

Banff Harbour Repair Works to East Pier and Railway Jetty Stakeholder Update No.3

Scott Adams, Project Manager

10 May 2021



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Project Overview

- **Repair works of pre-existing East Pier and Railway Jetty at Banff Harbour.**
- **Project Operating as an NEC Option A Contract with a project value of £1.3m**
- **Repair works considered essential to ensure the harbour can continue to operate safely, while ensuring the structural integrity and preservation of the listed structures.**
- **Initial 26 week programme, with a target is to have the site cleared and handed over (harbour open) by 18th August 2021.**
- **The current projection for harbour re-opening is 3rd September 2021, reasons for this impact of -2.5 weeks relate to difficulties with de-watering the working area leading to reduced working hours within the harbour basin.**

The Project Team

- **Aberdeenshire Council – Corrie Mccall (Principal Officer – Harbours)**
 - Overall responsibility for the project. Will be involved in liaising externally with stakeholders and keeping all updated on project progress.
- **Turner & Townsend – Scott Adams (Project Manager)**
 - Responsible for ensuring day-to-day management of the project, and ensuring the project runs on time and within budget.
- **Lochshell Engineering – Principal Contractor**
 - The main contractor for the works. Responsible for delivering the works safely and in-line with the contract.
- **AECOM – Designer**
 - Responsibility for most of the design and consulting on specialized matters.

Railway Jetty Update

- The Gabion baskets located on the end of the Railway Jetty were removed and taken off site. This allowed for the end of the Railway Jetty to be cleared further, allowing for preparation down to rock head for completing the permanent works.
- A membrane and gravel filled bags have been placed on the end of the Railway Jetty to protect the exposed face.
- The Railway Jetty has been cleared down to rockhead level which is relatively in line with what was expected.
- Over the next couple of weeks the foundation for the Railway Jetty will be poured, which will allow for L-Panel installation and progression towards re-building the masonry wall.

Railway Jetty Update



Railway Jetty Update



East Pier Update

- The East Pier deckstones have been lifted, along with the bollards within the area to be repaired. These have been taken off-site for storage and will undergo some preparation work before being brought back and re-instated.
- The face of the East Pier was taken down by first removing the cope stones and then the inner fill, before raking down the masonry stones in a controlled manner to avoid any damage.
- The fill material which was a 'random rubble' mix was then taken down in stages to expose the rockhead and then taken off site for disposal.
- Upon exposing the rockhead it was found that there was a more significant variance across the repair area than expected. Design changes are in the process of being agreed in order to resolve this. The preferred approach is to bring the lower level up by increasing slab depth. This is the favoured approach as the alternative would require breaking out of rock which would significantly impact on both time and cost.
- The next steps will see installation of a revised temporary works solution to reduce water ingress within the working area. Once this is achieved the foundation will be poured, allowing for L-panel installation and masonry re-building.

East Pier Update



East Pier Update



East Pier Update



East Pier Update



East Pier Update



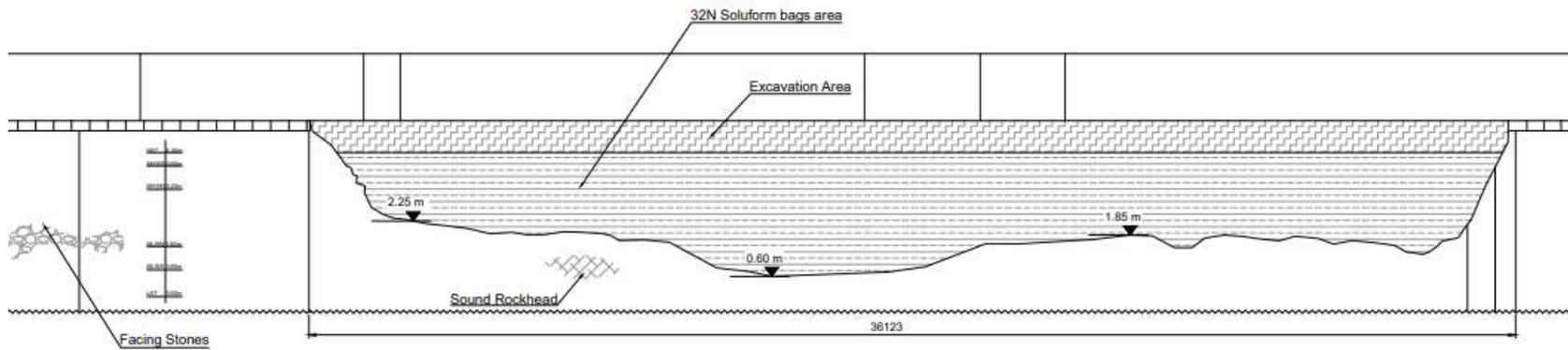
Temporary Works Installation

- Inner and outer bunds were completed in March.
- Four pumps have been installed. The intention of these was to remove water from the working area in order to allow the Contractor to work at all times.
- It was very quickly evident that the porous nature of the East Pier allowed too much water ingress which made it challenging to work within the harbour basin at higher tide levels.
- It was initially hoped this could be resolved by installing a membrane over the East Pier backwall. This has not happened as there are concerns that the membrane would not provide a sufficient level of water proofing and there is a risk that the membrane could become damaged and not stay attached to the East Pier backwall if a bad weather event occurs. Any further repair or remedial work could be time consuming due to requirements for lifting equipment and diving teams for any works associated with the backwall.
- After looking at options for waterproofing we are now intending on installing soluform bags to the exposed face of the East Pier. These are cement filled bags which react with water and will create a waterproofed layer. These have been delivered to site today (10th May 2021) and installation will be undertaken this week.
- It is not expected that any further temporary works will be required once the Soluform bags are installed.

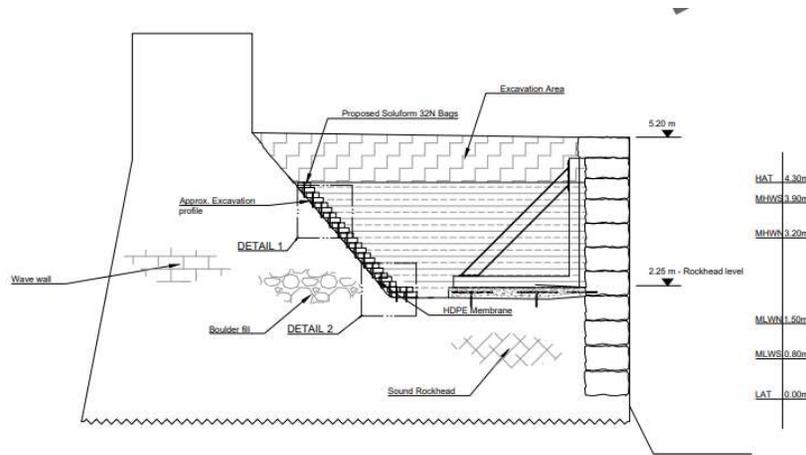
Temporary Works Installation



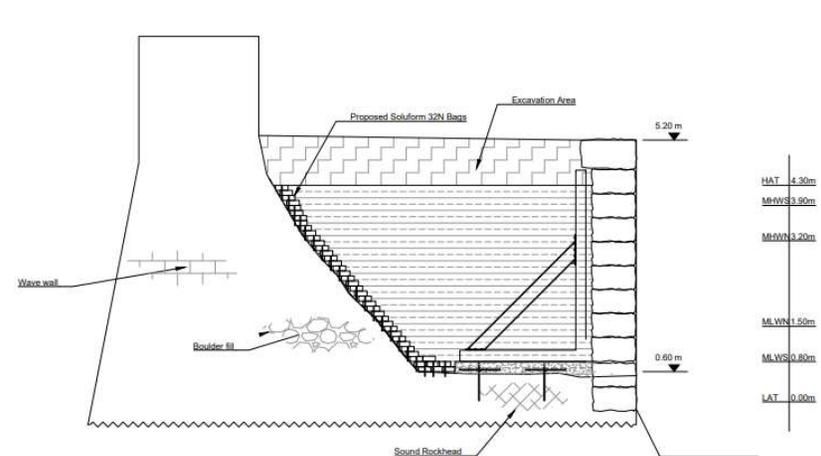
Temporary Works Installation



Temporary Works Installation



SECTION A
1:50



SECTION B
1:50

Programme Challenges

- As a listed structure within a marine environment there have been several challenges faced which are having a volatile impact on the programme.
- The overall solution of creating two bunds and installing a membrane over the East Pier backwall was expected to minimize water ingress, however it was thought that the two bunds alone would also go a way to reducing this and allowing increased time at low tide. This has not been the case due to the porous nature of the East Pier. This has meant that work has had to progress under tidal conditions, which at times has been inefficient.
- The rockhead level variance within the East Pier means that some additional time will be required in order to pour the slab and install the L-Panels.
- The clearance of the Railway Jetty went as planned, however the masonry stones removed were noted as being over-sized as we got lower down, this has meant some additional work in order to agree the best way forward. This could be done by re-positioning the L-Panels backwards in order to allow a greater depth of masonry stone or cutting all the stones down. Cutting all the stones would result in a significant impact to both time and cost and is seen as the less favoured approach. The Contractor has provided a revised design which shows the central L-Panel being re-configured to allow a greater size of masonry stone to be used when re-building.

Programme Challenges

- For the East Pier it was observed that the deckstones were slightly larger than anticipated which meant we needed more time to remove them, it's hoped that any re-sizing works prior to re-instatement shouldn't impact further. In addition to this it wasn't shown on drawings that the concreted area repaired in 2007 had no bedding layer between the deckstones and the Pier, which meant extra time was required to break out an area of deckstones.
- The masonry stones within the East Pier are also oversized and we are currently developing a revised design for L-Panel position which is more time and cost effective than cutting the stones.
- A concrete wall was found within the East Pier which was not recorded on any drawings. This took a bit of extra time to break out.

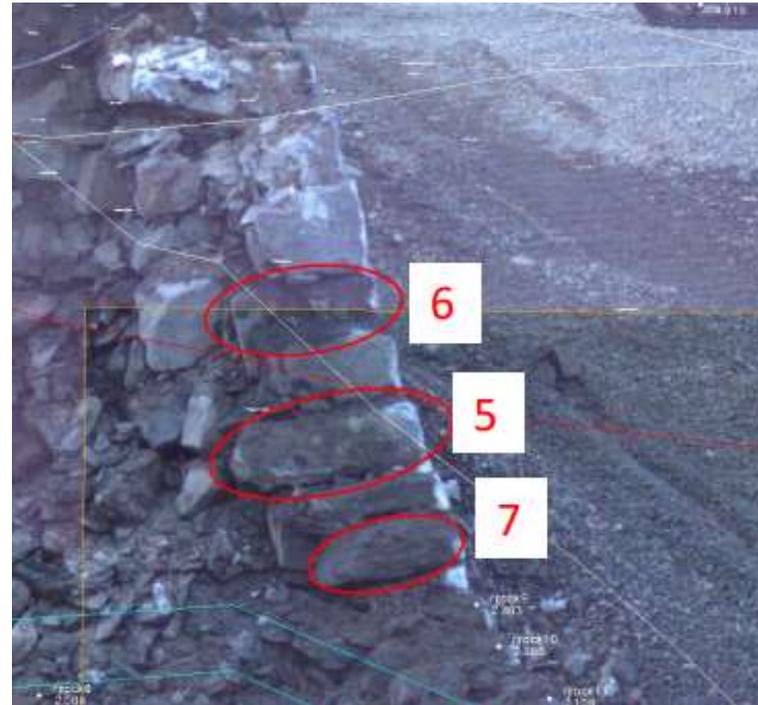
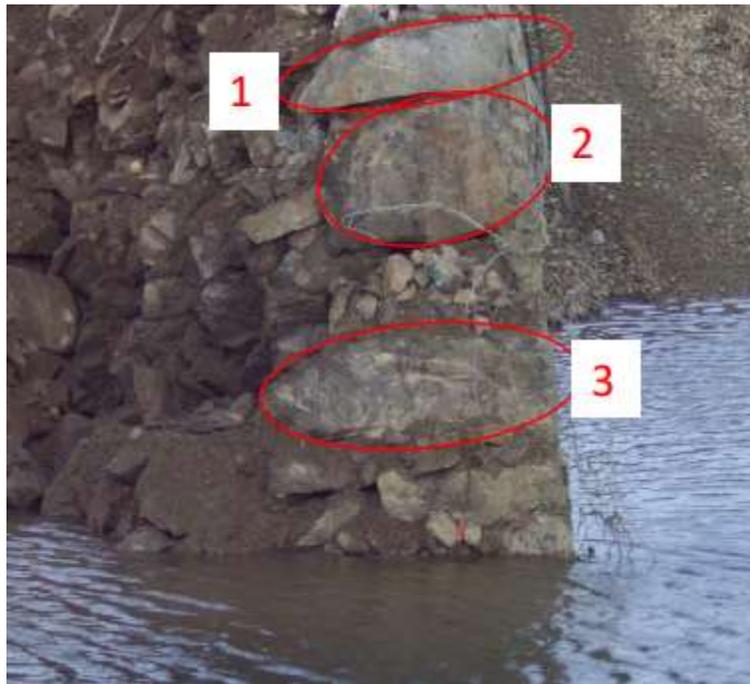
Programme Challenges



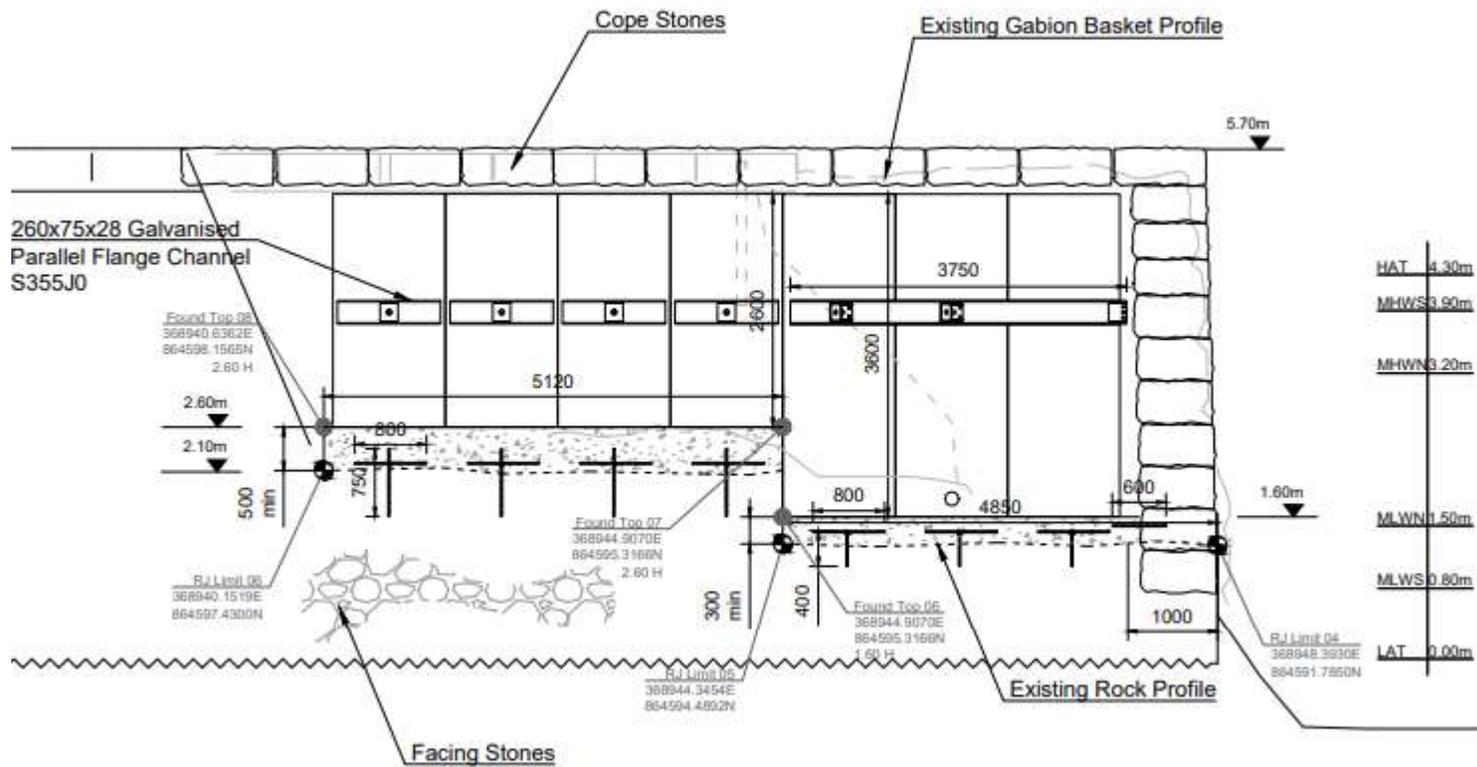
Programme Challenges



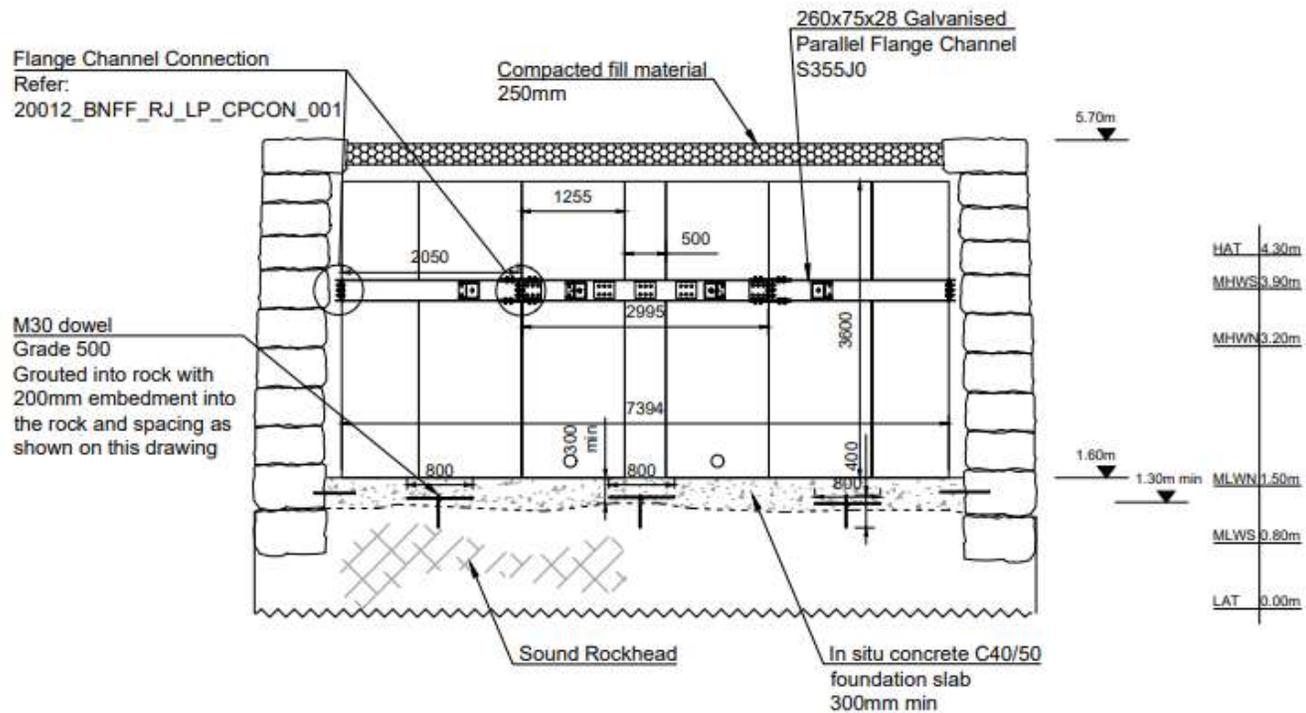
Programme Challenges



Programme Challenges



Programme Challenges

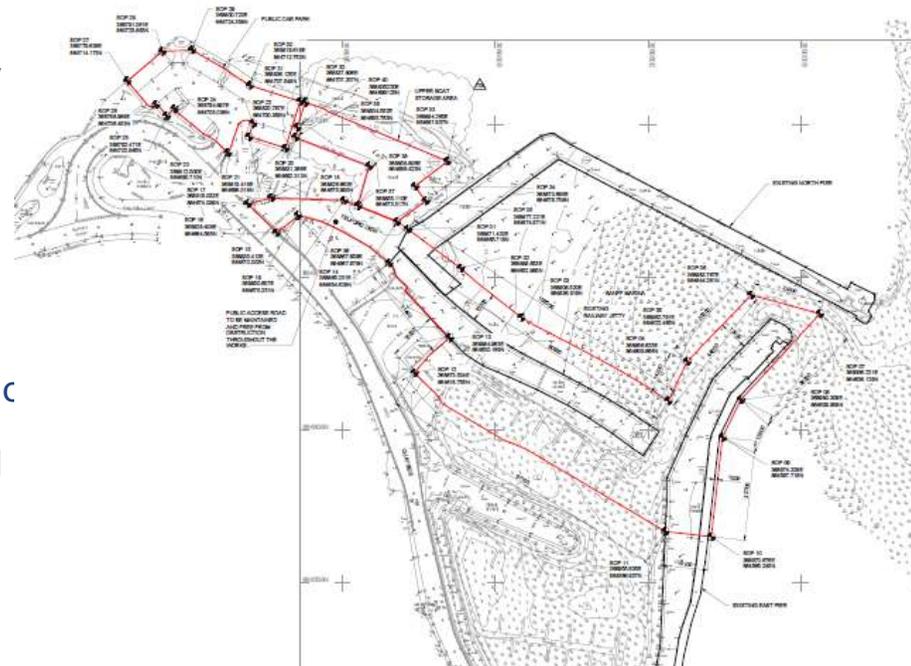


Project Look Ahead

- Our initial date for harbour re-opening was advised as being 18th August 2021.
- Our current forecast sees this slipping 2.5 weeks down to 3rd September 2021.
- There are less unknowns going forward, however the completion of the Soluform bags on the East Pier to provide a sufficient level of waterproofing is key in order to progress efficiently.
- The Contractor has been given permission to work increased hours, this will give the opportunity to work 7am-7pm on Saturday and 9am-5pm Sunday. A letter drop will be provided to nearby residents in advance of this with further information about activities being undertaken and site contacts included.
- Local stone masons are being brought in to assist with the rebuilding of the facing walls to both the East Pier and Railway Jetty. It's hoped by having local workers on this that we'll see an increase in productivity and a team with good knowledge of the local area and material being used.
- It's hoped that by allowing the Contractor extra time and employing local subcontractors on the project that we can look towards mitigating any further delay and looking at option for recovery if possible.

Interface with Harbour Users/Community

- There is currently no public access to the Harbour office/toilets, North Pier, Railway Jetty and East Pier.
- The Harbour car park and upper boat compound are currently being utilized by the Contractor for site storage and welfare.
- Harbour users are able to access the marina through the gate located on Quayside. Access to the lower compound is also available from Quayside.
- There are no current restrictions on traffic movements around the Quayside area. The harbour car park remains closed and Telford View should only be accessed by residents.



Project Benefits

- Workers staying within the area will provide a boost to the local economy through staying in accommodation and visiting shops.
- There will be opportunities to engage with community groups to showcase the importance of Banff Harbour.
- Opportunities to engage with local schools to talk about the works and provide career advice for those interested in working in the construction industry.
- Long-term repairs to both the East Pier and Railway Jetty which will preserve the listed structures and provide a safe and efficient environment for harbour users and visitors to the local area.



Q&A

Thanks for your time!

Any Questions?

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