

PRELIMINARY METHODOLOGY
SOUTH PIER REMEDIAL WORKS, PORTRUSH HARBOUR
APRIL 2024

The proposed works will be put out to competitive tender and upon appointment of a successful Contractor a full detailed methodology will be available. The following statement provides a summary of the proposed works, based on the information available at the time of submission.

A condition survey of the South Pier at Portrush Harbour has identified several areas of voids/depressions/slippages within the rock armour revetment. In addition, a GPR survey of the concrete deck has identified voids below the concrete slab on top of the pier.

Rock Armour Revetment – Proposed Remedial Works

The proposed Works comprises installation of new rock armour to reinstate the defective areas within the existing revetment. The voids/depressions within the existing revetment will be filled with HMA 1000 / 3000 rock armour in accordance with BS EN 13383-1:2002.

A temporary stockpile of suitable rock armour will be made on-site. There are two options for placing the rock armour:

- i. **Land-based plant:** Long-reach excavator located on top of the pier or operating from the beach along the revetment.
- ii. **Marine plant:** Long-reach excavator located on a floating pontoon.

The profile of the placed rock armour will be monitored closely until the required profile has been achieved.

Void below Concrete Slab – Proposed Remedial Works

End of Casing grout injection will be used to fill existing voids caused by wash-out of granular fill and to densify surrounding fill.

The casings will be drilled and installed through the concrete deck slab. The casings will be taken to the base of the void and grout injected through the casings under gravity. The casings will be lifted 0.5m and grouting procedure repeated. The number of lifts required will be determined based on the extent of the void.

Temporary shuttering will be installed along the edge of the pier slab to prevent any grout loss into the marine environment.

The voids will be filled using a high flow concrete (S4 consistency) with an underwater/anti-washout admixture such as Sika UCS Pak to prevent washout.