

Port Macquarie Southern Breakwall Upgrade

Submissions Report
November 2022



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Executive Summary

Background

The Port Macquarie southern breakwall on the Hastings River is a critical state maritime asset. The primary purpose of the breakwall is to maintain a navigable entrance to the Hastings River for commercial and recreational users of the waterway and to protect the land behind it.

The construction of the Port Macquarie southern breakwall was finished in 1939. The last major maintenance work was carried out on the breakwall head in 2014. At that time, the trunk of the breakwall was also identified as needing extensive repair work and this was identified as a priority when funding became available.

In November 2020, the NSW Government announced \$5 million in maritime stimulus funding to carry out this critical maintenance work which has been assessed as needing remediation work as sections of the breakwall have been classified as having “failure” status, meaning the breakwall does not meet current rock structure stability guidelines and needs urgent remediation work.

If repair work is not carried out now, the breakwall will be vulnerable to ongoing progressive damage over time. This, together with potential sudden failure in another extreme weather event, is a considerable safety risk.

The proposal

Transport for NSW's (Transport's) is proposing to upgrade the southern breakwall in Port Macquarie to ensure its long-term structural stability as a critical maritime asset.

Transport's primary objective, as manager of the breakwall, is to undertake the necessary corrective maintenance of the structure to:

- repair damage sustained over years of exposure to the water flows in the Hastings River entrance
- upgrade the structure to contemporary design standards and industry best practice
- extend the life of the asset, ensuring it continues to serve its primary purpose.

The secondary objective of the proposal has been to consider and incorporate where possible, the additional features of the foreshore walk along the southern breakwall as proposed and adopted by Port Macquarie Hastings Council's *Town Centre Master Plan 2014* and *Breakwall Concept Plan 2016*.

The proposal for this project is as follows:

- rebuilding 600 metres of the breakwall along the river section
- completing maintenance of the breakwall head with no change to its footprint
- installing a new five-metre-wide footpath along most of the structure's length. This excludes the last 30 metres at the breakwall head, so the current footprint and width will stay the same
- installing two new stair access points and a new access ramp at the seaward end of the NRMA Port Macquarie Breakwall Holiday Park (NRMA Holiday Park)
- installing safety fencing along the southern side of path
- installing a kerb along the northern side of the path
- installing new lighting on the shared path
- installing six seating areas
- landscaping the area

Display of the Review of Environmental Factors

The proposal has been assessed under a Review of Environmental Factors under Division 5.1 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*.

Transport prepared a review of environmental factors (REF) for the upgrade of the Port Macquarie southern breakwall proposal. The REF was publicly displayed for feedback for five weeks between Friday 10 June to Friday 15 July 2022.

The display period was extended from three weeks to five weeks to provide more time for the community to provide feedback on the proposal.

A project specific email address and a free call phone number was established to answer any inquiries and to allow for submitting feedback. Three information sessions were also held on:

- 10 June 2022 at the Artwalk Markets from 5pm to 9pm
- 11 June 2022 at the Foreshore Markets from 8am to 1pm
- 21 June 2022 at Town Beach Park from 9am to 1pm

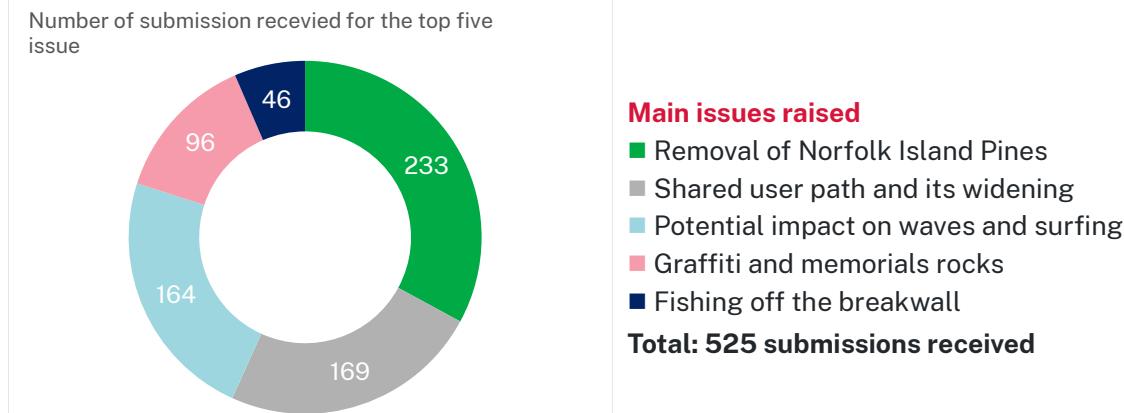
Summary of issues and responses to these issues

The public display of the draft Review of Environmental Factors (REF) and the supporting consultation resulted in 525 submissions from the community.

The high number of submissions received demonstrates that the Port Macquarie Southern Breakwall, a state maritime infrastructure asset, has multiple community uses and has become an iconic and loved treasure for the community. In addition to its intended maritime and navigational purpose, it provides many benefits including tourism, economic, health and community identity.

Council and government agency contributions were detailed and assessed in the draft REF and have not been included in this summary which addresses the above-mentioned submissions. Responses to the main issues are summarised below:

Submissions feedback summary



Transport for NSW has carefully considered the submissions and has offered a full response to these in Section 3 of this document. The following is a summary of the Transport's response and position for the project to progress.

Removal of Norfolk Island Pines

As a result of the feedback regarding the removal of trees, Transport has undertaken an additional independent Tree Impact Assessment. This has resulted in an adjustment in the numbers of trees to be removed, as they were incorrectly labelled in the previous arborist report that was included in the draft REF. The revised number of trees and the correct variety to be removed as part of the project are:

- 6 Norfolk Island Pines
- 12 Cook Pines
- 11 Casuarinas

Transport proposes to move forward with the removing these 29 trees for the following reasons:

- Several options to retain the trees were explored as part of early development of the proposal. The options included retaining walls, relocation, replacement planting and reducing the proposed width of the path. Replacement planting has been assessed and determined as the best solution.
- The construction method for the major rebuild section of the breakwall will affect the tree protection zone (roots) and will impact the health of the trees and their long-term survivability. None of the above mitigations, to retain the trees, would be feasible or would guarantee the health of the trees.
- The existing trees have root systems that now extend into the batter and footpath sections of the breakwall structure. The proposed essential maintenance work will require the excavation of this section and in turn will result in damage to tree roots systems. Arborist advice is that the works will impact the health of the trees and their long-term survival.

On balance, replacement planting is considered the best option and provides the opportunity to place new trees in a better location to ensure they are enjoyed for many more years to come, while also allowing the shared user path to be widened to five metres.

A landscape plan has now been developed. Taking into consideration feedback received, Transport has increased the number of replacement trees from 29 to 43, made up of 39 Cook Pines and four Norfolk Island Pines. These will be mature trees that are three to four meters high and about three years old. A further 6,000 native ground covers and grasses will also be used to landscape the steeper batter.

Shared user path and its widening

Support for the widening of the shared user path was split almost equally between those who were in favour of the widening and those who were not. Those who were unsupportive were mostly opposed to widening of the shared user path, based on their preference to retain the trees.

Transport proposes to move forward with the shared path widening to five metres for the following reasons:

- The Port Macquarie Southern Breakwall is the second most trafficked breakwall path in New South Wales. Population and tourism growth predicted for the area may see a significant increase in the numbers of path users.
- Widening the concrete path will improve safety for all users, as it alleviates the existing high probability of conflict between various path users such as walkers, runners, cyclists, dog walkers, roller bladers, skaters, and those with prams or wheelchairs.

- In line with Austroads *Guide to Road Design* which recommends a minimum width of five metres for a path that is used for shared recreational purposes.
- Widening the path will improve conditions for people with mobility issues, making the path more accessible to more users.
- Increasing the width of the footpath is in line with Council's vision for the area as outlined in their *Town Centre Master Plan 2014* and the *Breakwall Concept Plan 2016*
- Provides a seamless connection with the recently refurbished Town Green precinct, which also features a 5-metre-wide footpath.

Potential impact on waves and surfing

Transport appreciates the feedback received about how important the breakwall structure is to the surfing community and acknowledges that the breakwall provides the added benefit of producing a world-famous surfing wave.

Transport will move forward with the planned maintenance work involving minor rock placement within the existing footprint of the breakwall head for the following reasons:

- Regular maintenance is critical at the breakwall head, as it is severely impacted by wave velocity and weather.
- Major maintenance work carried out on the breakwall head in 2014, where 1800 tonnes of rock was placed, restored the breakwall head to its intended design profile and footprint, thereby ensuring its structural integrity. This major work did not have an adverse impact on the surfing conditions.
- Work carried out in 2014, on the southern breakwall head has removed the need for major maintenance to be carried out as part of this proposal. It is considered that regular minor maintenance of the breakwall head will ensure the structural integrity of the breakwall will remove any future need for extensive work, such as that carried out in 2014.
- The work to be carried out is minor rock placement within the breakwall head. There will be no change to the footprint of the breakwall head and therefore no impact on the surf is expected.

Graffiti artwork and memorial plaques

During early planning of the proposal, Transport acknowledged the importance to the community of the graffiti artwork and memorial plaques.

Transport has not imposed restrictions on members of the community painting artworks or creating memorial plaques at the southern breakwall, however painting on NSW infrastructure is not normally encouraged.

The breakwall is major state infrastructure that will always need to be maintained so it is not guaranteed that the graffiti artwork or memorial plaques will always be there.

The construction methodology for the proposal, which involves rebuilding a 600-metre section of the breakwall, will not enable Transport to keep the current artworks or to replace them in the same locations. Moving such rock is likely to damage the artwork and/or the memorial plaques. Reuse of the existing rocks, within the new breakwall structure will also be implemented where possible.

Transport is seeking to create a register of all memorial plaques and to encourage impacted community members to contact us. Transport has offered to remove and store memorial plaques

where possible and will continue to work with affected families in relation to this element of the project.

Transport is also looking at creating a record of all the graffiti artwork, through photos and videos, and will compile this into a record of the history of the breakwall.

Those who would like to share their stories are encouraged to contact us via phone on 1800 571 311 or email to portmacquariebreakwall@transport.nsw.gov.au.

Fishing off the breakwall

Transport acknowledges that fishing off the breakwall structure is an important recreational activity. Most concerns raised about fishing were because the depiction of the breakwall in the 3D animation or artist impression used during the public display of the REF showed a flat wall-type structure of the breakwall.

Transport can confirm that the structure will not be smooth when completed and will be a rock wall similar in appearance to the current breakwall. Transport has updated the artist impression to better represent this. Those who enjoy fishing from this location will be able to continue doing so in the same manner.

Submissions also raised concerns that the fishing habitats and food sources will be impacted by the placement of new rock at the breakwall. As detailed in the REF Aquatic Ecology report, there will be short-term impact on fishing in the area. The proposal includes reinstalling the southern breakwall rock structure, which will provide new habitat and food sources, therefore the impact is expected to be short-term.

There were submissions about including the installation of fishing platforms into the proposal, suggesting that installing the platforms now will minimise the impact on the community when compared with installing the platforms later.

Transport acknowledges that while the building of fishing platforms is part of the Council's Concept Plan 2016, they were not included in Transport's proposal as the building of such platforms is not within the project's budget or scope.

Additional amenities such as fishing platforms are for Council to consider. Transport is aware that Council is investigating installing fishing platforms, and Transport will continue to work with Council as they develop their proposal further. At this time, Transport cannot confirm if or when this will proceed.

Changes to the proposal

In response to submissions received, Transport has made the following changes to the proposal:

- Increasing the replacement planting from 29 native trees to 43 mature Pine trees and 6,000 native ground covers and grasses.
- Ensuring that the informal rock stairs in the southern breakwall, which may be used for emergency access to the water edge, remain, and install similar rock arrangement at other locations along the southern breakwall.
- Investigate safety signage for the shared path.
- Use solar bollard lighting rather than overhead lighting for the shared path.
- Defer the start of works until after the Ironman event, to be held in early May 2023.

These modifications do not change the extent of the proposal site as assessed in the REF, nor do they introduce any new elements to the proposal.

The environmental assessment presented in the REF remains valid and no further assessment is considered necessary. Following the approval of the REF, elements of the proposal will continue to be further refined during the detailed design phase.

Additional assessments

Not all information provided during the investigation period is included in the REF. As a result of the community requesting more information, the following documents are available online:

- a Tree Impact Assessment by Terras Landscape Architects
- the Landscape Plan
- the Design Report by Royal Haskoning DHV
- the Updated 3D Modelling Images, which depicts growth of trees over time.
- the 2021 Manly Hydraulics 2021 Flood Impacts Report.

Next steps

Transport as the determining authority will consider the information in the REF and this submissions report and decide whether to proceed with the proposal.

Transport will inform the community and stakeholders of this decision and where a decision is made to proceed, will continue to consult with the community and stakeholders prior to and during the work.





1. The proposal

Background

The Port Macquarie Southern Breakwall on the Hastings River is a critical state maritime asset. The primary purpose of the breakwall is to train and maintain a navigable entrance to the Hastings River for commercial and recreational users of the waterway.

Port Macquarie is the point of origin for freight and supply services between mainland Australia and Lord Howe Island, making the primary purpose of the breakwall and its long-term structural stability of vital importance to the NSW Government.

The southern breakwall also provides protection of the land and property behind it, being the NRMA Port Macquarie Breakwall Holiday Park (NRMA Holiday Park) which would be inundated and unusable without the breakwall.

Construction of the southern breakwall began in 1897 and was officially completed in 1939, the Port Macquarie Southern Breakwall has served its maritime purpose well. After 83 years major maintenance is needed because of its current condition.

Port Macquarie is considered a key investment location in the Maritime Infrastructure Plan 2019-2024. This plan identified the need to ensure the longevity of this critical maritime asset.

Regular assessments are conducted on all breakwalls in NSW especially following major weather events. Since 2013 major maintenance of the southern breakwall has been a priority as its structural integrity was assessed as reaching the end of its useful life.

In 2014 major maintenance work was carried out on the breakwall head. At the time, the trunk of the breakwall needed remediation and this was identified as a priority when funding became available.

In November 2020, the NSW Government announced \$5 million to complete the needed maintenance work.

In early 2021, not long after funding was announced, a major flooding event occurred in the area, including Port Macquarie. Following the 2021 flooding event, and as part of the early development of the proposal, a number of independent consultants assessed the current condition of the breakwall. It assessed the breakwall as needing repair with the following recommendations:

- The damage characteristics assessed could be classified as “intermediate” and in some cases “failure” according to rock structure stability theory. General remediation is needed.
- Failure to remediate this damage will leave the breakwall vulnerable to progressive damage over time and potential sudden failure in an extreme event.
- Some of the damage poses an immediate safety risk to the public.

The proposal

Transport for NSW's primary objective, as the manager of the breakwall, is to carry out the necessary corrective maintenance of the structure to:

- Repair damage sustained over years of exposure to the water flows in the Hastings River entrance
- Upgrade the structure to contemporary design standards and industry best practice
- Extend the life of the asset, thereby ensuring it continues to serve its primary purpose.

The secondary objective of the proposal has been to consider and incorporate where possible, the additional features of the foreshore walk along the southern breakwall as proposed and adopted by Port Macquarie Hastings Council's *Town Centre Master Plan 2014* and *Breakwall Concept Plan 2016*.

During early development and design of the proposal it was evident that not all these additional features in Council's *Town Centre Master Plan 2014* could be incorporated into this proposal due to budget constraints and outside of Transports primary objective for the upgrade to maintain the breakwall.

As a result, Transport has incorporated the key feature into the proposal, which was the inclusion of a wider path, lighting, and the associated landscaping.

The proposal includes:

- Rebuilding 600 metres of the breakwall along the river section
- Completing maintenance of the breakwall head with no change to its footprint
- Installing a new five-metre-wide footpath along most of the structure's length. This excludes the last 30 metres at the head of the breakwall, so its current footprint and width will stay the same
- Installing a new access ramp at the seaward end of the NRMA Holiday Park
- Installing two new stair accesses to the NRMA Holiday Park
- Installing safety fencing along the southern side of path
- Installing a kerb along the northern side of the path
- Installing new lighting along the path
- Installing six seating areas
- Landscaping the area

Benefits of the project



Increased life of the breakwall



Improved maritime accessibility and safety for vessel users of the Hastings River



Improved community access and use of the breakwall



Improved pedestrian safety and accessibility

A map of the concept design that was used as part of the REF display is on the following page. An updated version of the concept plan to has also been added to Section 4 Changes to the Proposal.

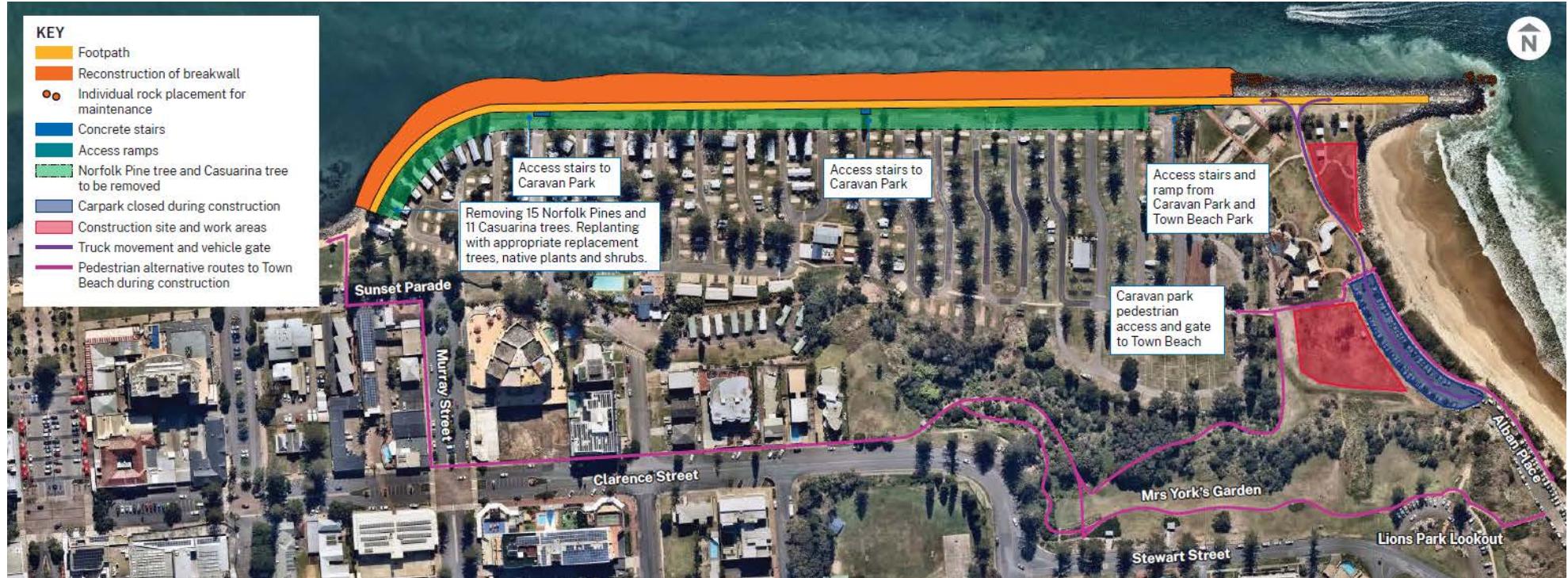
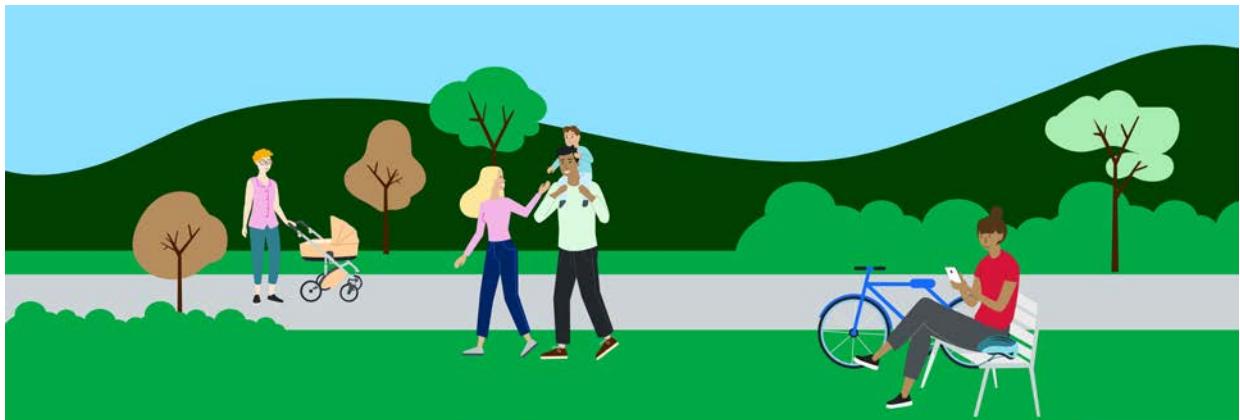


Figure 1: The refined concept design shared as part of the draft REF display



2. Consultation approach

Our objectives

Transport consulted with the community and key stakeholders on the proposal to:

- Inform the community and stakeholders of the proposal to upgrade the southern breakwall in Port Macquarie
- Seek feedback on the concept design and draft REF, providing the community with the opportunity to raise issues and provide submissions for consideration, informing the development and finalisation of the proposal and design.
- To better understand community values and desired outcomes for the proposal.

Our values

Our values underpin our decisions and behaviours when working with customers, colleagues, stakeholders, and partners.

Customer focus - We place the customer at the centre of everything we do

Collaboration - We value each other and create better outcomes by working together

Solutions - We deliver sustainable and innovative solutions to NSW's transport needs

Integrity - We take responsibility and communicate openly

Safety - We prioritise safety for our people and our customers

Review of Environmental Factors display

The proposal has been assessed under a Review of Environmental Factors under Division 5.1 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*.

Transport prepared a Review of Environmental Factors (REF) to assess the environmental impacts of the proposed works. The concept design and REF were publicly displayed from **Friday 10 June to Friday 15 July 2022**.

The submission period was extended from three weeks to five weeks to allow more of the community the ability to provide feedback.

Several communication channels were used to reach and engage with local and wider communities that are interested in the proposal.

The high number of submissions received demonstrates that we have engaged the community effectively. Consultation activities undertaken to inform the community on the REF display are summarised below:

Table 1: Consultation activities for the Concept design and draft REF display

Activity	Date
Initial project announcement	November 2020
Announcement of REF and Concept Design Have your Say	10 June 2022
Information posted on website	10 June 2022
Community Update informing the Draft REF and Concept Design Have your say letter dropped to 26,010 residents (see map for Australia Post delivery area)	Australia Post delivery from 10 June 2022
The Draft REF was displayed at the following locations: <ul style="list-style-type: none"> • Port Macquarie Library • Port Macquarie Hastings Council • Port Macquarie Glasshouse Information Centre 	10 June 2022
Port Macquarie Hastings Council, Councillor Briefing	14 June 2022
Newspaper advertisement Port Macquarie News	10 June 2022 17 June 2022
Radio advertisement <ul style="list-style-type: none"> • Radio 531 • Hit 102.3 Mid North Coast • Triple M 100.7 and 106.7 Mid North Coast 	10 June 2022 11 June 2022 15 June 2022
Social media campaign	10 June 2022
Information Sessions 1 - ArtWalk Markets from 5pm to 9pm	10 June 2022
Information Session 2 - Foreshore Markets from 8am to 1pm	11 June 2022
Information Session 3 - Town Beach Park from 9am to 1pm	21 June 2022

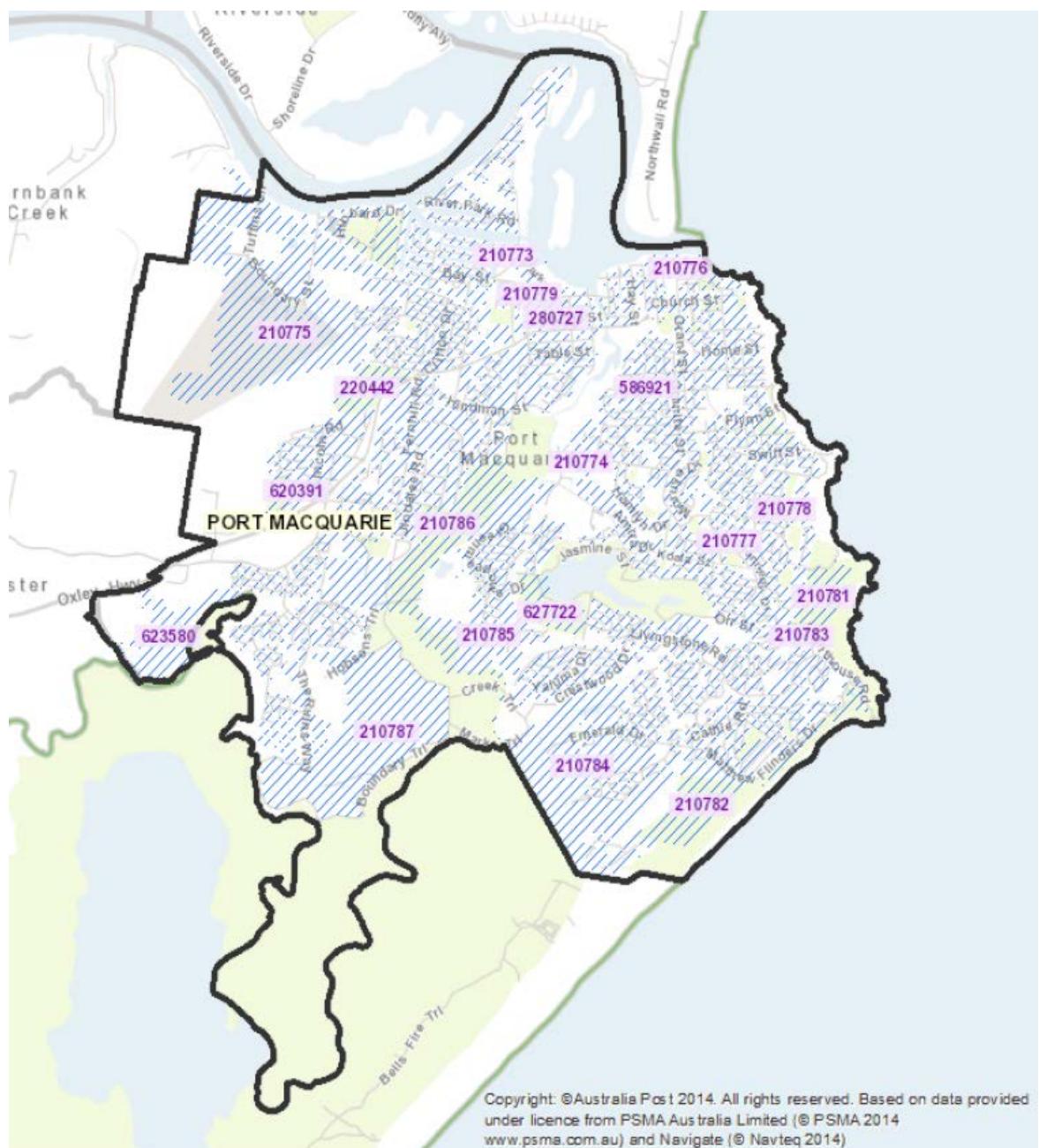


Figure 2: Australia Post Distribution Area. Delivered to 26,010 residential and business letterboxes.



3. Response to issues

Transport for NSW received 525 submissions during the display of the REF.

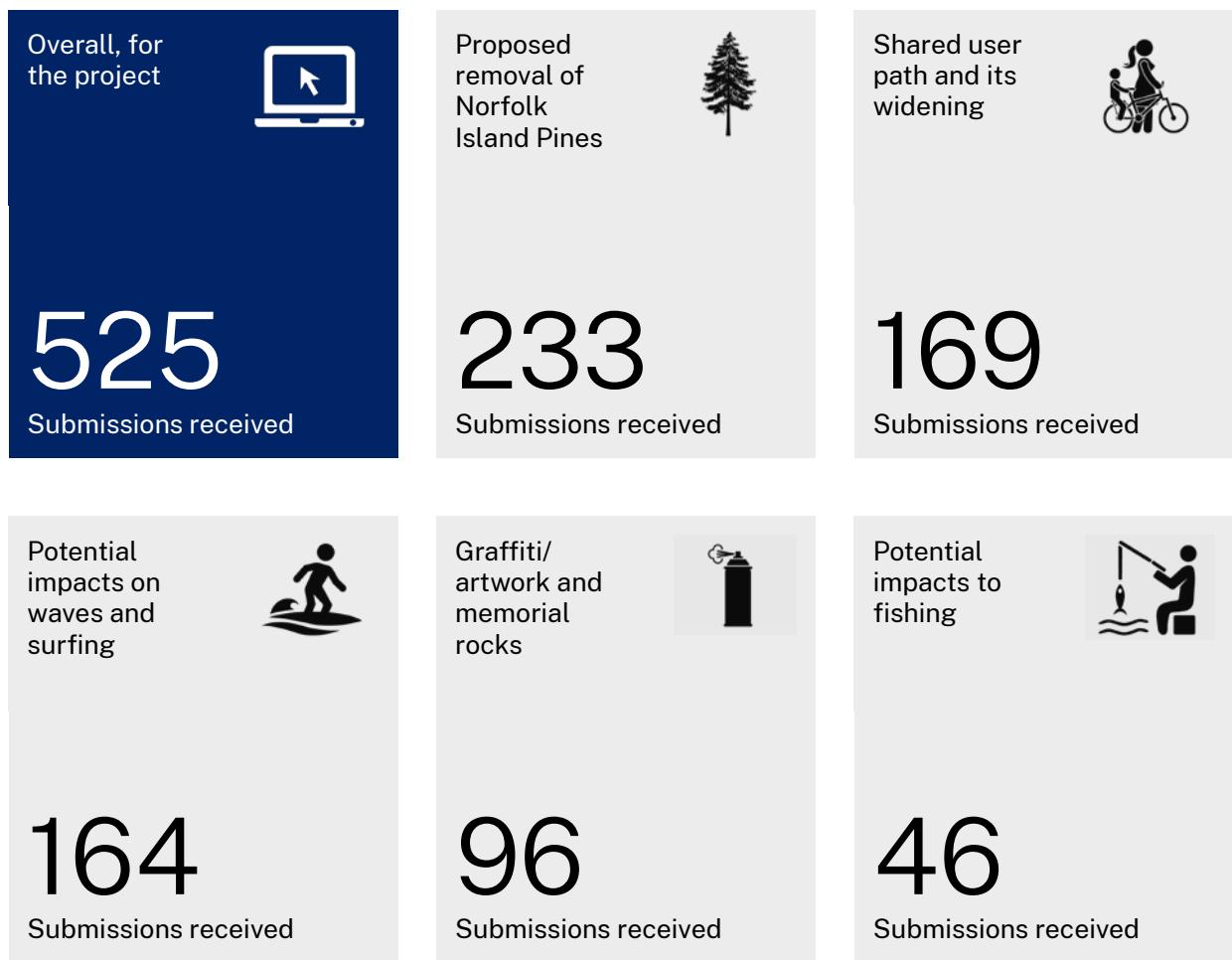
The feedback received, which included submissions from not only from Australia but also from overseas, highlights the importance of the Port Macquarie southern breakwall.

Each submission has been examined to understand all the issues being raised. The issues in each submission have been extracted and collated these issues, with corresponding responses to the issues raised. Where similar issues have been raised in different submissions, only one response has been provided to such issues.

The high number of submissions received on this proposal demonstrates that the Port Macquarie southern breakwall, a state maritime infrastructure asset, has multiple community uses and has become an iconic and loved treasure for the community.

It provides many additional benefits including tourism, economic, health and community identity which is in addition to its intended maritime and navigational purpose.

The issues raised and our response to these issues form the basis of this section of the report. The main issues raised by the community are shown below:



3.1 General feedback on the proposal

The following is a short summary and response to general comments raised about the proposal.

3.1.1 Supportive of the proposal

Submissions:

- 64 submissions expressed support for the project or were excited by the proposal.

Response:

While this proposal's main objective is to carry out critical maintenance to ensure the longevity and structural integrity of this important maritime asset, Transport acknowledges and appreciates that the breakwall is also highly valued for other reasons.

Where possible, Transport has considered the work Port Macquarie Hastings Council has already carried out with the community to align with their community's vision for the future of the southern breakwall. Such as incorporation of the widened shared user path which was an ancillary feature identified in the Council's *Town Master Plan 2014* and *Breakwall Concept Plan 2016*.

3.1.2 Project need

Submissions:

- 51 submissions acknowledged that the breakwall needs repair, maintenance, or an upgrade
- 32 submissions did not see any issues with the breakwall, “don’t fix what isn’t broken”
- 15 submissions expressed a desire for no change and to leave the area as it is
- 14 submissions said that they did not understand the need or the reason for the project, or expressed the view that the project is not needed

Response:

The Port Macquarie Southern Breakwall has served its maritime purpose and the wider community well since 1939. After 83 years, major maintenance is needed because of the breakwalls poor structural condition, non-compliance with contemporary breakwall design standard and accessibility guidelines.

Regular assessments are carried out on all breakwalls in NSW, especially following major weather events. Since 2013, the southern breakwall in Port Macquarie has been a priority for major maintenance to be carried out, as its structural integrity had been assessed as reaching the end of its useful life.

In 2014, work was carried out on the breakwall head following a weather event which resulted in the breakwall head’s condition being identified as extremely poor and becoming a safety hazard. At the time, it was noted that the rest of the breakwall trunk would also need urgent work too and that this would likely require a rebuilding of a vast majority of the breakwall.

Funding of this major maintenance work was approved in late 2020. In early 2021, there was a major flooding event in the area, including Port Macquarie. As part of the early development of this proposal, several independent consultants assessed the condition of the breakwall following this flooding event.

The assessment showed that sections of the southern breakwall had been classified as being in “failure” status, meaning that it did not meet current rock structure stability guidelines and that it needed urgent remediation work.

If the maintenance work is not carried out now, it leaves the southern breakwall vulnerable to progressive damage over time, potential sudden failure in an extreme weather event and is a considerable safety risk.

3.1.3 People think the proposal is a beautification upgrade

Submissions:

- 36 submissions thought this is a beautification proposal aimed at widening the pathway.

Response:

This proposal is not about beautification of the area. As the manager of the breakwall, Transport’s primary objective is to carry out the necessary corrective maintenance on the structure to:

- Repair damage sustained over years of exposure to the water flows in the Hastings River entrance,
- Upgrade the structure to contemporary design standards and industry best practice, and
- Extend the life of the asset, thereby ensuring it continues to serve its primary purpose.

The secondary objective of the proposal has been to consider and incorporate where possible, the additional features of the foreshore walk along the southern breakwall as proposed and adopted by Port Macquarie Hastings Council's *Town Centre Master Plan 2014* and *Breakwall Concept Plan 2016*. These documents identified the need to increase the width of the shared user path to up to six metres.

During early development and design of the proposal, it was evident that not all the additional features in Council's master plan could be incorporated into this proposal due to budget constraints. Transport for NSW has incorporated a wider footpath, lighting, and associated landscaping as there as it has been assessed this is needed for this area.

3.1.4 People think it is a Council project

Submissions:

- 32 submissions received thought it was a Council project.

Response:

This is not a Port Macquarie Hastings Council project. This proposal is funded by the NSW Government and is being delivered by Transport's Maritime Infrastructure Delivery Office (MIDO).

Transport appreciates why the community may be confused by this as the Port Macquarie-Hastings Council has completed several consultation activities in the past, seeking feedback from the community on their vision of the area's future, including the breakwall foreshore area.

This led to the development of Council's *Town Centre Master Plan 2014* and the *Breakwall Concept Plan 2015*.

Transport has used both as reference documents during the early development of the scope of work. Where possible, elements outlined in these documents have been incorporated into this proposal, such as widening the shared user path to 5 metres and installing lighting.

3.1.5 Prefer the government to spend money on other areas

Submissions:

- 39 submissions received wanted the money spent on other areas of government.

Response:

This \$5 million proposal is funded by the NSW Government as part of the \$205 Maritime Stimulus Program. The funding was part of the NSW Government's COVID response to create more jobs in construction across the state.

Under existing legislation, this can be spent only on maritime safety, infrastructure, and services for vessels. Transport is unable to spend or reallocate this funding to other areas, such as health, local road repairs, housing, or any other non-maritime areas.



3.2 Removal of Norfolk Island Pines

The project's proposed removal of the 15 Norfolk Island Pines and 11 Casuarinas received the highest number of submissions. There were 233 submissions that referenced or expressed concerns about the proposed removal of the 26 trees.

It is evident, from the feedback, that members of the Port Macquarie community are extremely passionate about the Norfolk Island Pines along the breakwall. There were 94 submissions that referred to the Norfolk Island Pines as being iconic and important to the town's identity, heritage, and tourism.

Within the NRMA Holiday Park area, including along the southern breakwall, there are 180 mature trees. Of these a major proportion are a coastal pine variety, either Norfolk Island Pines or Cook Pines. There are many other significant Norfolk Island Pines, that are adjacent to this holiday park, which contribute to the overall amenity and skyline of the area.

During the consultation period, Transport received details about an [online petition](#), “Please Save Port Macquarie’s breakwall Norfolk Pines and Casuarina Trees.” At the time of writing this report, this petition had 1,210 signatures. It was noted that less than half of the signatures are from the Port Macquarie area so the majority may not have been aware of all the details of the proposal.

The petition claims the trees are part of the heart of Port Macquarie. The petition incorrectly advises the trees are 80 years old, it acknowledges the path needs upgrading, and it suggests that \$5 million should be spent on other areas such as health.

As mentioned above, the funding for this proposal is from the Maritime Stimulus Fund. Funding from this must be used only for the improvement of maritime assets.

As a result of community feedback, Transport has carried out an additional independent Tree Impact Assessment.

This has led to an adjustment in the numbers of trees to be removed, as they were incorrectly labelled in previous arborist report that was included in the draft REF. The revised number of trees to be removed as part of the proposal is 29 which is made up of:

- 6 Norfolk Pines
- 12 Cook Island Pines
- 11 Casuarinas

3.2.1 Retain the trees, object to their removal

Submissions:

- 192 submissions opposed the removal of Norfolk Island Pines
- 52 submissions suggested reducing the width of the footpath to retain the trees (see section 3.3 for response)
- 22 submissions supported and understood the need for the removal of trees for the proposal
- 15 submissions said that it was a shame to remove the trees and, if possible, they should be retained
- 8 submissions said that a five-metre path would fit, saying there is no need to remove the trees.

Response:

Transport acknowledges the importance of Norfolk Island Pines to the identity of Port Macquarie and the community's desire to retain the trees that have been planted in the southern breakwall crest batter.

During the early development of the proposal, Transport investigated the feasibility of retaining the trees as follows:

Construction of retaining walls: Designs for retaining walls were prepared and reviewed for consideration as part of early development. During the review stage of these designs, we identified that construction of the retaining walls and construction of the southern breakwall would have a significant impact on the tree protection zone, which includes their root structures. This would mean that Transport could not guarantee the health of the trees following the installation of retaining walls, therefore this option was deemed unfeasible.

Relocation of trees: The option to relocate the current trees was investigated. This option was ruled out because of the low expected survival rates of Norfolk Island Pines trees which are extremely sensitive and unlikely to survive relocation.

Reducing the width of the shared user path to retain the trees: This option was also discussed during early investigations. It has been assessed that there is a need to increase the path to five metres to improve safety and accessibility for all users of the path. Even if the path was reduced the construction methodology to remove the breakwall crest would impact the tree protection zones and may impact the health of the trees.

Replacement planting: During the consultation phase, Transport identified that replacement planting was the most viable option. Reinstatement with new trees, that has suitable offset from the breakwall including the pathway, will provide an adequate growing area for continued good tree health for the lifespan of the trees. It is considered the best long-term strategy to maintain tree amenity in the area.

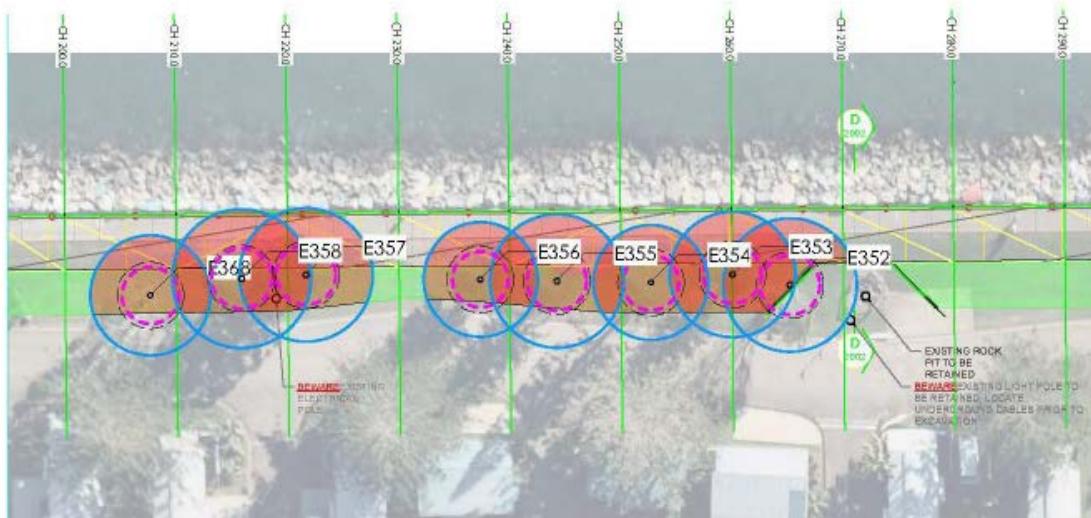


Figure 3: Image depicting the Tree Protection Zone (TPZ) and Structural Root Zones (SRZ) found in the Tree Impact Assessment.

Following community feedback, a further Tree Impact Assessment was carried out. It investigated and calculated the Tree Protection Zones (TPZs) and Structural Root Zones (SRZs) in accordance with the Australian Standards for Protection of trees on development sites.

The amount of encroachment as a percentage of the TPZ was then calculated and an impact assessment carried out to determine which trees could be retained and those that would not survive the proposed construction of the work.

If the encroachment of the TPZ is lower than 30%, then a tree may be retained with some mitigation measures put in place. The report has recommended that based on this, 29 of the 32 trees along the breakwall will need to be removed given the extent of the disturbance imposed by the proposal.

In response to feedback about the importance of the Norfolk Island Pines, Transport has increased the number of replacement trees and landscaping which will now feature 43 new, mature pines that will be about three meters tall.

3.2.2 Investigate alternative designs to retain the trees

Submissions:

- 22 submissions were about building a timber boardwalk style design to retain the trees, or with recycled timber substitutes
- 12 submissions suggested to build a path to wind in and out of the trees rather than a straight line at five metre width
- 11 submissions suggested to build the wall out into the water to retain the trees.
- 8 submissions suggested to build a second footpath near the road in the NRMA Holiday Park.
- 2 submissions asked if the footpath could go on top of the rocks to gain the space to retain the trees.

Response:

Transport acknowledges the submissions on alternative designs to retain the trees.

When developing the designs, Transport needs to consider construction methodology and future maintenance needs which included the following:

- Is there adequate access to the structure for maintenance? This could be for future major maintenance like minor or major structural repairs, or regular maintenance such as landscaping or footpath work.
- Will the materials used need greater maintenance over the life of structure? For example, in coastal areas, timber needs more regular maintenance than concrete.

As a result of these investigations, the suggested designs are not feasible because:

Timber-boardwalk style –create challenges for future maintenance of the structure as it will likely need to be removed if future major repairs to the breakwall are needed. When designing new projects, Transport needs to consider safety in design for the life of the asset. This includes how maintenance work will be carried out. Future maintenance has been considered by building a five-metre-wide concrete footpath that will allow for large machinery to access the rocks and breakwall as needed.

Path goes in and out of the trees – The Tree Impact Assessment has identified the tree protection zones that will be impacted by the work. It shows that most of the trees will be impacted by the work regardless of whether the path is widened or not. Guidelines show that a five-metre-wide footpath is ideal for recreation paths such as this one as it provides improved safety for all path users by ensuring less conflict between all path users. Having a path that winds in and out around the trees would provide pinch points and create safety hazards for users.

Build the breakwall out into the water – Building into the river mouth would change the footprint of the southern breakwall creating several potential impacts such as:

- Substantially increasing the project cost due to the increase in the amount of rock required.
- narrowing the river mouth which will potentially change the hydrology of the river during flooding events.
- Potentially create siltation issues in the river due to movement of sand.

This option would see the need for realignment of the breakwall head. Transport is avoiding making major changes in this location.

Build a second path near the road of the caravan park – There is limited area between the current footpath and the road of the NRMA Holiday Park. With the 2.5-metre footpath there is approximately 7.5 metres between the footpath and the NRMA Holiday Park road. The proposal has a five-metre-wide footpath with a steeper batter across five metres which will also feature the landscaped area and replacement planting of pines.

The land adjacent to the breakwall footpath is leased and managed by the NRMA Holiday Park and is not a designated public area.

Can the path be built on top of the rocks – The rocks which this suggestion is referring are the armour rocks that go along the breakwall. Breakwall structures are built in this way because they are flexible and will move with waves and storm surges. It is unsafe to position a concrete footpath here, due to the constant shifting of the rock and the potential for major cracking which, in turn, would require more maintenance over time.

The footpaths on breakwall structures are built on their crest which is protected by the flexible armour rock structure. The crest is the centre of the breakwall structure so therefore has less movement.

3.2.3 The Norfolk Island Pines are needed for shade

Submissions:

- 26 submissions received.

Response:

Transport acknowledges that trees provide much needed shade in a coastal environment.

The location of the southern breakwall with the Hastings River to the north means that, during the year, the Norfolk Island Pines, which sits south of the footpath creates minimal shade.

In summer, when the sun is higher, there are periods during the day when there is shade. This is outside of peak UV times and likely before 9am and after 5pm.

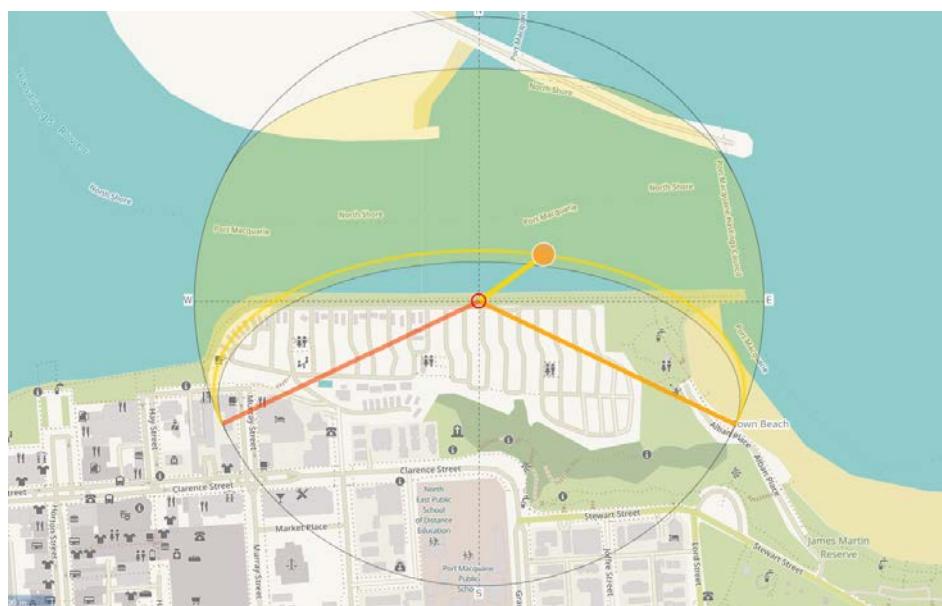


Figure 4: Sun movement 15 January 2022 at midday.



Figure 5: Sun movement 15 June 2022 at midday

The primary purpose of the proposal is the longevity of the breakwall structure. Providing shade structures is outside of the scope of the proposal.

Providing shade amenities would be for the Port Macquarie Hastings Council to implement with approval from Transport in the future if or when funding becomes available.

Our proposal is to replant with a mix of Cook and Norfolk Island Pines close to the new shared user path, which in time will provide shade similar to what currently exists.

Cook Pine trees grow approximately 30 to 60 centimetres each year. The Cook Pines have more leaves, and the rings of their branches are closer together. Once they reach maturity, Cook Pines trees will provide more shading than Norfolk Island Pines



Figure 6a and 6b: Example of replacement tree growth over 0-5 years after construction



Figure 6c and 6d Example of replacement tree growth over 10 – 20 years after construction.

* Note these 3D images or artistic impressions are to give an indication only and are not exact.

3.2.4 Port Macquarie Hastings Council has removed too many trees for other projects.

Submissions:

- 20 submissions received.

Response:

Transport is aware that Council has removed trees for other projects such as the recent Town Green Upgrade Project.

This critical southern breakwall maintenance proposal is to ensure the longevity of the breakwall structure. There are many unique challenges as part of the proposal including limited access options, a narrow construction footprint area, and working near a tidal environment.

Transport have noted that there are 180 significant trees within the NRMA Holiday Park area. Most of these are of the pine variety, including the 18 that are proposed to be removed.

Transport have not proposed removing the pines lightly. It was only after careful consideration of several options. The proposed replanting of 43 pine trees along the new breakwall will ensure that tree amenity is maintained for many years to come.

3.2.5 Trees provide habitat to animals and bird life.

Submissions:

- 17 submissions received.

Response:

In the nearby NRMA Holiday Park, there are about 180 significant trees. The majority of these are pine varieties which provide habitats for animals and bird life.

As detailed in the draft REF, the trees Transport proposes to remove are not considered to be providing an effective wildlife corridor. While providing landscape and amenity value, the trees provide limited habitat value.

As a result of the feedback on the importance of fauna and the habitats the fauna provides, Transport has increased the number of replacement trees from 29 to 43, with 6000 native ground covers and grasses to be installed along the batter.

The Landscape Plan is available to view online. This plan, with its mixture of pine and native trees, will add more habitat value and encourage more animals and bird life into the area.

3.2.6 Norfolk Island Pine trees are over 80 years old

Submissions:

- 14 submissions received.

Response:

The arborist report included in the draft REF has indicated that the trees could be between 15 to 40 years old. This would indicate they were planted in 1980 at the earliest.

Further expert advice from Terra Landscape Architects, in the Trees Impact Assessment, has indicated that the trees are between 15 to 25 years old.

Although Transport is not sure when the Norfolk Island and Cook Pines were planted along the batter of the breakwall, these are less mature than other Norfolk Island Pine trees in the NRMA Holiday Park.

Research from the Port Macquarie Historical Society shows an image in 1986 when there were very few trees planted in this area.

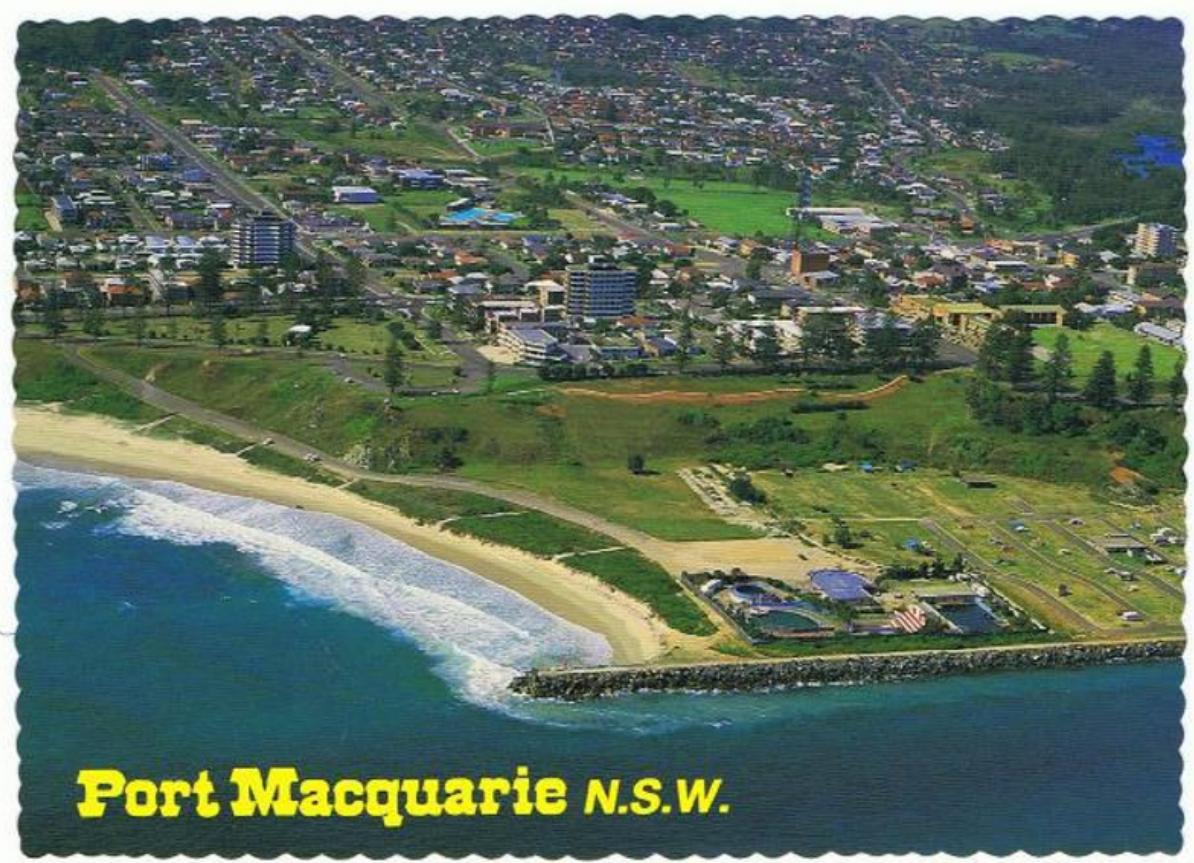


Figure 7: Post Card of Port Macquarie 1986, Port Macquarie Historical Society

3.2.7 Trees are needed for carbon offset and climate change

Submission:

- 12 submissions received.

Response:

Transport's goal is to achieve a "no net loss" of biodiversity as a consequence of infrastructure development activities.

This proposal adheres to Transport's Biodiversity Policy by avoiding biodiversity impacts to the fullest extent that is reasonably practicable and by delivering conservation measures in accordance with the requirements of the policy.

For this proposal, Transport will offset the permanent loss of 29 amenity trees by providing 43 replacement trees and by contributing to the Transport for NSW Conservation Fund. This is used to fund conservation management specifically for biodiversity projects. This is a mitigation measure that also recognises the carbon offset and climate change impacts of removing these trees.

3.2.8 Port Macquarie Hastings Council has regulations that make it difficult for residents to remove trees.

Submissions:

- 9 submissions received.

Response:

Transport is aware that there is a requirement for residents to apply for a permit to Council to remove trees that are identified as koala food trees.

The trees proposed to be removed are not governed by Council requirements for two reasons. First, because they are on Crown Land and not on residential land. Second, Norfolk Island Pines are not koala food trees.

Although Transport do not have to follow *Part B General Provisions of the Development Control Plan*, Transport noted that within the control plan, trees on public land can be removed if they are:

- causing damage to infrastructure on public land
- impacting pedestrian or traffic conditions.

The above classifications to remove trees could be applied for this proposal given the need to increase the shared path and the requirement to repair the damaged maritime infrastructure.

3.2.9 The proposal to replace trees with replanting.

Submissions:

- 15 submissions noted that it takes too long to regrow to their current size.
- 13 submissions would prefer to see native trees instead of Norfolk Island Pine trees
- 12 submissions requested that they be replaced with Norfolk Island Pine trees
- 7 submissions were of the view that replacing trees is not an adequate response
- 1 submission asked us to consider tree relocation

Response:

Transport has followed its own biodiversity policy, which aims to achieve a “no net loss” of biodiversity as a consequence of its infrastructure development activities.

The proposal is countering the permanent loss of 29 amenity trees by providing 43 replacement trees accordance which will deliver conservation measures in accordance with the policy’s requirement.

As outlined in 3.2.1. several alternatives were explored. Replacement planting, however, is considered the most feasible and most reasonable option.

The reinstatement of new trees, with suitable offset distance from the proposed pathway and adequate growing medium for good tree health for the lifespan of the tree, is considered the best long-term strategy to maintain tree amenity in the area for years to come.

The Landscape Plan will feature the following replacement trees:

- 39 Cook Pines – three-year-old, mature trees of three to four metres in height
- 4 Norfolk Island Pines – three-year-old, mature trees of three to four metres in height

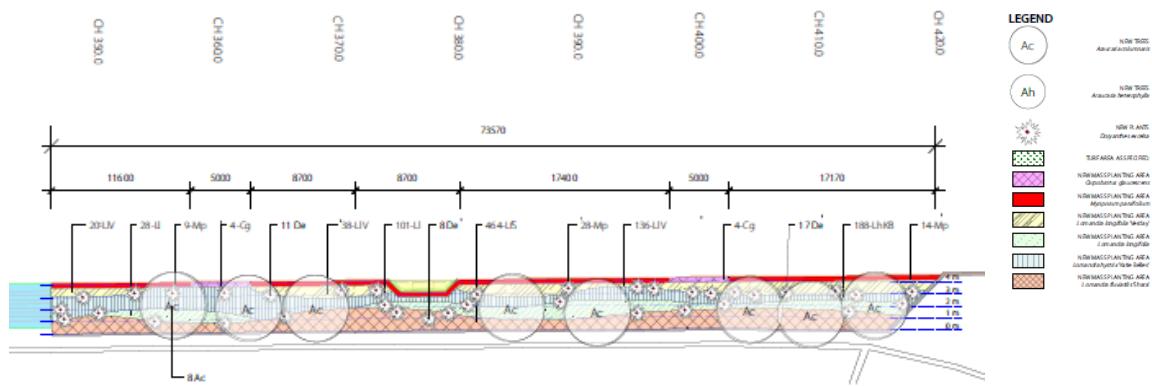


Figure 8: Example from Landscape Plan

Transport's landscape architects have proposed using Cook Pines in place of Norfolk Island Pines because of the maintenance and safety implications that Norfolk Island Pines trees present. They produce large, round cones which can be dangerous if they fall on someone.

Generally female Norfolk Island Pines, after they reach 15 years of age, produce globe-shaped cones of about 15 centimetres in diameter. At an age of about 40 years, the male tree produces cones which are born in clusters of approximately five centimetres, which are more cylindrically shaped.

Transport has chosen three-year-old, mature trees as replacement trees. At this age, they will adjust to the coastal environment conditions better. Once planted, they are predicted to establish and grow faster and better than if Transport planted more mature trees. More mature trees tend to have stunted growth because of the shock of transplantation activity.

The Landscape Plan will also feature about 6,000 plantings on the batter with hardy Australian native grasses and ground cover species. including:



Figure 9: Example image Coast Moonflower or Pigface

- 55 Coastal Moonflower or pigface (pictured)
- 185 Gymea Lily
- 2571 River Lomandra
- 983 Tropic Belle
- 898 Mat Rush
- 1389 Lomandra
- 343 Spreading Myoporum

The Landscape Plan was developed in consultation with, with the NRMA Holiday Park and with the Port Macquarie Hastings Council.

Transport is committed to maintaining the landscaping including that for trees for a period of two years following the completion of the work. After the two-year maintenance and establishment period, the management of landscaping and trees will revert to the manager of the Crown Land on which the trees have been planted.



3.3 The proposed footpath widening.

Widening the footpath is not the primary objective of the proposal. It was included in the scope of work as an added benefit for the community to be completed during this maintenance work.

There were 169 submissions which referred to the footpath widening in some capacity. Those unsupportive of the footpath widening said that they would prefer to see the trees retained instead of the footpath being widened.

There was also a similar number of submissions in support of footpath widening and which acknowledged the need for a wider path.

Transport proposes to increase the footpath from its current width of 2.5 metres to a width of five metres.

The width of a share user path is an important factor given construction cost and operational considerations. The width of the shared user path can have a significant bearing on the level of convenience, future usage, conflict between path users and path safety.

3.3.1 Sentiment on the proposed footpath widening

Submissions:

- 58 submissions supported or agreed with the widening of the footpath
- 54 submissions proposed reducing the footpath to retain the trees, as they did not want to see the path widened at the expense of the trees.
- 20 submissions expressed the view that there is no need to widen the footpath as the current width is adequate.

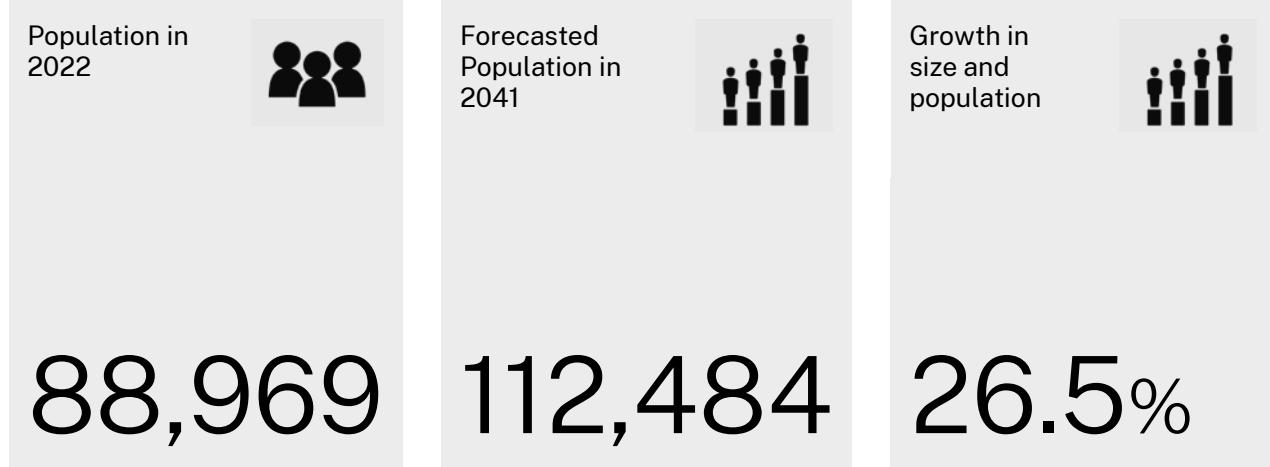
Response:

Transport is aware that many breakwalls along the NSW coastline are community and tourist attractions providing a recreational function in addition to their primary navigational and maritime purposes.

The NSW Government has been progressively upgrading the crests of all NSW breakwall structures to improve accessibility for the community and, in particular, for children and for people with mobility impairment.

After the Coffs Harbour northern breakwall, the Port Macquarie southern breakwall is the second most trafficked breakwall in New South Wales. Usage is most likely to have increased in the past few years with new amenities in Town Beach and Town Green area.

Information from the 2021 Census predicts that by 2041 the Port Macquarie Local Government Area (LGA) population will have grown by 26.5%. Tourism is also particularly important to the Port Macquarie region with \$283 million in tourism sales in 2020/21.



The main purpose of the proposal is to ensure the structural integrity of the breakwall. It is currently in poor condition. To carry out the necessary major maintenance work, the current footpath will be removed. Transport is considering the future increase in usage of this footpath over the next 50 to 100 years by increasing the width of the footpath now.

The following are the benefits for increasing the footpath:



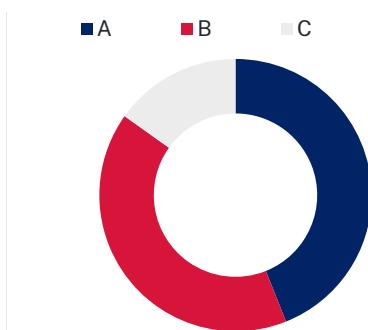
Analysis of the feedback relating to the proposed increase in the footpath's width.

There were 58 submissions supportive of this proposal. There have also been numerous articles in local media since 2016 with the community and Council calling for the widening of the footpath and for this to happen sooner rather than later to benefit the community.

There were similar numbers of those who are unsupportive to the widening with 54 submissions, indicated that this was in reaction to the removal of trees. Many of those who unsupportive of the widening still acknowledged the congestion and safety issues currently experienced by the users of the shared path.

There were also 20 people who said that the current width of the path is adequate.

Widening the footpath



Feedback received

- A 58 Submissions supportive of widening
- B 54 Submissions unsupportive to widening
- C 20 submissions think the current width is adequate

After careful consideration of this feedback, Transport has assessed there is a need to increase the footpath width from 2.5 metres to five metres. The proposed increase in width ensures a safer and more accessible shared path for all users to enjoy. Widening the path as part of this proposal will minimise further disruption to the community in future years when the need becomes more critical due to higher path usage.

3.3.2 Feedback on the increased width of shared user path

Submissions:

- 19 submissions questioned why the five-metre width has been proposed.
- 15 submissions suggested an increase in width of no more than one metre to between 3.0 and 3.5 metres.
- 11 submissions suggest that increasing the footpath to a four-metre width would be appropriate.

Response:

Crown Lands identified the upcoming need to complete major maintenance work on the Port Macquarie southern breakwall in 2013. The NSW Government is aware of the importance of the breakwall structure to the community,

In 2016, Port Macquarie Hastings Council completed community consultation which enabled them to develop the *P Breakwall Concept Plan*. This plan was forwarded to the NSW Government for consideration when work on the breakwall was funded, featured the following:

- Increasing in the width of the southern breakwall path to between five and six metres
- Installing fishing platforms, viewing platforms and shade structures.
- New lighting
- A new kiosk

The above features are town amenities that would most often be for Council's to install and maintain with approval from Crown Lands or Transport as managers of the assets in this area.

Council's *Breakwall Concept Plan 2016* acknowledged the need that the "breakwall promenade is very popular but not currently wide enough to cater to large volumes of pedestrian/ cyclist or people wanting to pause and enjoy or view or read the rocks" suggesting increasing the width to 5-6 metres.

Transport has adopted this recommendation from the Council and proposes to increase the footpath's width to five metres as part of this proposal.

Based on the 2022 community feedback, Transport has carefully considered the options to reduce the width of the proposed five-metre-wide footpath. A majority of those who were against the increase in the width of the footpath were opposed because of the impact on the Norfolk Island Pines. However as indicated in section 2.1.1 there is likely to be some impact on the trees regardless of what width is installed because of the construction methodology.

The Austroads *Guide to Road Design Part 6a Paths for Walking and Cycling* indicates that for a shared path used for recreational purposes, the desirable width is four metres.

The Austroads Guide also indicates that a minimum width up to five metres may also be necessary at locations where pedestrian flows are high or used for mixed recreational purposes.

The table below demonstrates for recreational paths where there is a very high number of cyclists and pedestrians are very high, or where there is a high probability of conflict between users such as people, walking dogs, roller bladers and skaters – shows that a path width of more than four metres may be required.

Table 7.4: Shared path widths

	Path width (m)		
	Local access path	Commuter path	Recreational path
Desirable minimum width	2.5	3.0	3.5
Minimum width – typical maximum	2.5 ¹ – 3.0 ²	2.5 ¹ – 4.0 ²	3.0 ¹ – 4.0 ²

1. A lesser width should only be adopted where cyclist volumes and operational speeds will remain low.
2. A greater width may be required where the numbers of cyclists and pedestrians are very high or there is a high probability of conflict between users (e.g. people walking dogs, roller bladers and skaters etc.).

Figure 10. Excerpt from Austroads Guidelines

The proposal also wanted to improve conditions to make the path more accessible to all members of the community and especially for people with mobility issues. The current width of 2.5 metres provides sufficient space for two wheelchairs to pass. Increasing the width will enable people to use the path in groups rather than in a single file and allows for overtaking in both directions.

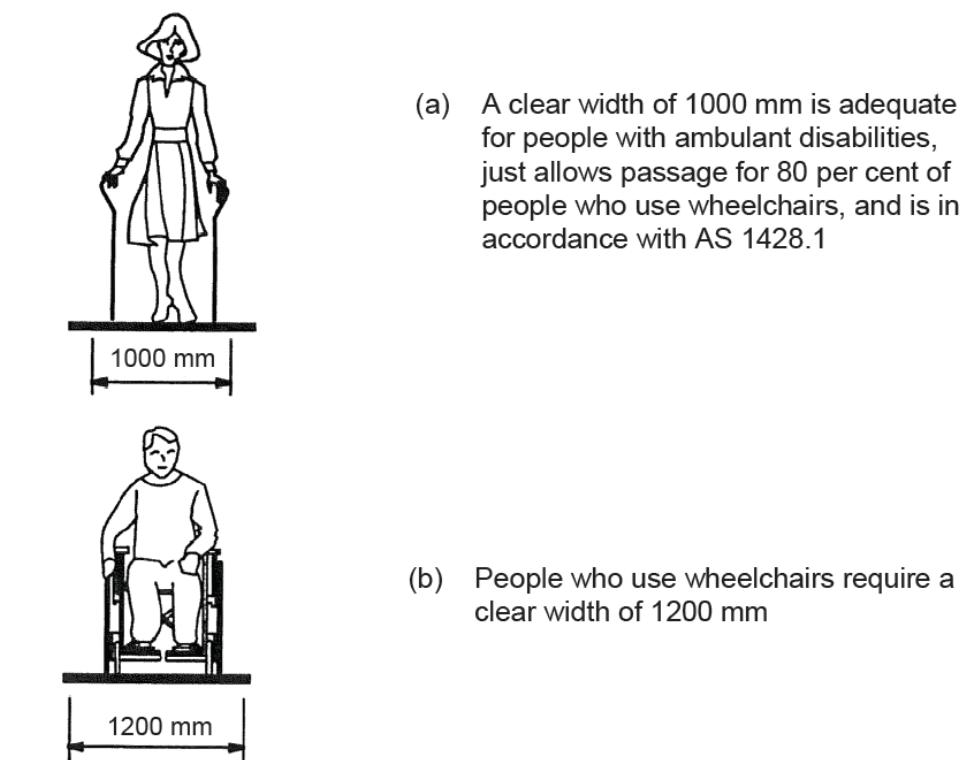


Figure 11. Excerpt from Austroads' Guidelines

Increasing the shared user path width is not the proposal's primary objective. As previously stated, the primary objective is the maintenance of the breakwall to ensure its structural integrity.

However, after investigations of the current high usage and predicted growth in the area, Transport has concluded that increasing the width of the shared path to five metres is required to ensure the safety and accessibility for all path users. This increase in width is also in line with current guidelines for high use recreational paths such as this one.

3.3.3 Shared user path feedback and proposed management

Submissions:

- 18 submissions said they wanted to see changes to the shared user path for safety reasons, with separation of cyclist and pedestrians by means of a centre line
- 8 submissions asked us to make the walkway for pedestrians only - and to stop cyclists, skateboarders, and scooter riders from using the footpath to reduce safety hazards
- 6 submissions asked for traffic calming for cyclists, safety signage for the shared path such as keep left or slow down signage, and suggested fines for poor behaviour.
- 3 submissions expressed the view that shared paths don't work because of safety issues and conflict of users.

Response:

Transport acknowledges the feedback received about the management of the shared user path and safety concerns around conflict between different users of the path.

Some of the feedback described many alleged near misses and collisions due to the current width of the shared path. They say that 2.5 metres share use path, does not adequately meet the needs of the high volume of different path users.

Transport has always maintained that this would always remain a shared user path facility. This mandate will not change.

Increasing the width of the path should improve safety and amenity by providing more area for all users to share the path. It will also minimise the conflicts currently experienced by its users.

As a result of feedback, Transport will investigate the installation of shared path safety treatments as part of finalising the detailed design. This could include signage.

3.3.4 Footpath needs to be extended past the skate park to connect with other paths

Submissions:

- 4 submissions received asked that the footpath widening be extended past the skate park.

Response

Transport confirms that the shared user path will be rebuilt along the whole length of the project, with a new concrete surface. As indicated in the below image, the widened five metre shared user path will stop short of the southern breakwall head.

To reduce any impacts to surf conditions, Transport is not increasing the width of the footpath or the footprint of the southern breakwall head.

The five-metre-wide shared user path does extend past the skate park and connects to the two other Council footpaths at Town Beach area, making it accessible for people with mobility issues who can park at the Town Beach car park.

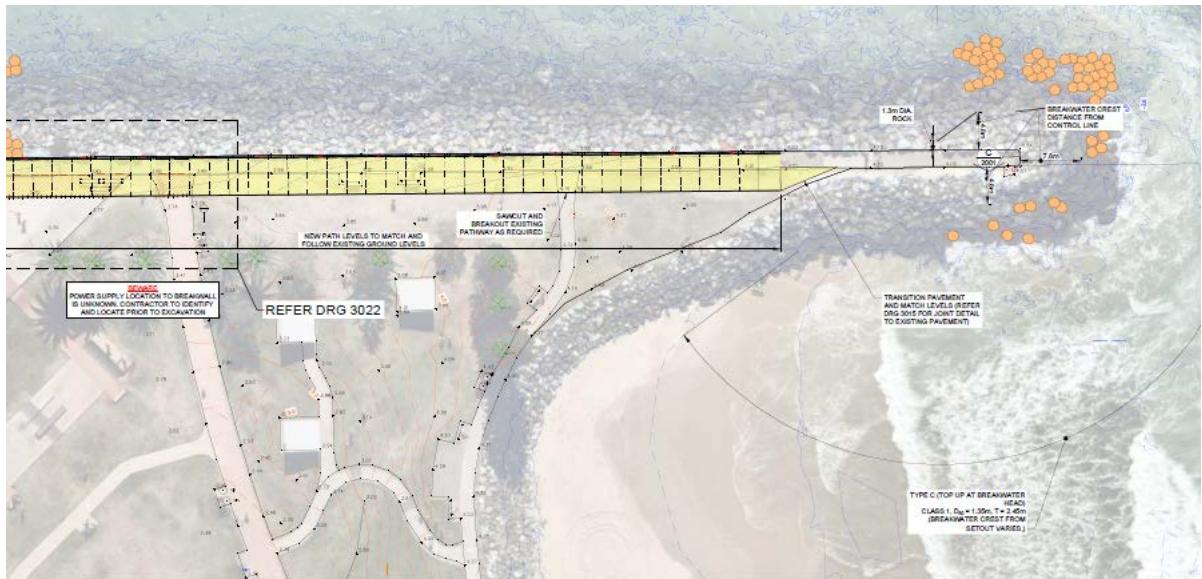


Figure 12: Proposal drawing demonstrating the widening of the footpath in yellow.



3.4 Potential impact on waves and surfing

During the consultation period there were 164 submissions that discussed surfing in some capacity. There were 129 submissions that passionately described the importance of the breakwall surf break or B-Wall as it is affectionately known by locals. Describing it as unique, iconic, and world-renowned wave

They argued how integral the breakwall structure is in continuing to produce the surf wave. They also detailed the importance of this wave not only to the surfing and board riding community but also to the wider community in terms of the economy, tourism, youth, and health.

Transport received many submissions not only from Australia but also from people living overseas who detailed that they regularly travelled to Port Macquarie Town Beach to experience and enjoy this unique wave.

It is clear Transport from the feedback received that this man-made breakwall structure is extremely important to the surfing and board riding community.

Transport and the surfing and board riding community share a common objective, to maintain the breakwall structure and to ensure its longevity, which will also continue to maintain this beloved, unique, and iconic wave for the community to enjoy.

3.4.1 Concerns work proposed will impact surf

Submissions:

- 74 submission expressed concerns that the work could impact, change, or destroy the surf break
- 27 submissions detailed concerns that the proposal could impact the flow of sand and tide run out which could impact the surf break.
- 8 submissions showed that they understand that the maintenance work proposed at the head is minimal and would not impact surf. They also acknowledge that the surf break is created by the breakwall and that the breakwall needs to be maintained.

Response:

Transport acknowledges the concerns raised by members of the surfing and board riding community regarding potential changes to the surf break. The existing surf break that the installation of the southern breakwall contributes to is an added benefit that is enjoyed by many.

The southern breakwall structure was completed in 1939. Regular inspections are carried out to ensure that breakwall structural conditions meet current standards and guidelines and to assess if maintenance work is needed. The last major maintenance was carried out in 2014 and was primarily focused on the breakwall head.

The below image clearly demonstrates that the breakwall head had suffered damage and was inadequate to meet wave climate requirements. If this was left to deteriorate further, a major failure was highly likely. So, in 2014, major maintenance work saw 1800 tonnes of rock added to the breakwall head to maintain its integrity.

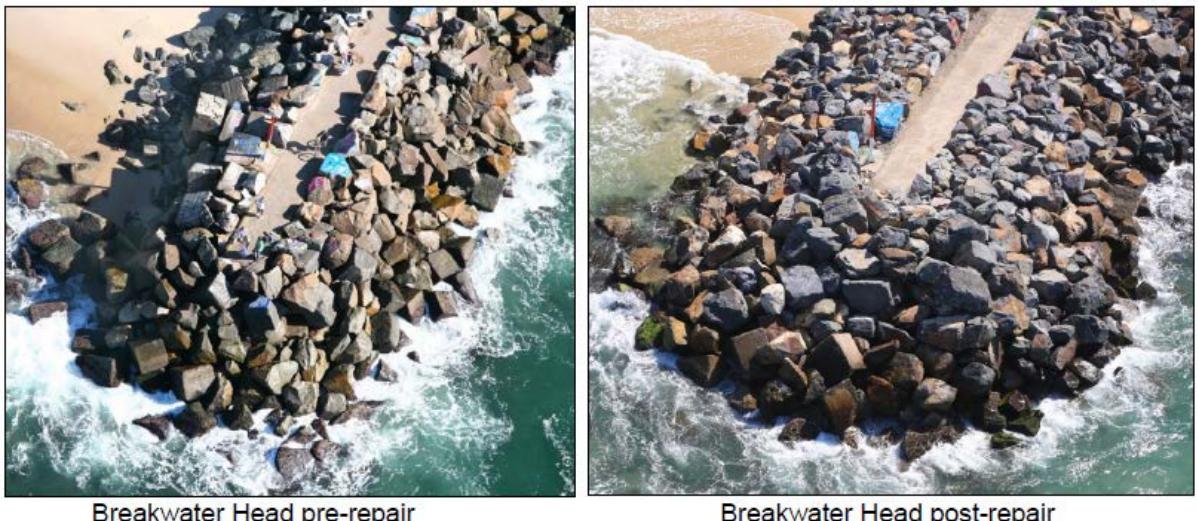


Figure 16: Breakwall head pre and post repair

Following this maintenance members of the surfing and board riding community continued to enjoy the waves created by the breakwall structure.

As a result of the major maintenance work on the breakwall head that was completed in 2014, Transport is proposing only minor maintenance work as part of this proposal. Transport estimate that 400 tonnes of rock are needed for this maintenance work at the breakwall head. Transport have not considered widening of the breakwall for the purposes of a wider footpath or a lookout.

This type of regular minor maintenance will be more beneficial to the surfing and board riding community, as the more regular maintenance that is carried out to ensure the structural integrity and to increase the longevity of the breakwall now, the less likely that it will become a major issue as it had done prior to 2014.

As part of early development of the proposal, a structural assessment detailed the following:

“Work is required if further damage is to be prevented.”

- The Royal Haskoning DHV (RHDHV) *Design Report* verified the findings of the Manly Hydraulic Laboratory *Post-Flood Assessment Report* that the breakwall head has suffered damage since the last major repair work and that it required maintenance work now if further damage is to be prevented. RHDHV completed detailed investigations which included:

- detailed visual observations,
- a high-resolution, multi-beam hydro survey
- a point-cloud drone survey
- analysis by a Principal Coastal Engineer.

The assessment noted the following:

- Typically, recent (2014) repairs to the breakwater head appear to have been effective in the profiles either side of the breakwall and were still in good condition.
- However, specific areas of damage (see Figure 13 below) were identified that included the movement and displacement of individual armour units from the primary armour layer such that voids in the layer have opened and/or an oversteepening of the layer has occurred producing areas of instability in the structure.
- Individual armour units are proposed to be placed where voids have opened and oversteepening has occurred due to armour rock movements since the previous remediation work.
- Failure to remediate this damage will leave the breakwall head vulnerable to progressively greater damage over time or potential failure; and
- The placement of the individual armour units at the head is required to restore the breakwall profile and armour thickness, to the previously installed extents which satisfy the overall design intent of the structure.

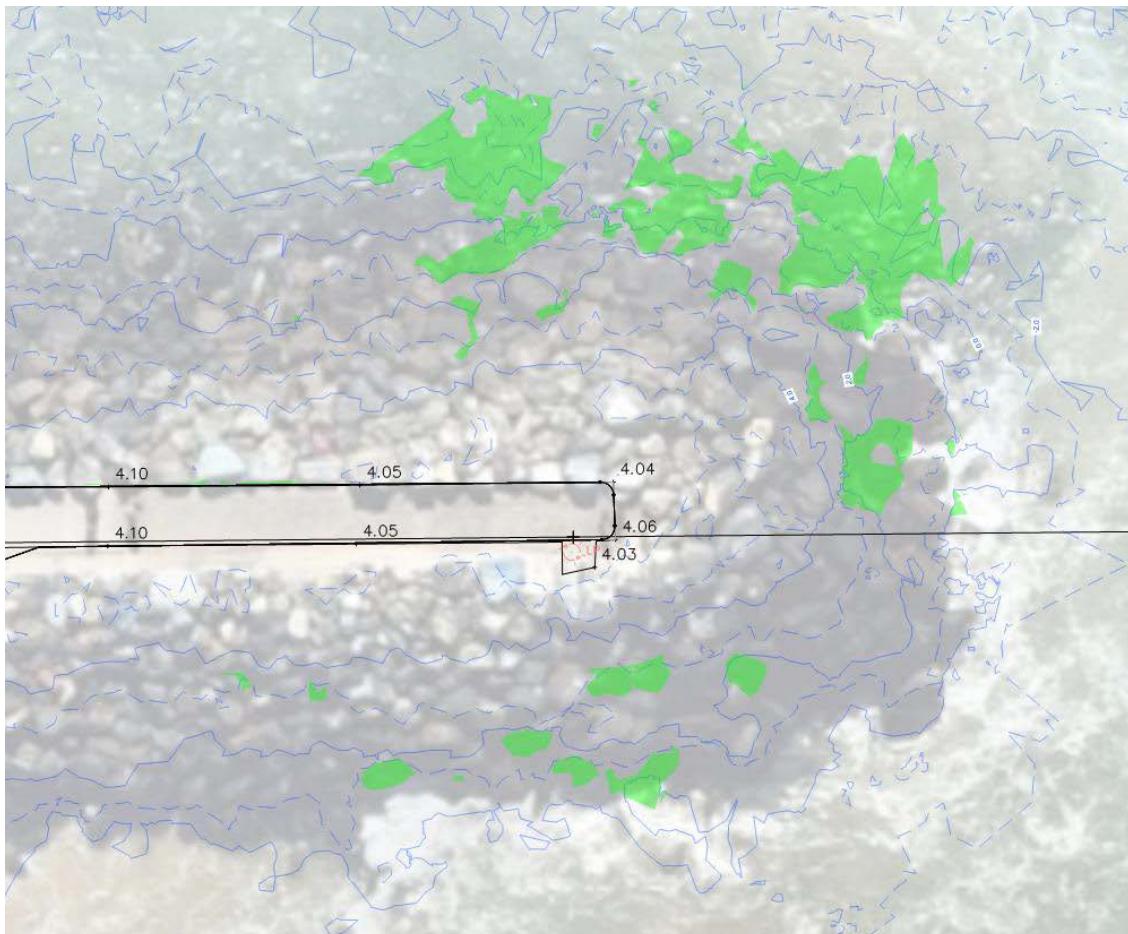


Figure 13: Extent of Breakwall head indicating areas of damage requiring remediation in green.

It is not intended to increase the southern breakwall extent beyond that of the original design intent of the 2014 remediation works. Accordingly, there will be no discernible change to the hydrodynamic response (waves, tides, currents) and associated sediment transport processes at the breakwater head relative to that which has existed since the 2014 remediation works.

This information was detailed in the REF in Appendix A –*Plans of Proposal*, specifically in the breakwater cross section, sheet 11. It shows the current profile of the breakwall, from the multi-beam bathymetry and drone photogrammetry, and the areas of individual armour rocks that need to be replaced.

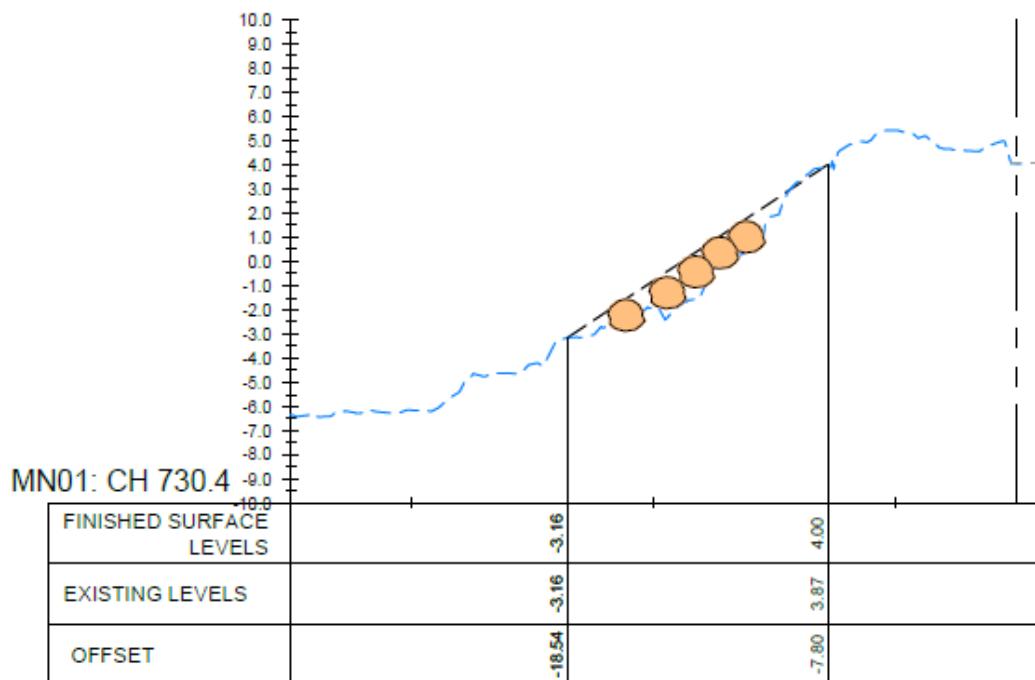
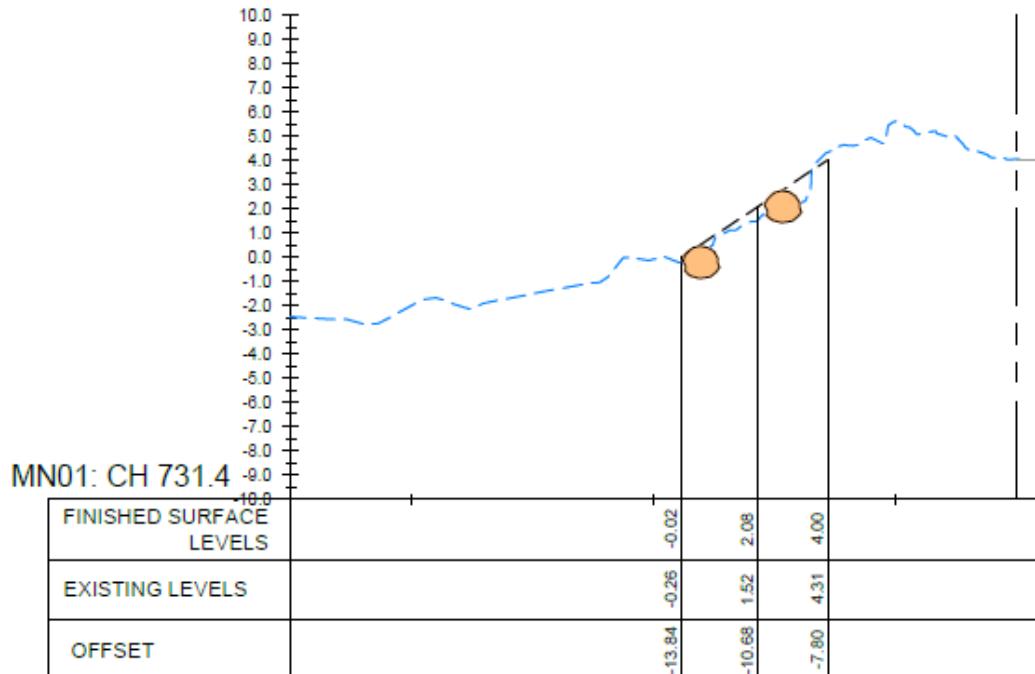


Figure 14: Cross sections in the detailed drawings indicating rock placement at the head including in the Draft REF

It is noted that surfing breaks will continually change as a result of other environmental factors such as tides, sand movements, and weather. Transport is aware that the movement of sand can play a critical part in producing surf waves. Coastal sand erosion is a natural process, and many coastal areas undergo periodic cycles of erosion and replenishment. Significant episodes of coastal erosion are often associated with extreme weather events such as storms and flooding.

Transport will carry out the minor maintenance work as proposed to ensure the continued longevity of the structure and to maintain the structural integrity of the breakwall head. As a result of community feedback requests, you can now view the design reports and assessments on the project website.

3.4.2 Changes to the breakwall head

Submissions:

- 65 submissions expressed the view that the work proposed would create a “mushroom head” at the breakwall head which will impact the surf break. They say that they do not want to see any change to the shape of the breakwall head or rock added at the breakwall head.
- 4 submissions expressed the view that the proposal is extending the breakwall

Response:

There will be no change to the footprint, profile, or extent of the southern breakwall head as a result of this proposal. This is very clearly shown in the drawing package that forms *Design Report* which is available to view online.



Thanks to the previous repairs carried out to the breakwall head in 2014 by Crown Lands, it was identified during early investigations for this proposal that the southern breakwall head did not require the same type of extensive work as the western trunk section. This is because the southern breakwall head is in better condition because of its more recent maintenance work.



That said, the breakwall head is a critical part of the breakwall structure as it bears the brunt of most of the environmental damage so it will need continuous maintenance work.



A digital 3D model of the southern breakwall has been made from a high-resolution multi-beam hydro survey and point-cloud drone survey. This model is used to produce the cross-section diagrams and the renderings (left) which have been provided to assist with understanding the works at the breakwall head.

Figure 15: 3D model produced from surveys demonstrates needed work

The images show, with a high level of accuracy exactly what the breakwall head currently looks like both above and below the waterline.

These images show where the individual armour units (discoloured rocks) are proposed to be placed where voids have opened and

oversteepening has occurred since the previous remediation works were completed in 2014.

Placement of the rocks is required to restore the breakwall profile and rock armour thickness to the previously installed extents which satisfy the overall design intent of the structure.

Failure to remediate this damage will leave the breakwall head vulnerable to progressive damage over time and potential failure.

As clearly shown in the images, the proposal will not increase the footprint of the breakwall head beyond that of the original design intent of the 2014 remediation works. The rocks placed on the head will be placed within voids and to restore the stable design slope of the armour layer on the breakwall.

RHDHV has advised that there will be no discernible change to the hydrodynamic (waves, tides, currents) response and associated sediment transport processes at the breakwall head relative to that which have existed since the 2014 remediation works.

An additional Design Cross Section image has been extracted from the design plan and reproduced below to assist the explanation of how damage to the breakwall is identified and repaired. A full set of design cross sections of the wall is provided as an attachment to the REF developed for the proposal.

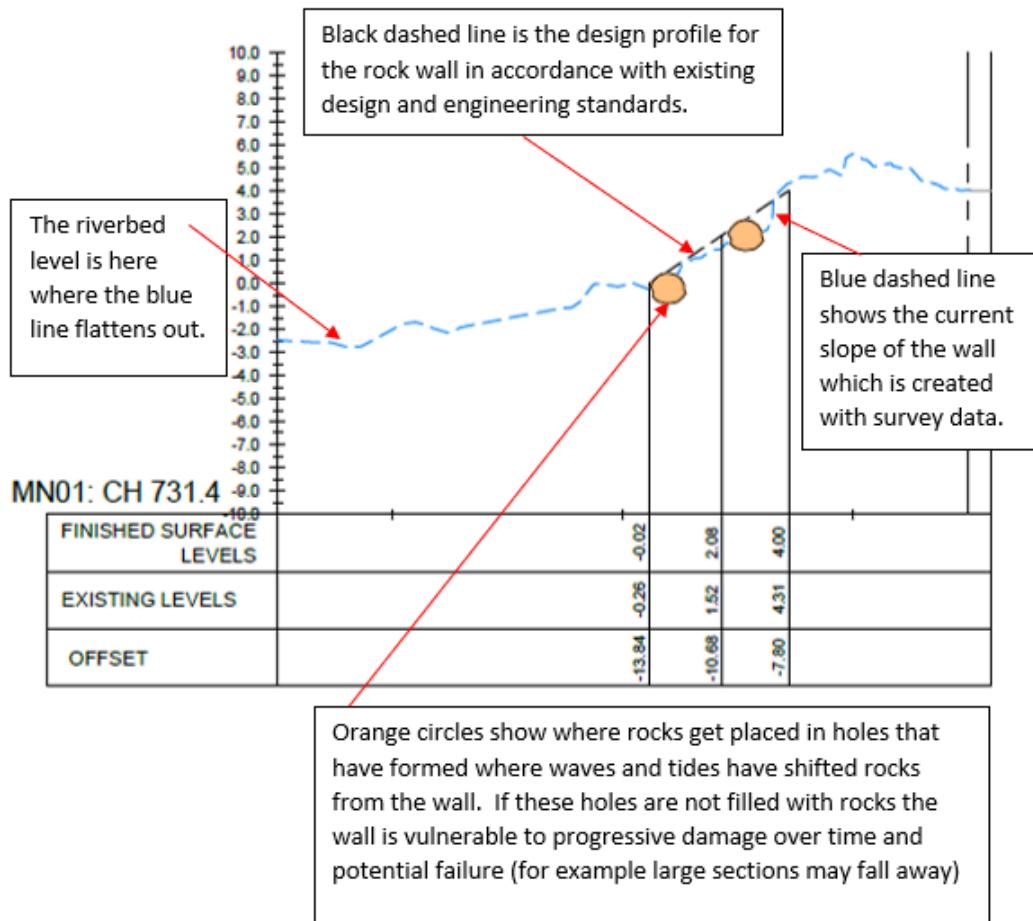


Figure 16: Placement of rock at breakwall head cross section from Dreft REF

In conclusion, Transport has demonstrated the proposed work on the breakwall head is not creating a "mushroom head" or extending the footprint of the breakwall head. The placement of rocks will be within the current footprint and design slope. As proposed, Transport will be progressing this minor maintenance work at the breakwall head to fill the identified voids and oversteepening. This will also ensure that future damage is minimised at this critical part of the breakwall structure.

3.4.3 Request for more information, studies, modelling, investigations, or assessment be completed to ensure no impact is to surf, tides, and sand movement

Submissions:

- 13 submissions received.

Response:

As part of early development and investigations of the proposal, several surveys and assessments were completed. These have informed the proposal on the following:

- the condition of the southern breakwall and areas of concern
- the development of the scope of work and what work is needed.

Royal Haskoning DHV (RHDV) is an independent coastal engineering consultant that was awarded the contract to develop the design for the proposal. It completed investigation and assessment on the breakwall as part of early development including carrying out the following:

- RHDHV carried out detailed visual inspections, a high-resolution multi-beam hydro survey, and a point cloud drone survey as part of the design process.
- RHDHV also developed a digital 3D model of the breakwall which formed the basis of the design and is used to produce the cross sections, renderings, and images in the report.

This information was detailed in the REF in *Appendix A – Plans of Proposal*, specifically in the breakwater cross section, sheet 11.

Not all information provided during the investigation period is included in the REF display. As a result of the community requesting more information on this topic, the RHDHV *Design Report* is available to view online.

3.4.4 Suggestion to improve surfing by installing a permanent dredge, similar to Tweed Heads Sand Bypass

Submissions:

- 2 submissions received.

Response:

The main objective of this proposal is to increase the longevity of the southern breakwall structure by maintaining its structural integrity. The breakwall structure is currently providing its intended purpose, that is to provide a safe and navigable boat entrance into the Hastings River.

This project does not require a permanent dredging solution such as the Tweed Heads Sand Bypass. Siltation in the Hastings River is not impacting navigation as it does at Tweed Heads.

There is no justification or need for a permanent dredge and falls outside of the scope of this proposal.



3.5 The graffiti and memorial rocks

Transport acknowledged early in the development of the proposal that graffiti artwork and memorial plaques would be a sensitive issue for the community developing the following proposal to mitigate the impacts of the project:

- Record current graffiti artwork and memorial plaques
- Make this into a video or a book as an archive
- Remove and store memorial plaques

There were 96 submissions received in relation to the graffiti artwork rocks or memorial plaques, with 48 submissions noting that the graffiti rocks are an iconic part of Port Macquarie and of the breakwall area, which is important for tourism.

3.5.1 Impact of proposal on graffiti rocks and memorials

Submissions:

- 48 submissions object to the proposal's impacts on the graffiti rocks or memorial plaques.
- 5 submissions said they want to ensure that the graffiti rocks are returned after the work has been completed.

Response:

During early planning of the proposal, Transport acknowledged the importance of the graffiti artwork and memorial plaques to the community.

Graffiti is illegal when you do not have permission to create it either from the owner of the property or the local Council. This includes graffiti on public infrastructure such as bridges and noise walls, on public transport, bus stops or train stations.

Although painting or graffiti on Transport infrastructure is not normally encouraged or approved, at the Port Macquarie Southern Breakwall Transport has not imposed restrictions on the painting of graffiti artworks or on the placement of memorial plaques.

However, this maritime infrastructure will need ongoing maintenance and therefore Transport cannot guarantee that the graffiti artwork and the memorial plaques will always be there. Anything placed on the breakwall rocks is not permanent.

The construction methodology for this maintenance project, which will see a 600metre section of the southern breakwall rebuilt, will not enable the current artworks to be retained or replace them in the same locations. Moving rock with large machinery will likely damage the artwork and/or the memorial plaques. It is also planned to reuse some of the current rock inside the newly constructed breakwall.

Transport is sensitive to the fact that members of the community feel a sense of ownership and connection to many rocks along the southern breakwall. This is why, Transport is seeking to create a register of all memorial plaques and encourage impacted community members to contact Transport about this. Transport has offered to remove and store memorial plaques and will continue to work with impacted families.

Transport is also looking at creating a record of existing graffiti artwork, through photos and videos to create a historical record of the artwork along the southern breakwall. Transport encourages people who would like to share their stories about their artwork to contact our team.

Alternatively, they can take a 30 second landscape video which shares the story behind their artwork or memorial plaques and email the video to Transport or upload the video to social media. If you upload the video to social media, remember to tag Transport for NSW and #portmacrocks.

When the work is finished, the southern breakwall shared user path will be lined with new rocks which will provide a blank canvas for the community for new graffiti artwork and memorial plaques to return to a similar or new location.

As the intended purpose of the proposal is to maintain the structural integrity of the maritime infrastructure, the design and construction methodology has restricted our ability to retain the current graffiti artworks and memorial plaques. Transport has implemented reasonable and feasible mitigation strategies to minimise this impact to the community as follows:

- Early notification of impact to - the community has been advised almost a year ahead of start of work
- Encourage people to contact Transport to discuss further.
- Offer to remove and store plaques.
- Creating a system to archive and record the artworks and memorial plaques.
- Not imposing future restrictions on the return of artwork or memorial plaques at this location.

3.5.2 Would like the graffiti artwork and memorial plaques to be permanently removed or see a new policy about this practice

There were several submissions which would like to see the permanent removal of graffiti rocks and memorial plaques on the breakwall, noting such things that they prefer the natural beauty of the area, believes graffiti brings down the look of the area, or that the high number of memorials has made ether area a cometary or depressing.

Submission:

- 19 submissions opposed the return of memorial plaques and graffiti rocks
- 4 submissions said that there needs to be a policy in place for the graffiti art and memorial plaques to increase the standards of and potential for professional artwork
- 1 submission requested that a new area for memorial plaques be established elsewhere and not on the breakwall.

- 1 submission noted that Council does not permit painting of rocks in the Town Green section managed by the Council.

Response:

Graffiti is illegal when you do not have permission to create it either from the owner of the property or the local Council. This includes graffiti on public infrastructure such as bridges and noise walls, on public transport or at bus stops or train stations.

Although painting or graffiti on Transport's infrastructure is not normally encouraged or approved, at the Port Macquarie Southern Breakwall Transport has not imposed restrictions on the painting of graffiti artworks or on the placement of memorial plaques.

However, this maritime infrastructure will need ongoing maintenance and therefore Transport cannot guarantee that the graffiti artwork and the memorial plaques will always be there. Anything placed on the rocks is not permanent.

3.5.3 Memorial plaques

Submission:

- 13 submissions described the proposal's impacts on memorial as insensitive, offensive, and causing emotional distress.
- 6 submissions advised Transport of their memorial rocks as requested in communication material.

Response:

During early planning of the proposal, Transport acknowledged the importance of graffiti artwork and memorial plaques to the community.

Similar to roadside memorial or tributes impacted by roadside upgrades or maintenance, Transport's process to minimise the impact that work has on memorial plaques or rocks is as follows:

- Transport will notify the community of upcoming work as soon as possible.
- Transport encourages those with memorial plaques to make contact to discuss the process in more detail. Transport will develop a register of memorial plaque owners as some no longer live locally.
- Transport has suggested that people with painted rocks take a photo for a memento and to remove memorial plaques before work starting. If you are unable to remove the plaques, Transport will do this and store them for you.
- Transport is developing an archive that may be turned into a book or a video. If you are interested in sharing your story about your memorial plaque, we would love you to get in contact with us or post details to social media.

Given the small number of people with memorial plaques who have reached out to us, Transport will install signage at the breakwall to let people know how to contact us.

As detailed above, painting or graffiti on Transport for NSW infrastructure is not normally encouraged or approved, however at the Port Macquarie Southern Breakwall Transport has not imposed restrictions on the painting of graffiti artworks or on the placement of memorial plaques.

This maritime infrastructure will need ongoing maintenance and therefore Transport cannot guarantee that the graffiti artwork and memorial plaques will always be there. Anything placed

on the rocks is not permanent. Transport is aware that Port Macquarie Hastings Council has a memorial seating strategy in development, this may be a suitable alternative. Please contact the Council for more information on this.

3.5.4 The community proposed other options to handle the rocks

Submissions:

- 10 submissions asked if the breakwall will be repaired by just adding new rocks to the toe of the wall without touching the existing graffiti rocks.
- 5 submissions wanted to know if graffiti rocks could be moved and placed back in their original position after the work
- 3 submissions suggested that the graffiti rocks should be used/moved to other areas at the breakwall or town beach.

Response:

During early planning of the proposal, Transport acknowledged the importance of graffiti artwork and memorial plaques to the community.

We understand the community is upset about the impact that the proposed work will have on the current graffiti rocks and memorials.

Unfortunately, Transport is not able to retain the current graffiti rocks during this maintenance project, which will see a 600-metre section of the southern breakwall trunk to be rebuilt.

As part of early development of the proposal, Transport investigated if we could retain the graffiti rocks in some manner. This was ruled out because:

1. The construction methodology requires the reuse of the current rocks within the wall.
2. The machinery needed to lift or move the rock itself may potentially damage the images that appear on graffiti and memorial rocks, and we cannot guarantee that they will be saved or managed in a good condition.

3.5.5 Support the proposal on managing the impacts to the graffiti rocks and memorial plaques

Submissions:

- 4 submissions suggest that Transport should preserve the artwork via a website or an online gallery or book. This broadly supports what the project team is considering.
- 2 submissions agree with the proposals on management of the impacts on the graffiti rocks and memorial plaques.
- 1 submission acknowledges that graffiti artwork is not permanent and that it could get repainted.

Response:

Transport has carefully considered how to manage this sensitive issue, with the following mitigation measures being implemented for this project.

- Early notification of impact. The community has been advised almost a year ahead of start of work.
- Allow impacted community members to contact Transport to discuss further.
- Offer to remove and store plaques.

- Creating a system to archive the artworks and memorial plaques, through a printed book, online or video.
- Not imposing future restrictions to the return of graffiti artwork or memorial plaques at this location.

3.5.6 Placing the painted rocks in the water may be toxic to the water environment

Submissions:

- 1 submission raised concerns that the proposal to reuse the rocks in the breakwall structure could be toxic in the water environment.

Response:

Transport's Environmental Advisors have indicated that the small amount of paint on the rocks has weathered, which has cured the paint materials. It has been determined that these materials would have negligible impact on the water environment.

The painted rocks that line the footpath are a small percentage of the rocks that will be reused as part of the work. The reuse of rocks also demonstrates sustainability because it will be minimising the need to produce and transport new quarry rocks to site.



Image from: Expedia Port Macquarie Travel guide website

3.6 Fishing off the breakwall

The design of the breakwall, its length and proximity to the ocean and tidal flow, along with its age and minimal maintenance over the years, has allowed fish habitats to thrive thereby creating excellent fishing conditions. This, with its proximity to the NRMA Holiday Park and accessible footpath crest, has made it a popular fishing spot for the local community and tourists.

There were nine submissions that detailed the importance of fishing to tourism, the angling community, and the fishing industry.

3.6.1 Concerns the design will not allow rock fishing, and that the design is a flat-sloped, wall structure

Submissions:

- 28 submissions raised concerns based on the 3D animation depicting a flat-sloped, wall structure which will impact fishing in the area given the inability to fish from rocks, concerns for safety and that the breakwall design will not dissipate wave energy.

Response:

The proposal to rebuild of 600 metre section of the western end of the southern breakwall will be in a similar structure to the existing breakwall

Transport acknowledges that the 3D animation or artist impression used during the REF display showed a flat wall-type structure.

Transport can confirm that the structure will not be smooth when completed and that it will be a rock wall similar in appearance to the current breakwall. Transport have updated the artist impression to better represent this. See images provided below.

There will be a short-term impact to fishing access during the construction work when the breakwall will be closed to the public for safety reasons.

Once the work is finished, the fishing community will be able to use this area as they have in the past, with the added benefit of a wider shared user path, providing more room for all user types.



Figure 17 a and b: Updated 3D artist impression of rock wall structure: Please note this is a representation of the planned works and is not exact.

3.6.2 Would like to see fishing platforms included in this proposal.

Submissions:

- 18 submissions said they wanted to see fishing platforms included in this proposal, with consideration of lights, cleaning tables, water, and wheelchair accessibility.
- 5 submissions suggested including fishing platforms in this proposal now to minimise future compounding construction impacts and further closures of the breakwall.
- 2 submissions opposed to fishing platforms as being dangerous and smelly.
- 1 submission wants fish cleaning tables to be included, with water and drainage, saying there does not need to be fishing platforms.

Response:

Transport acknowledges that while the building of fishing platforms is part of the Council's Breakwall Concept Plan 2016, they were not included in Transport's proposal as the building of such platforms is not within the project's budget or scope.

Additional amenities such as fishing platforms are for Council to consider. It is Council's responsibility to install and maintain such amenities with approval from Transport as the manager of maritime assets in the area.

Transport is aware that Council is investigating installing fishing platforms, and Transport will continue to work with Council as they develop their proposal further. At this time, Transport cannot confirm if or when this will proceed.

3.6.3 Impact to fish habitats

Submission numbers:

- 17 submissions raised concerns that the work will impact fish and aquatic habitats, their food sources and impact marine life, and that this will also impact fishing in the area.

Response:

An Aquatic Ecology Assessment was carried out as part of the draft REF which details potential impacts of the proposal on marine ecology and recommended mitigation measures. The draft REF indicates that the proposal is unlikely to have significant impact and there would be only short-term impacts during construction. noting the following:

- The breakwall rocks provide an artificial habitat used by many fish and marine birds
- The northern breakwall will provide an alternative habitat to fish during work on the southern breakwall
- The removal and replacement of rocks will impact on existing marine growth, including sessile invertebrates and macroalgae. These would, however, likely recover within 12 to 24 months after the completion of construction work.
- On completion, there will be more rock available creating additional opportunities for marine animals, birds, and habitats.



3.7 Feedback on design elements

This section has grouped together feedback that refers to the design elements of the proposal.

3.7.1 Lighting

Submissions:

- 17 submissions supported lighting the breakwall and expressed the need for it.
- 1 submission opposed lighting saying it encourages loitering and poor behaviour.
- 4 submissions want to see a different style of lighting to what was shown, with some suggesting atmospheric bollard lighting.
- 1 submission suggested lighting similar to that in the Town Green Area.
- 1 submission suggested lighting up the trees.

Response:

Lighting will be installed as part of the proposal which is shown in the REF the concept design and aligns with Council's Breakwall Concept Plan 2014.

As a result of the feedback received, Transport can confirm low-level, solar bollard lighting will be used instead of the overhead lighting that was depicted in the 3D animation in the draft REF. The use of solar bollard lighting for this proposal will provide the following:

- Sustainability benefits from the use solar power lights.
- Reducing impact on the aquatic environment of low-level bollard lighting.
- Minimised the spread of light to patrons of the NRMA Holiday Park by placing the lights on the north side of the path.
- Providing security and safety benefits for the community.
- Providing greater accessibility to the area for the community.

3.7.2 Safety rail fencing along the breakwall

Submissions:

- 13 submissions were opposed to the safety rail fencing for the following reasons:
 - safety concerns given the high number of users, including bikes, with nowhere to go.
 - the grassed area is used by dogs
 - it reduces the ability for people to step off the walkway or go around each other.
 - It prevents people from the caravan park from walking up the grass.
- 1 submission supports the fencing.

Response:

A fence has been included along the southern side of the shared user path for the following reasons:

1. Safety-in-design requirements were assessed as part of developing the proposal. The handrail fence was included as a safety measure to reduce the risk of pedestrians and cyclists falling down the new steeper batter.
2. Widening the shared user path will create a steeper batter. The batter will also be more heavily vegetated.

The below image shows the current ground slope profile (batter) as indicated in the grey dotted line and the new steeper ground slope profile in the darker grey line. The new slope falls away from the fence barrier with no room for people to stand to the side of the footpath as there will be no flat ground available here.

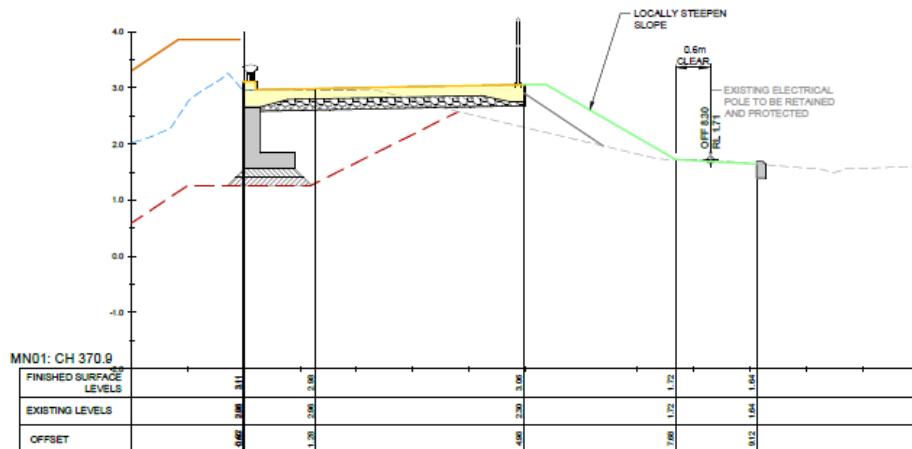
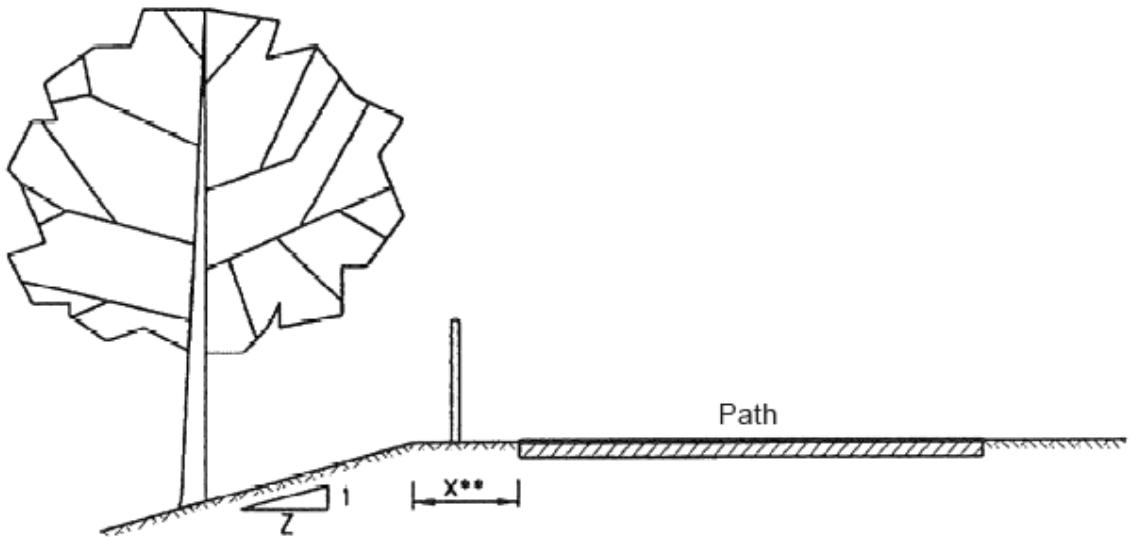


Figure 18: Cross section of breakwall crest, path, and batter

As per the Austroad Guide to Road Design, Part A: Pedestrian and Cyclist Path, the installation of a fence at the side of a shared user path, in particular a path used by cyclists is desirable where:

- there is a steep batter
- the path is adjacent to a road or culvert
- hazards such as adjacent trees



C. Batter slope with obstacles

	X (metres)	Z (metres)
Fence not required	<1 1 to 5	>8 >4
Partial barrier fence required	<5	3 to 4
Full barrier fence required	<5	<3

** Barrier fence required if obstacle within 1 m of path.

Figure 19: Rationale for fence requirement

During the early development of the proposal, Transport consulted with NRMA Parks and Resorts who are the land managers for the NRMA Holiday Park.

The holiday Park was in the process of installing a fence along the eastern boundary for safety, security, and access purposes. They expressed support for this handrail fencing to be installed.

3.7.3 Access points from NRMA Holiday Park

Submissions:

- 3 submissions would like to see more accessible ramps from the caravan park.
- 1 submission said there should be less access to caravan park, as it is a business, private property and concerned children drowning in river with no fence
- 1 submission expressed the view that there is no need for an accessibility ramp.

Response:

The proposal features two stair access points and one ramp from the NRMA Holiday Park. At each end of the southern breakwall, the path meets other accessible paths that connect Town Beach and Town Green areas to the breakwall.

Transport and the NRMA Holiday Park have assessed that the number of proposed accesses provide adequate access for the length of the path, for the community and the patrons of the NRMA Holiday park to access the shared user path along the breakwall.

The final design regarding the new stair access and ramp access will remain as shown in the draft REF concept design.

3.7.4 Aesthetics of the design

Submissions:

- 11 submissions said it looks like a concrete jungle with too much concrete.
- 4 submissions said it was not aesthetically pleasing, and needs some identity and belonging
- 1 submission suggested motifs in the concrete.

Response:

The proposal's main objective is to maintain the structural integrity of the southern breakwall structure by completing the major maintenance work on the breakwall. The design proposed must meet contemporary breakwall structural guidelines and has also taken into consideration future maintenance needs.

Although there will be more concrete with a wider shared user path, this should give the area a feeling of space. This, combined with the Landscape Plan that provides for over 6,000 plants along the edge of the southern breakwall, will soften the look of the area.

The new rock installed along the breakwall, which will act as a blank canvas, will give the community the opportunity to add colour to the breakwall. This will enable the community to add their own identity in this area.

Transport acknowledges that new concrete can be quite bright and reflect the sun's rays. Transport will explore options to tint the concrete to remove this glare in consultation with Council.

3.7.5 Safety stairs to be added into southern breakwall design

Submissions:

- 7 submissions suggested that safety stairs should be added into the design of the southern breakwall. This could be informal stairs created by strategic rock placement. This will facilitate emergency rescues and help fishermen access lower levels of the breakwall.

Response:

The Department of Primary Industries' *Breakwater Maintenance and Upgrades: Multi-use and eco-features Guide* notes that upgrades should:

- allow for informal or formal water access
- use large flat rocks at strategic points along the breakwall to create "stairways" from the intertidal edge up the breakwall to its crest for "emergency safety stairs" and access opportunities.

This guide provides an example of this type of access installed at the Port Macquarie Breakwall.

Transport has agreed to retain the current informal safety stair features and will also investigate opportunities to add these in other locations along the breakwall trunk.



Side view of the rock safety stairs that create an informal access point on the Hastings River Port Macquarie Breakwater

Figure 20: Example of informal stair arrangement

3.7.6 Viewing platform to be included at Town Beach

Submissions:

- 5 submissions indicated that a viewing platform is needed at Town Beach and the reasons given were:
 - to view the surf
 - that the rocks have been raised at the Town Beach end to view surf

Response:

The proposal's main objective is to maintain the structural integrity of the southern breakwall structure by completing the major maintenance work on the breakwall.

Early investigations and the development of concept designs explored the provision of a viewing platform at Town Beach. However, based on the preliminary costings of the proposal it has not been included in the scope due to budget constraints.,

Additional amenities such as this are usually for Council to consider in the future. Ultimately it is Council's responsibility to install and maintain such amenities with approval from Transport as the manager of maritime assets in the area.

Transport will forward this suggestion to Council for consideration.

3.7.7 Breakout areas to be included adjacent to path.

This could include:

- grassed areas out of the way of cyclists
- seating or covered areas for people to enjoy the area.

Submissions:

- 5 submissions indicated the desire to see breakout areas included in the design.

Response:

The proposals main objected is to maintain the structural integrity of the southern breakwall structure by completing the major maintenance of the breakwall.

Provision of amenities such as breakout areas are not part of the proposal's scope and there is no additional funding to provide this as part of this work.

There is very limited space between the breakwall structure. The rocks that are along the northern edge of the footpath and the road of the NRMA Holiday Park are an average distance of about 10 metres.

A five-metre shared user path will be installed, and the expected steeper slope will not provide a safe grassed area. As part of safety-in-design assessments, the increase in slope has been deemed unsafe to maintain. As a result, a fence will be installed at the edge of the footpath and there will be landscaping carried out instead of a grassed area which will require less maintenance.

With the additional width of the shared user path, and an increase in seating areas, which are offset from the path, there should be room for patrons to move out of the way or enjoy the view.

3.7.8 The height of the southern breakwall

Submissions:

- 5 submissions asked if the design had considered climate change, rising sea levels and flooding mitigation, and queried if the wall should be raised.

Response:

The REF and concept design has considered climate change, sea levels rising and flood risk.

As part the early development Transport analysed the predicted sea level rise for the next 40 years which would be 0.3 metres.

The team also considered flood modelling and flood risk as part of the design development. The design adopts 1 in 100-year flood velocities of 4.3 m/s.

There will be a minor change in the height of the breakwall rock that sits alongside the footpath which is further explained in the next response. This should also improve protection from flood and rises in the sea level.

3.7.9 Height of rocks along the breakwall path

Submissions:

- 4 submissions noted that the height of the rocks adjacent to the breakwall stays at the same so people can continue to enjoy the view. Some also noted that during 2014 work this was raised higher which had impacted the view, and they do not want this to happen again.

Response:

The work completed at the southern breakwall head in 2014 raised the rock height to meet new breakwall guidelines. The breakwall head needs to withstand great wave and storm velocity. During storm surges, water may overtop and therefore breakwall heads need larger armour rocks.

For this proposal, Transport will also need to ensure that the entire length of the southern breakwall meets current breakwall structure guidelines. The current height of the breakwall is not consistent along its length.

It is expected the rocks along the footpath will sit just under one metre in height from the shared user path. East towards the breakwall head this may be a little higher than a metre to meet the breakwall seaward end guidelines and to protect users of the shared path from wave surges.

In the image below, the blue dash line shows the current rock height, and the orange line shows what the rock height will be after the work is finished. This varies because the current height of the rocks is not consistent along the entire southern breakwall because of its poor condition and because of slumping of rocks.

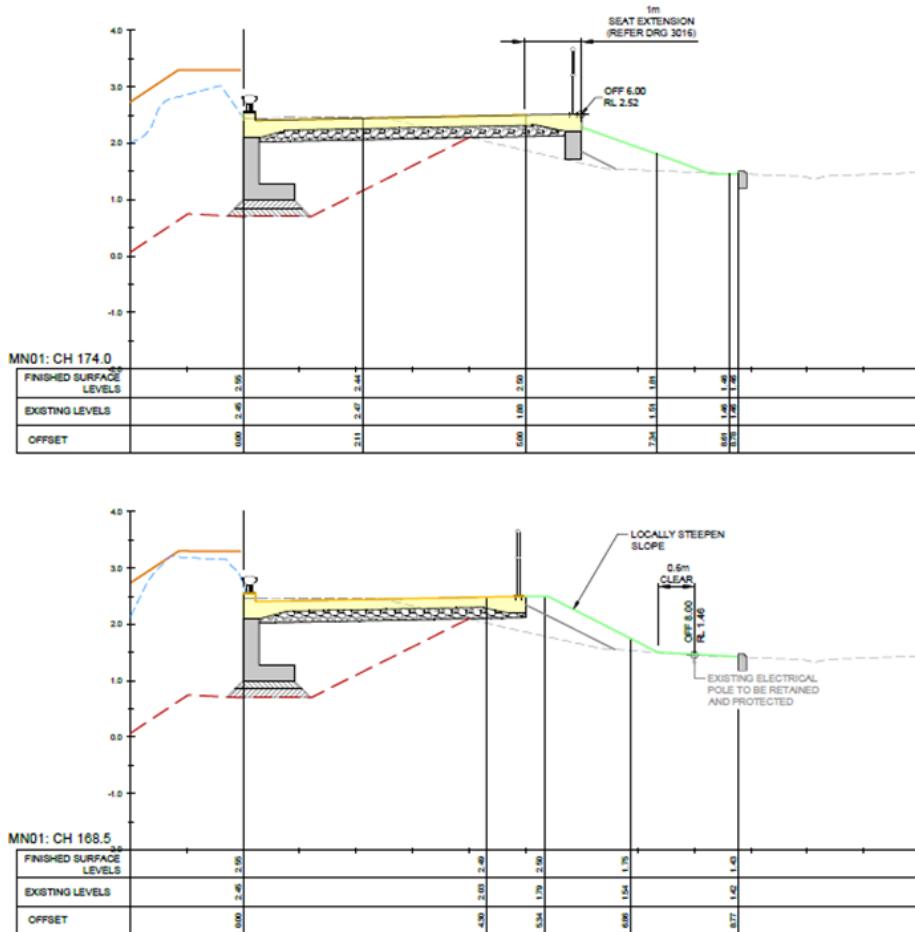


Figure 21: Cross section from draft REF, shows current and predicted height of rocks after construction.

3.7.10 Request to extend the breakwall head

Submissions:

- 4 submissions suggested extending the breakwall head further into the ocean to mitigate further beach erosion.

Response:

Coastal erosion is a natural process, and many coastal areas undergo periodic cycles of erosion and replenishment. Significant episodes of coastal erosion are often associated with extreme weather events, such as storms and flooding. The current southern breakwall design has provided erosion protection for the Town Beach and NRMA Holiday Park area ever since its installation in 1939.

In 2014, following a weather event, major maintenance work was carried out on the southern breakwall head to bring its design in line with new breakwall conditions.

The main objective of this proposal is to maintain the structural integrity of the breakwall southern structure. The proposal is primarily concerned with the western end of this structure.

This proposal will not be changing the current footprint of the breakwall head and will not be extending the breakwall further into the ocean. Besides being outside of the scope of the work, it will also minimise any impacts on the surf conditions.

In 2016, the NSW Government introduced a new framework to manage the coastal environment in an ecologically sustainable way for the social, cultural, and economic wellbeing of the residents and visitors of NSW. The Council is currently developing Coast Management Program that is anticipated

to be finalised in 2024. This will identify areas of concern and the best way to manage local issues, and aims to provide a long term, coordinated strategy for managing the coastal zone in accordance with the *Coastal Management Act 2016* (CM Act.) Transport recommends you contact the Council for more information on the development of this document.

3.7.11 Seating design

Submissions:

- 4 submissions said they would like to see more seating along the southern breakwall.
- 1 submission asked for the seating design to include additional concrete so someone with a wheelchair or a pram can sit next to friends at the seating area outside of the walkway.

Response:

Port Macquarie Hastings Council manages and maintains the seating along the southern breakwall. Currently there are five seating areas.

Transport's proposal features six new seating areas offset from the five-metre-wide shared user path. There will be areas for prams and wheelchairs to sit next to the seats with a one metre space on either side of the 1.8 metre seats.



Figure 22: An artist's impression of seating areas which shows they are offset from the walkway. Note seats design and look of chairs have not been finalised, only the specifications.

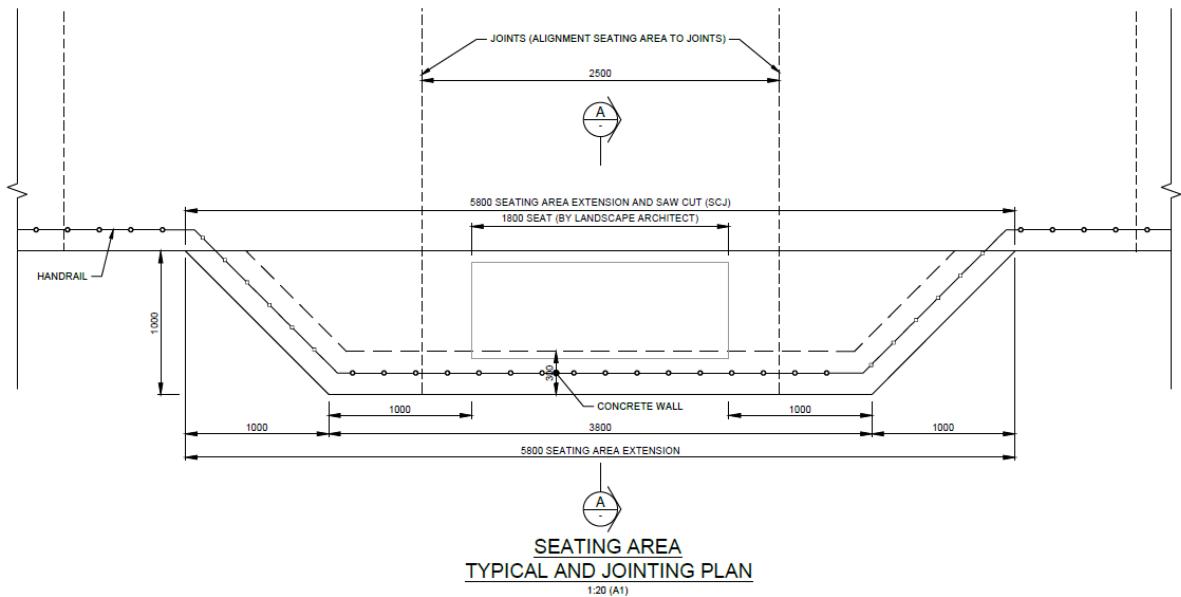


Figure 23: Seating Plan

3.7.12 Request for shade structures along the breakwall

Submissions:

- 3 submissions said they would like to see shade structures included in the design

Response:

The proposal's main objective is to maintain the structural integrity of the southern breakwall structure.

Additional amenities such as shade structures are for Council to consider. It is Council's responsibility to install and maintain such amenities with approval from Transport as the manager of maritime assets in the area.

Transport will forward this suggestion for Council's consideration.

3.7.13 Bins to be included in the design

Submissions:

- 3 submissions said there is a need for bins along the southern breakwall to help keep the area clean

Response:

The proposal's main objective is to maintain the structural integrity of the southern breakwall structure.

Additional amenities such as bins are for the Council to consider. It is Council's responsibility to install and maintain such amenities with approval from Transport as the manager of maritime assets in the area.

Transport will forward this suggestion for Council's consideration.

3.7.14 Pet amenities to be included in design

Submissions:

- 2 submissions requested that water dishes for dogs and doggie bags be included

Response:

The proposal main objective is to maintain the structural integrity of the southern breakwall structure.

Additional amenities such as the provision of pet amenities are for the Council to consider. It is Council's responsibility to install and maintain such amenities with approval from Transport for NSW as the manager of maritime assets in the area.

Transport will forward this suggestion for Council's consideration.



3.8 Construction impacts

This section has grouped together feedback that refers to construction impacts of the proposal.

3.8.1 Impact from the closure of the southern breakwall during construction

Submissions:

- 5 submissions expressed concerns about the impact of closing the breakwall for construction on tourism and businesses, including the NRMA Holiday Park, particularly following the impacts from COVID.
- 1 submission suggested starting construction outside the peak tourist period, after February.
- 1 submission referred to the impact of the closure on the public.

Response:

The Port Macquarie southern breakwall was built over a period of 40 years with completion in 1939. The breakwall has served the community well for 83 years. This proposal is critical to ensure the longevity and structural integrity of the southern breakwall. It is important that this work is carried out.

There will be short-term impacts to the community and businesses during construction and closure of the southern breakwall. Work is expected to take about six months to complete, weather permitting.

As a result of community feedback, and in consultation with Council and Iron Man Australia Event organisers, main construction activities will not start until after the Iron Man event which occurs in early May 2023.

This also takes into consideration working outside of summer holidays and peak times such as Christmas and Easter.

Transport will work closely with directly impacted businesses such as the NRMA Holiday Park, the Council Kiosk Café, and the Little Shack to minimise impacts caused by construction, where reasonable and feasible.

3.8.2 Truck movements for transport of rock

Submissions:

- 4 submissions suggested the use of barges on water rather than trucks on roads to transport the rock.
- 1 submission suggested an alternative truck route from the stockpile site to minimise the amount of turning by trucks from Lake Road into John Fraser Place.

Response:

While Transport has used barges rather than trucks to transport rock for other projects, this method will not be used for the work on the southern breakwall for the following reasons:

- Cost - using barges would add a considerable cost to the project
- The location – barges would not be suitable because of the breakwall swell.
- Safety – because of this swell, barges are not the safest option for our workers.
- Delays – if barges were used, the unpredictable swell conditions could potentially cause delays in construction.

A detailed Traffic Management Plan will be developed once a construction contractor is engaged to deliver the work. The plan will focus on the safety of members of the community and our workers. In preparing this plan, consultation will be carried out with the Council stakeholder, this will include investigating suggested route changes.

More information will be made available to the community once the Traffic Management Plan is finalised and prior to work starting in mid-May 2023.

3.8.3 Stockpile site at John Fraser Place

Submissions:

- 4 submissions raised concerns about dust, noise, and road congestion impacts on the residential areas near the stockpile site at John Fraser Place
- 1 submission suggested delivery directly to the construction site instead of to the stockpile site to minimise double handling and impacts.

Response:

To ensure this critical maintenance project is delivered as soon as possible, Transport identified the need for early procurement for supply of rock, given the high demand for such material. Early supply of rock is also a precautionary measure to avoid major delays to the project.

With the work scheduled to start in May 2023, Transport needed to stockpile the rock now as it is available. It was determined that due to limited area at Town Beach this site was unsuitable for early stockpiling.

The stockpile site at John Fraser Place was chosen for its suitability, as it has been used as stockpile site before and it does not have any residential properties on that street access.

It is acknowledged that there will be some impacts of dust, noise and increase in truck movements while the rock is being brought into John Fraser Place. Delivery of rock to this site is expected to be

finished in December 2022. When construction starts in May 2023, trucks will transport the rock to the Town Beach site for a period of six months, weather permitting.

Transport's work at the stockpile site is being carried out in accordance with all environmental approvals. A Construction Environmental Management Plan has been developed with mitigations measures to minimise impacts on nearby residents.

Transport will continue to monitor and manage any impacts from the work. If you have any issues as result of this work, please contact the toll free line 1800 571 311.

3.8.4 Alban Place

Submissions:

- 1 submission suggested that the closed Town Beach car park will need a turnaround area, as caravans are often misdirected to Alban Place as a way to the NRMA Holiday Park.
- 1 submission expressed the view that Alban Place is in poor condition which truck movements will exacerbate and which will accelerate the need for pavement repairs.

Response:

Transport acknowledges the difficulty for caravans and/or trucks attempting to turnaround in the Town Beach car park area and are being mistakenly directed to Alban Place to access the NRMA Holiday Park.

The suggestion of a turn-around area will be considered as part of the Traffic Management Plan.

Prior to work starting on site, Transport will carry out a dilapidation report on the current condition of Council roads being used as part of the proposal. Once the work is finished the roads will be reassessed and returned to Council in the same condition that it was prior to the work starting. We will continue to work with Council in relation to their road assets.

4. Changes to the proposal

As a result of community feedback during the submission period and the display of both the draft REF and the concept design, Transport has incorporated the following changes to the proposal.

Committed		More replacement planting	Committed		Informal safety stairs in breakwall	Available now		Additional assessment information
Committed		Solar bollard lighting	Investigate		Improve shared path safety	Committed		Work to start in May 2023

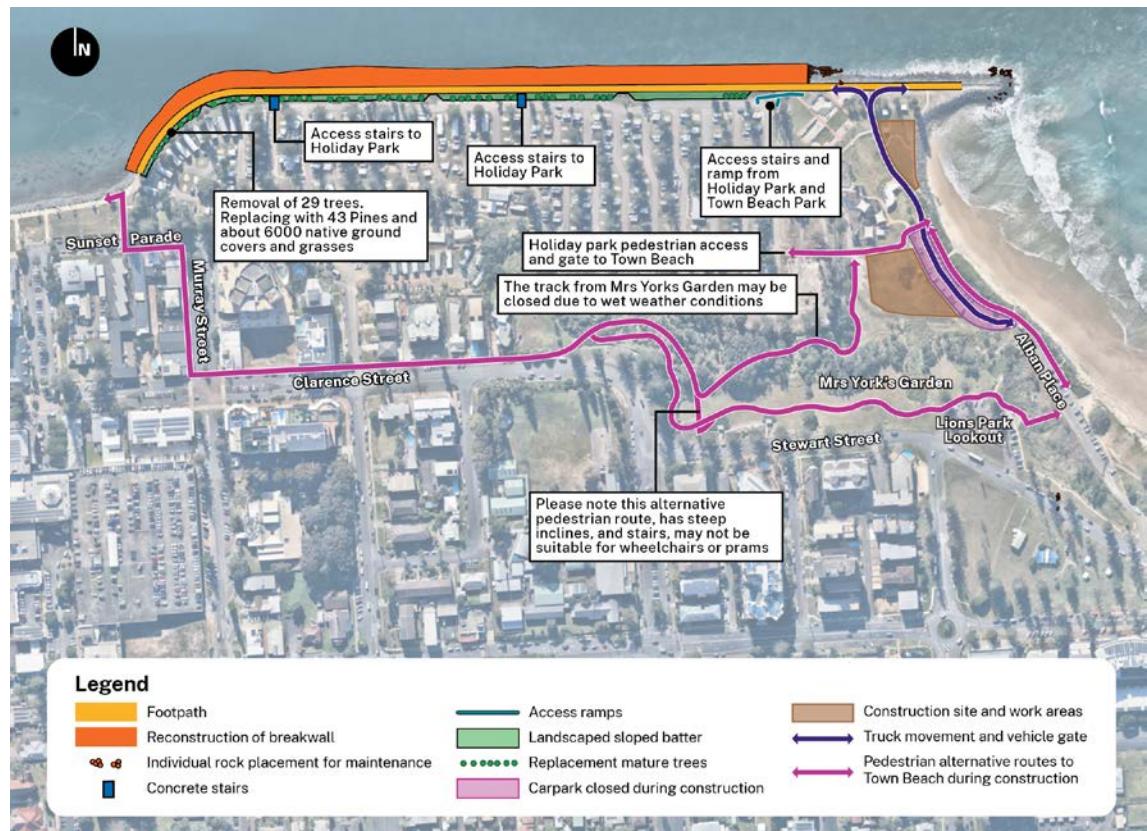


Figure 24: The proposal map has been updated to reflect the Landscape Plan

5. Additional information or assessments

The purpose of this chapter is to document the outcomes of any information or additional assessments that were not included in the original display of the Draft REF.

The following document will be available for the community to view online as part of the Community Submission Report and as part of the finalisation of the Review of Environmental Factors (REF):

- Design Report which includes:
 - Trees Impact Assessment
 - Landscape Plan
 - Updated detailed design drawings
 - Safety in Design Report
- Updated 3D artistic impression of the completed project.



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