoxy paint system specifically designed for use on the marine environment.
- Steel pontoon structures will be coated with a hot dip galvanised protective coating to prevent corrosion from the marine elements.

2.4 Construction Methods

The nature of the works will require periods of vessel relocation; pile extraction and pontoon removal; new piling activity; followed by pontoon assembly, and sundry works. Accordingly prolonged periods of a single activity with the potential to cause disturbance are avoided.

In all stages of the pontoon development works there are common construction activities and methods. Whenever they occur the following details will be adhered to:

- **Withdrawal of Piles and pontoons**
A number of stages require the removal of existing (wooden and steel) tubular piles. The total number of piles to be extracted is 26. Moored vessels will be relocated, and if present, pontoons will be relocated prior to pile removal.

The activity of removing existing piles is a simple process and involves the use of a floating barge mounted crane that will either utilise a vibro technique or a tidal lift method¹. In reality a mixture of the two techniques is likely to be used. Piles will be taken aboard the barge and removed by the contractors to their works compound and disposed of. Where the piles removed are in

¹ A method which uses the natural effect of the rising tide to 'pull' and loosen the pile.

good serviceable condition they will be re-used within the scheme by the contractor.

- **RSrNYC Inspection piles**

The hardwood timber inspection piles located on the intertidal area to the east of the RSrNYC club house will be removed as a consequence of the proposed development. In addition the concrete foundation and access way from the club house to the inspection piles will be removed. Note that inspection pile facilities remain within the locality, one being located at the RAFYC and one located on the Hamble Slipway, both of which are within 120m of the existing structures.

- **Delivery of Materials to Site**

Where practical the majority of the materials required for the works will be delivered to site by barge from supplier locations, thus reducing the vehicle movements in the town of Hamble. All vessels utilised in construction activities will abide by navigational requirements and display the appropriate lights and signals.

For the equipment and material that will require delivery to site by road, the vehicles will use main roads and given the extent of works and seasonal timing, will not impact on local road traffic.

There will be a small compound made available to the contractor within the boundaries of the site for temporary storage of materials and equipment as required for each stage.

- **New Quay Wall**

Approximately 130m of new quay wall and flood defence structure will be formed by driving steel interconnecting piles into the bed of the River. Working from one end, a panel of piles will be set into a gate, using vibro-piling technique the piles will be driven into the sea-bed. Following the completion of each panel another panel will be set and the process repeated. A system of tie-rods will be introduced to tie-back the piles before the land behind is backfilled and concrete works are undertaken to form the quay wall capping beam. The capping beam will be clad to seaward with

reclaimed timber sections. In addition the in-pans of the sheet piling will incorporate shelf structures to create intertidal habitat.

Surfacing in the area behind the quay wall will be made good using materials to match the existing.

- Capital Dredging Works

The dredging works will be carried out from the water. A self-propelled spud legged barge with a backhoe dredger will be deployed to carry out the excavation works. The dredger will in turn load the dredged arisings into a self-propelled split hopper barge positioned alongside the dredger. Dredging works will be carried out in concert with the tides and loading the split barge will take approximately 2-3 hours. The Split barge will navigate from the dredge location to the designated disposal site. The sequence will be repeated approximately 28 times until the design dredge depth has been achieved. All dredging & disposal activity will be the subject of a Marine Licence issued by the Marine Management Organisation.

- Floating Plant - Navigation

The proposed development site is located outside of the main navigation channel and therefore construction works will have little impact on navigation for River users during the construction works. In addition due to the timings of the works during the winter months, activity on the River will be limited. All construction and dredging vessel movements will be subject to prior approvals from the River Hamble Harbour Authority. All vessels will display appropriate lights and signals and be illuminated at night (as will any temporary pontoon structures or partial pontoon structures during removal or construction phases) to ensure safety of navigation for River users during the works period. All vessels will comply with the Harbour Masters Directions and COLREGs.

- Piling for the Pontoon Layout

Piling work will be necessary to drive the 32 No. new securing piles for the pontoons. Piling will be conducted from a floating barge with a crane mounted on the deck with positioning by GPS.

An element of the works will take place within an area designated as Solent Maritime Special Area of Conservation (SAC) an area of Ecological Sensitivity. Specific construction methods will be undertaken to protect the immediate and surrounding areas of ecological sensitivity. As such it is acknowledged that percussive piling will not be undertaken as standard.

Vibropiling² techniques will be employed to minimise noise and disturbance to the surrounding environment. Should insufficient penetration be achieved using vibropiling techniques e.g. due to the soil conditions then allowance will need to be made for limited percussion piling as an alternative means of achieving the required penetration. Should any percussive piling be required this can be limited to periods of high tide to minimise potential disturbance to fish and birds and undertaken using soft start techniques.

The above piling methods are considered best practice in the Solent and are reflected by the pre-application dialogue & correspondence with Natural England, the Environment Agency and the Eastleigh Borough Council's Biodiversity Officer.

- Installation of pontoons

Once the securing piles have been installed the pontoon units will be moved into position and secured. The pontoon equipment is likely to be delivered to the Southampton area, assembled and brought to site by barges. The pontoon walkways and finger pontoons will be launched from the barge, towed into position by small workboat and installed on a staged basis and connected by means of a pile guide and/or bolted connections.

- Following installation of the pontoons the access bridge, pontoon ancillaries and all services will be installed.

- Lighting Installations

The low level pontoon lighting system will be designed to be similar to the modules currently provided on the existing pontoons to ensure they are suitable for the marine environment and in keeping with the existing units.

² Vibropiling is where the pile is vibrated into the ground using a vibrohammer which generates less noise than impact piling. This method works best in loose or cohesionless soil conditions.

- Machinery Operating Protocol
A Machinery Operating Protocol will be applied to reduce noise and applied to each appointed contractor. This will where appropriate introduce timing restrictions into working practices to ensure that possible noise impacts are kept to working hours 0700-1900 Monday to Saturday.

In addition, when not being utilised for construction activities, plant will need to be placed in stand-by mode with no unnecessary running of generators and compressors.

- Machinery and Storage
Details of the principle plant to be utilised is provided below:
 - Floating barge with deck mounted crane
 - Vibro-piling hammer & hydraulic power pack
 - Compressor
 - Mobile site crane
 - Work boat
 - Generator
 - Small tools
 - 360° excavator
- Plant & Machinery - Pollution Prevention
The appointed contractors will be required to produce and comply with a Pollution prevention plan. This plan will require as a minimum that:
 - All hazardous substances are stored and handled in such a way as to minimise any risk of pollution.
 - Fuels and oils shall be stored in bunded containers to reduce the risk of spillage.
 - Oil spill kits shall be available throughout the construction period.
 - Precautions shall be in place to minimise the risk of contamination from cement based products.

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