1.0 Introduction

This method statement explains the processes and measures to be employed, to enable the existing slipway located at Sussex Yacht Club to be infilled as part of the construction of the new club house at the site.

2.0 Location of the Works

Works are to be undertaken at the Sussex Yacht Club, 85/89 Brighton Road, Shoreham by Sea BN43 6RF



3.0 Works Programme

The works are expected to be undertaken upon granting of all permissions & licenses and are expected to be completed during 2019. The works are expected to take approximately 14 weeks to complete.

4.0 Sequence of Works

a. Construct temporary bund at bottom of slipway to provide protection against rising and falling water levels within the river.
b. Break out existing concrete slipway and prepare working platform
c. Install CFA bearing piles to new retaining wall
d. Cut down CFA piles and form new reinforced concrete pile caps and ground beams
e. Construct new reinforced concrete retaining wall
f. Backfill area behind new retaining wall
g. Remove temporary bund
h. Install new timber fenders and safety chains to riverward face of retaining wall

5.0 Methodology

a. Temporary Bund

The bund is to be constructed to perform 2 functions. Firstly the bund is to prevent the ingress of tidally rising water from the adjacent river, allowing works to proceed regardless of the rivers tidal state and secondly to provide a cut off / barrier to prevent any concrete or slurry arising from the CFA piling works reaching the river. The bund is either to be constructed from a wrapped clay or from wrapped gabion baskets.

The bund is to be constructed using a tracked excavator and wheeled dumper. Materials will be deposited on land and taken down the slipway and deposited at low tide and the bund formed.

b. Breakout of Concrete Slipway and Preparation of Working Platform

Once the temporary bund is in place, the existing concrete slipway will be broken out to allow the new bearing piles to be installed. A tracked excavator fitted with a hydraulic breaker will be used to break the concrete up. Once removed a temporary working platform will be formed using recycled crushed stone for the piling rig to operate from.

c. Installation of New CFA Bearing Piles

The new bearing piles will be installed using a continuous flight auger rig. This is a tracked rig fitted with a vertical mast. The auger on the mast drills down into the ground, bring spoil back up the auger to ground level as it rotates. The spoil is removed from the works area as it is generated and disposed of off-site. Once the required depth is reached, the auger is withdrawn and concrete is pumped down through the hollow stem of the auger discharging through a flap at the end. As the auger is withdrawn the concrete fills the void and when fully extracted a steel reinforcing cage is installed.
In total 8 piles are required to form the foundation for the new wall taking around 2 days to install.

d. Cut Down CFA Piles and Form New Pile Caps and Ground Beams

When the concrete to the piles has sufficiently cured, the piles can be cut down to the correct level. This is done using a hydraulic pile cropper suspended from the arm of a tracked excavator. When cropped to the correct level, new reinforced concrete caps and beams are formed on top of the piles. Concrete will be poured into timber formwork to contain it using a excavator to place the concrete. All concrete washing out activities will be undertaken away from the river and any drains in a designated location. The concrete wash out will be contained within a polythene lined skip with the aggregates collected for recycling. Any residual water will be removed from site for licensed disposal.

e. Construct New Reinforced Concrete Retaining Wall

As detailed in section 6.d above, the new wall will be formed by erecting timber formwork prior to placing concrete using a tracked excavator.

f. Backfill Behind New Retaining Wall

Once the wall has sufficiently cured, fill material will be placed behind the retaining wall and compacted in accordance with the project specification. The fill material will be delivered to site in road going tipper lorries and placed in layers using a tracked excavator and compacted by vibratory roller.

g. Remove Temporary Bund

Upon completion backfilling, the temporary bund will be removed by the excavator operating from the new ground level. The material will be removed from the slipway in front of the new wall and disposed of, off site. All residual debris will be removed.

h. New Timber Fenders and Safety Chains

The new timber fenders and safety chains will be installed by working from the slipway in front of the new retaining wall at low tide using hand tools to fix the brackets, timbers & chains. The timbers will be lifted in place by an excavator operating from the new ground level.

6.0 Associated Risks and Control Measures

Risk	*Hazard*	*Control Measures*
Rising and falling river levels	Pollution of river by materials being washed away, drowning, damage to plant and equipment	Form temporary bund, bund to be designed by temporary works engineer, daily inspections required
Erosion of temporary bund	Pollution of river from materials used to form bund	Wrap / enclose material used to form temporary bun, inspect bund daily, undertake repairs as soon as possible
Hydraulic leak from construction plant	Pollution	Plant and equipment to operate on bio-degradable hydraulic oil, spill kits to be provided, operatives to be trained in using spill kits and spill drills to be undertaken to test emergency preparedness
Fuel leak from construction plant	Pollution	Fuel to be stored away from river in double bunded bowsers, trigger nozzle delivery hoses to be used, refueling of plant to take place away from river, spill kits to be provided, operatives to be trained in using spill kits and spill drills to be undertaken to test emergency preparedness
Concrete and slurry arising from piling works	Pollution	Temporary bund to contain arising slurry & concrete, waste material to be removed as soon as possible, concrete wash out to be undertaken away from the river and to be contained within a polythene lined skip
Concrete arising from new retaining wall construction	Pollution	Temporary bund to contain arising slurry & concrete, waste material to be removed as soon as possible, concrete wash out to be undertaken away from the river and to be contained within a polythene lined skip