



EXTRAORDINARY MEETING OF COUNCIL

To be held at 5pm on

Tuesday 26 March 2019

Council Chambers

11 Manning Street, KIAMA NSW 2533

Order of Business

- 1 Apologies
- 2 Acknowledgement of Traditional owners
- 3 Report of the Director Engineering and Works
- 4 Closure

Members

His Worship the Mayor
Councillor M Honey
Councillor A Sloan
Deputy Mayor
Councillor M Brown
Councillor N Reilly
Councillor K Rice
Councillor W Steel
Councillor D Watson
Councillor M Way
Councillor M Westhoff

COUNCIL OF THE MUNICIPALITY OF KIAMA

Council Chambers
11 Manning Street
KIAMA NSW 2533

20 March 2019

To the Chairman and Councillors:

NOTICE OF EXTRAORDINARY MEETING

You are respectfully requested to attend an **Extraordinary Meeting** of the Council of Kiama, to be held in the **Council Chambers, 11 Manning Street, KIAMA NSW 2533** on **Tuesday 26 March 2019** commencing at **5pm** for the consideration of the undermentioned business.

Yours faithfully



Kerry McMurray
General Manager

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**AGENDA FOR THE
EXTRAORDINARY MEETING OF KIAMA MUNICIPAL COUNCIL
TUESDAY 26 MARCH 2019**

1 APOLOGIES

2 ACKNOWLEDGEMENT OF TRADITIONAL OWNERS

“On behalf of those present, I would like to show my respect and acknowledge the traditional owners of the Land, of Elders past and present, on which this meeting takes place, and extend that respect to other Aboriginal and Torres Strait Islander people present.”

3 REPORT OF THE DIRECTOR ENGINEERING AND WORKS

3.1 Consideration of the outcomes of the public exhibition of Review of Environmental Factors (REF) 1 and REF 2 for the Minnamurra Boardwalk Proposal

CSP Objective: 2.0 Well planned and managed spaces, places and environment

CSP Strategy: 2.3 The principles of sustainable development and compliance underpin town planning and local development

Delivery Program: 2.3.1 Conduct development and building assessment/approval functions in accordance with statutory requirements, policies and procedures

Summary

This report provides Council, in its role as the determining authority, an evaluation of REF 1 and REF 2, including submissions, so that it can make an informed decision as to whether the proposal to build a 1.6 kilometre long boardwalk in and adjacent to the Minnamurra River will cause significant impacts.

Finance

Council at this time, have not committed to construction of the boardwalk. Grant funding for the proposal has funded the preparation of both REF's to date. If the REF's are not accepted, an Environmental Impact Statement (EIS) by an external consultant will need to be prepared. The additional cost of the EIS will only be known after a quotation process.

Communication/Community Engagement

Required: Recommended in State Government Guidelines

Notification Period: REF 1 - 17 December to 21 January 2019.

REF 2 - 15 February 2019 to 15 March 2019.

Submissions: REF 1 – 18 submissions of which 10 listed concerns

REF 2 – 16 submissions of which 15 listed concerns

Attachments

- 1 Minnamurra River Boardwalk Proposal - Review of Environmental Factors Stage 1 and Stage 2 - Internal Evaluation Report [u](#)

Enclosures

Nil

Report of the Director Engineering and Works

- 3.1 Consideration of the outcomes of the public exhibition of Review of Environmental Factors (REF) 1 and REF 2 for the Minnamurra Boardwalk Proposal (cont)
-

RECOMMENDATION

That:

1. Council, in its role as the Determining Authority, accepts both Review of Environmental Factors assessment for Stages 1 and 2 that indicate that the proposal to build a 1.6 kilometre long boardwalk in and adjacent to the Minnamurra River, will not cause significant impacts.
2. If Council resolve to proceed with construction of the boardwalk proposal in future, that the construction may proceed pursuant to Part 5 of the *Environmental Planning and Assessment Act, 1979*, subject to the implementation of the mitigation measures outlined in Appendix A of Attachment 1.

BACKGROUND

Council has committed to investigate the construction a 1.6 kilometre long shared path along the Minnamurra River, adjacent to Riverside Drive, Minnamurra. The overall project consists of two stages. Stage 1 is the northern part of the route and is constructed on land and Stage 2 is the southern part of the route and mostly constructed over water. Separate Reviews of Environmental Factors (REF) with supporting documentation have been prepared for Stage 1 (REF1) and Stage 2 (REF2). Plans showing the extent of each stage and typical cross-sections at different locations can be found in Section 2 of Attachment 1 to this report.

A site investigation was undertaken and photographs from the investigation are located in Section 3 of Attachment 1 to this report. No concerns were raised during or after the site investigation.

As various pieces of legislation apply to the proposal, a review of compliance with the legislation is located in Section 5 of Attachment 1 to this report. It was found that the proposal complies with all legislative requirements.

Stakeholder consultation was undertaken and there have been no objections from any NSW Government Departments. Details regarding consultation can be found in Section 7 of Attachment 1 to this report.

The public notification of the REF's resulted in 18 submissions for REF 1 and 16 submissions for REF 2. REF 1 received 10 objections and REF 2 received 15 objections. Five objectors lodged an objection to both REF's. The submissions were reviewed and no matters raised by objectors warrant any further investigation. An issue, which was raised during REF 1, which related to the absence of an Arborist report and the misidentification of trees, has now been satisfactorily addressed in REF 2. For this reason REF 1 and REF 2 were assessed concurrently. The matters that were raised by the objectors and responses can be found in Section 8 of Attachment 1 to this report

Under Part 5 of the Environmental Planning and Assessment Act 1979, Council is deemed as the Determining Authority for this proposal. Clause 228 of the Environmental Planning and Assessment Regulation 2000, sets out in detail some of

Report of the Director Engineering and Works

3.1 Consideration of the outcomes of the public exhibition of Review of Environmental Factors (REF) 1 and REF 2 for the Minnamurra Boardwalk Proposal (cont)

the factors which must be taken into account when a Determining Authority is considering what the likely impacts on the environment are. A Clause 228 summary which demonstrates that the proposal causes no significant impacts to the environment has been included in Section 9 of Attachment 1 to this report.

It is concluded that both REF's satisfactorily demonstrate that the proposal causes no significant impacts to the environment, hence no EIS is required as per the legislation. On this basis, the Determining Authority may approve the activity to proceed, pursuant to the requirements of Part 5 of the Environmental Planning and Assessment Act 1979, subject to the implementation of the mitigation measures as outlined in Appendix A of Attachment 1 to this report.

Item 3.1

**Minnamurra River Boardwalk Proposal
Review of Environmental Factors 1
Review of Environmental Factors 2
Internal Evaluation Report**

Evaluation by Mark Biondich
*Master of Environmental & Business Management
Graduate Diploma in Urban and Regional Planning
Associate Diploma of Engineering*

19th March 2019

Executive Summary

Council has committed, at this time, to construct a 1.6 kilometre long shared path along the Minnamurra River, adjacent to Riverside Drive, Minnamurra. The overall project consists of two stages. Stage 1 is the northern part of the route and is constructed on land and Stage 2 is the southern part of the route and mostly constructed over water. Separate Reviews of Environmental Factors (REF) with supporting documentation have been prepared for Stage 1 (REF1) and Stage 2 (REF2). Plans showing the extent of each stage and typical cross-sections at different locations can be found in Section 2 of this report.

A site investigation was undertaken on 12 March 2019 and photographs from the investigation are located in Section 3 of this report. No concerns were raised during or after the site investigation.

There are many pieces of legislation that apply to the proposal. A review of compliance with the legislation is located in Section 5 of this report. It was found that the proposal complies with all legislative requirements.

Consultation was undertaken and there have been no objections from any NSW Government Departments. Details regarding consultation can be found in Section 7 of this report.

The notification of the REF's resulted in 18 submissions for REF 1 and 11 submissions for REF 2. REF 1 received 10 objections and REF 2 received 15 objections. Five people lodged an objection to both REF's. The submissions were reviewed and no matters raised by objectors warrant any further investigation. An issue which was raised during REF 1 which related to the absence of an Arborist report and the misidentification of trees has now been satisfactorily addressed in REF 2. For this reason REF 1 and REF 2 were assessed at the same time. The matters that were raised by the objectors and responses can be found in Section 8 of this report.

Council is the determining authority for this proposal and Clause 228 of the Environmental Planning and Assessment Regulation 2000 sets out in detail factors which must be taken into account when determining authorities are considering what the likely impacts on the environment are. A Clause 228 summary which demonstrates that the proposal causes no significant impacts to the environment has been included in Section 9 of this report.

It is concluded that both REF's are satisfactory and the proposal can proceed in accordance with the mitigation measure in Appendix A of this report and pursuant to the requirements of Part 5 of the EP&A Act.

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Item 3.1

Attachment 1

1 Introduction

The purpose of this evaluation is to:

- Outline the proposal;
- Explain the approval process;
- Assess if legislation has been complied with;
- Report on a site investigation;
- Assess the environmental impacts; and
- Assess whether Review of Environmental Factors 1 and 2 will cause a significant impact to the environment.

This evaluation does not comment on:

- Reasons for undertaking the proposal;
- Alternative locations for the proposal;
- Adequacy of public notification processes;
- Timings for reporting to Council; and
- Costing's for the preparation of documents, further design, construction and on-going maintenance

as these are all matters which are considered irrelevant to this evaluation.

2 Proposal

Council has committed, at this time, to construct a 1.6 kilometre long shared path along the Minnamurra River, adjacent to Riverside Drive, Minnamurra. This project is known as the Minnamurra River Boardwalk Project. The shared path will extend from Trevethan Reserve in the north to Duguid Way in the south. **Figure 1** (below) indicates the project study area.

The overall project consists of two stages. Stage 1 is the northern part of the route and is constructed on land and Stage 2 is the southern part of the route and mostly constructed over water. Separate Reviews of Environmental Factors (REF) with supporting documentation have been prepared for Stage 1 and Stage 2. REF 1 relates to proposed works within Stage 1 and REF 2 relates to proposed works within Stage 2. **Figure 2 and Figure 3** (below) indicates the staging boundaries.

Stage 1 works will consist of a 2.5 metre wide reinforced concrete shared pathway, with raised boardwalk areas where tree roots are likely to be impacted upon (see **Photo 15** below for location). At the southern extent of Stage 1, a viewing platform is proposed which will provide a destination point until Stage 2 is completed. Some trees and vegetation removal will be required. Excavation behind existing guardrails and construction of gabion (rock filled wire basket) walls will be necessary (see **Photograph 10** and **Photograph 11** below for location and see **Figure 5** and **Figure 6** below for typical details).

Prior to construction of the shared pathway, existing stacked rock retaining walls will need to be re-constructed where they have failed (see **Photograph 3** and **Photograph 4** below for location and see **Figure 4** for location).

Discrete lighting may be provided for safe passage at night-time. This would need to ensure that there are no impacts on habitat with light spillage. Users will be protected from motor

vehicles through the installation of guardrails and any significant drop-offs will be provided with handrails and fencing.

Stage 2 works start from the proposed viewing platform at the southern extent of Stage 1. A 2.5 metre wide concrete shared pathway is provided at ground level. As this verge width narrows down (see **Photograph 18** below for location), a gabion basket retaining wall is proposed to be built to accommodate the width of the pathway (see **Figure 8** below for typical details). The length of the wall will be approximately 100 metres before the pathway transitions to the open water section. Pruning of vegetation will be required in the transition zone (see **Photograph 22** and **Photograph 23** below for location). The over water structure (see **Figure 9** below for typical details) will be up to four metres wide to provide for a 2.5 metre wide deck clear of (cycling compliant) handrails and fencing. The deck is to be constructed above the high tide level, supported by steel piles driven to an approximate depth of 10 metres and at (maximum) 14 metre spacing's. The deck will consist of light penetrating (up to 42%) fibre reinforced polymer mesh to enable sea grasses beds not to be impacted upon. The open water section will allow for viewing platforms and localised widening, should this be seen as being beneficial. The alignment of the open water section will follow the eastern riverbank and meander clear of seagrass. At the southern extent of the overwater section the boardwalk transitions back to the shoreline (see **Photograph 26** and **Photograph 27** below). An elevated kayak ramp using light penetrating mesh is proposed at the shoreline. An on ground four metre wide concrete shared pathway (see **Figure 9** below for typical details) linking up the existing cycleway at the end of Duguid Way (see **Photograph 29** below) will accommodate pedestrians, cyclists and the transporting of kayaks to the shoreline.

Please note that **Figure 4** to **Figure 9** (inclusive) show typical cross-sections throughout the route(sourced from both REF 1 and REF 2) and have been provided for information purposes only as site constraints (e.g. tree retention and protection) will need to be taken into consideration during design stages.



Figure 1 – Project Study Area and Staging Boundaries

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Attachment 1

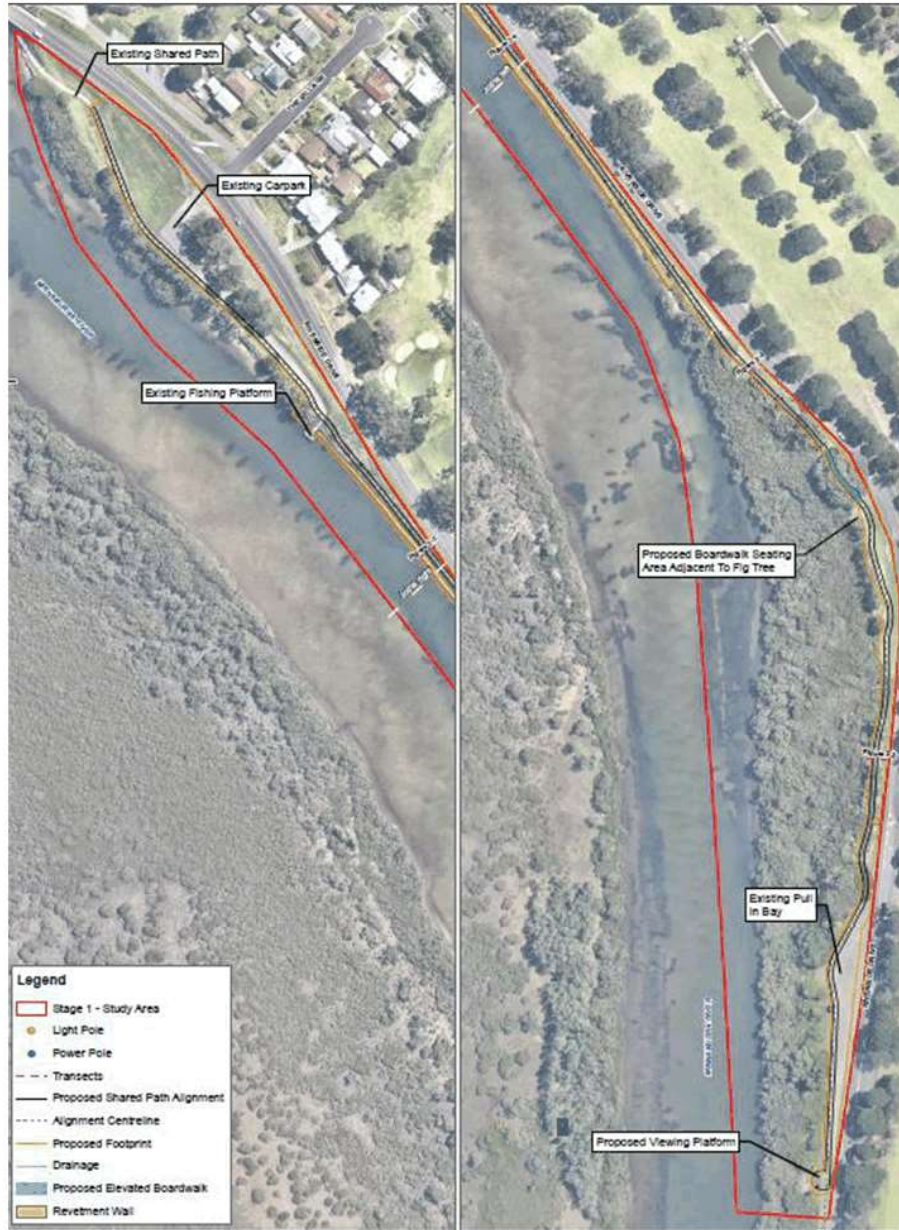


Figure 2 – Extent of Stage 1 works

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Attachment 1

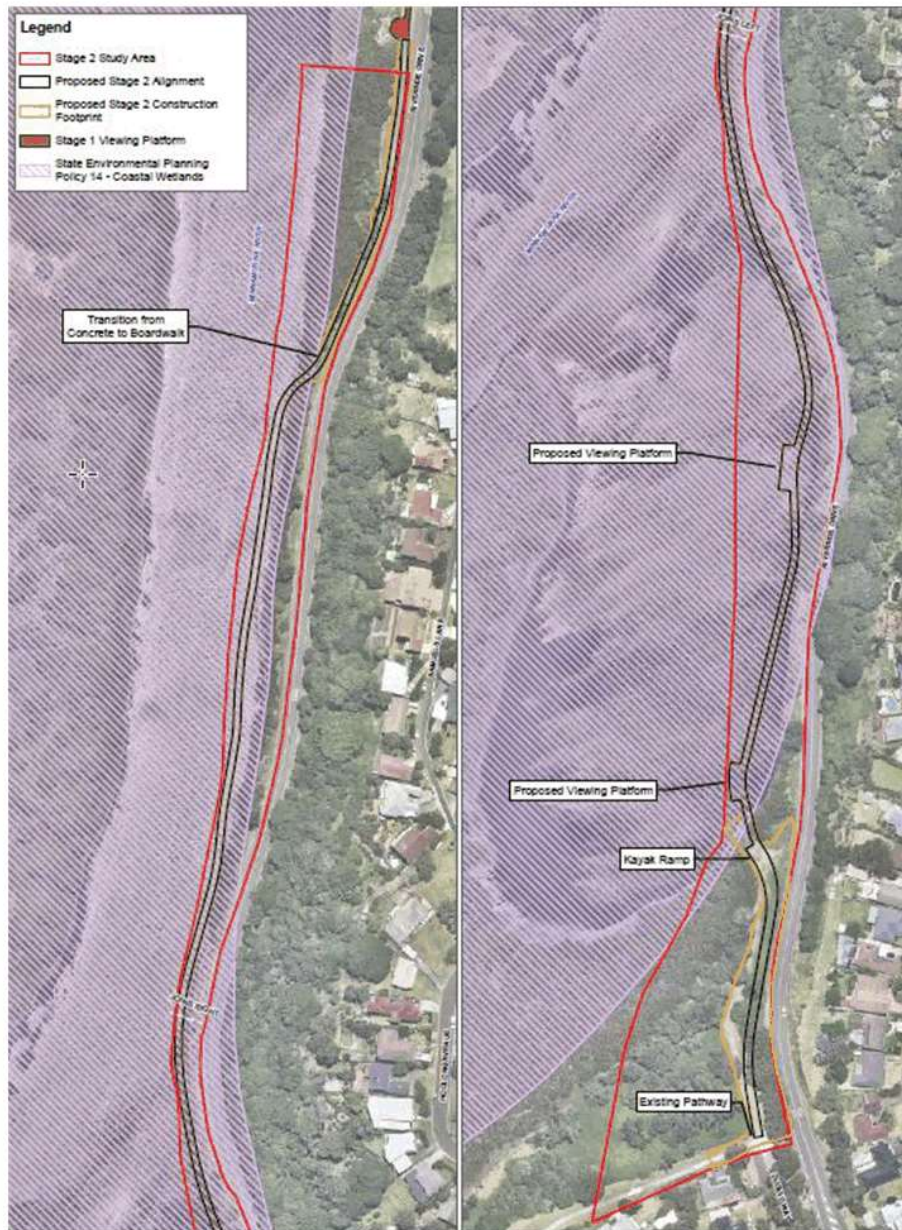


Figure 3 – Extent of Stage 2 works

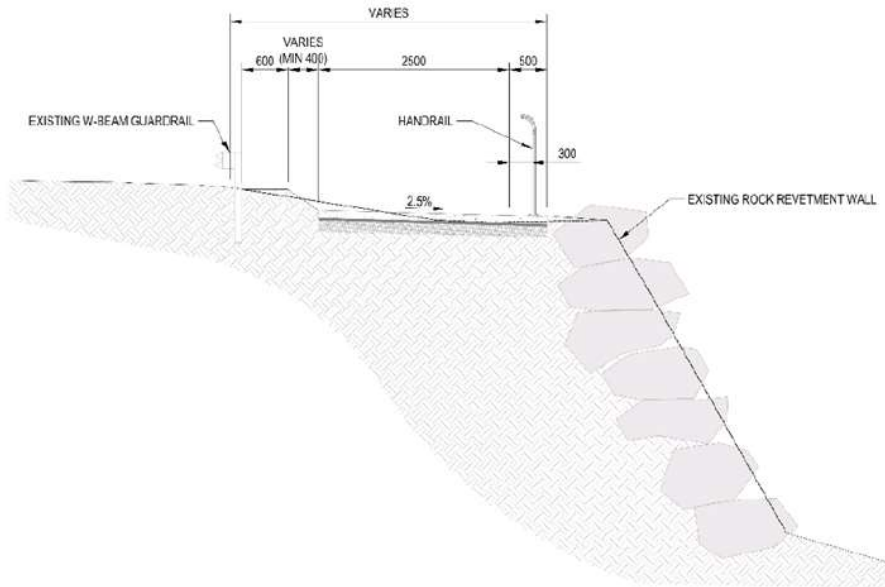


Figure 4 – Typical cross-section in vicinity of existing stacked rock wall (from bridge to fishing platform)

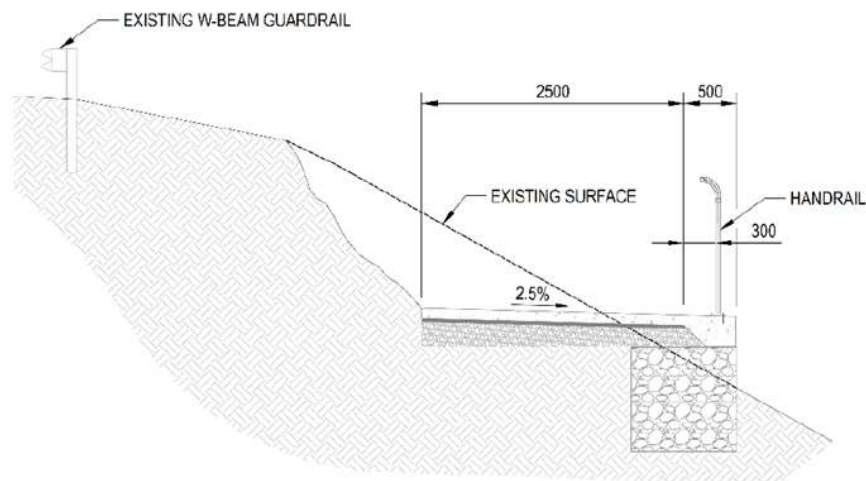


Figure 5 – Typical cross-section where there is no verge behind guardrail (from fishing platform to southern extent of Stage 1 works)

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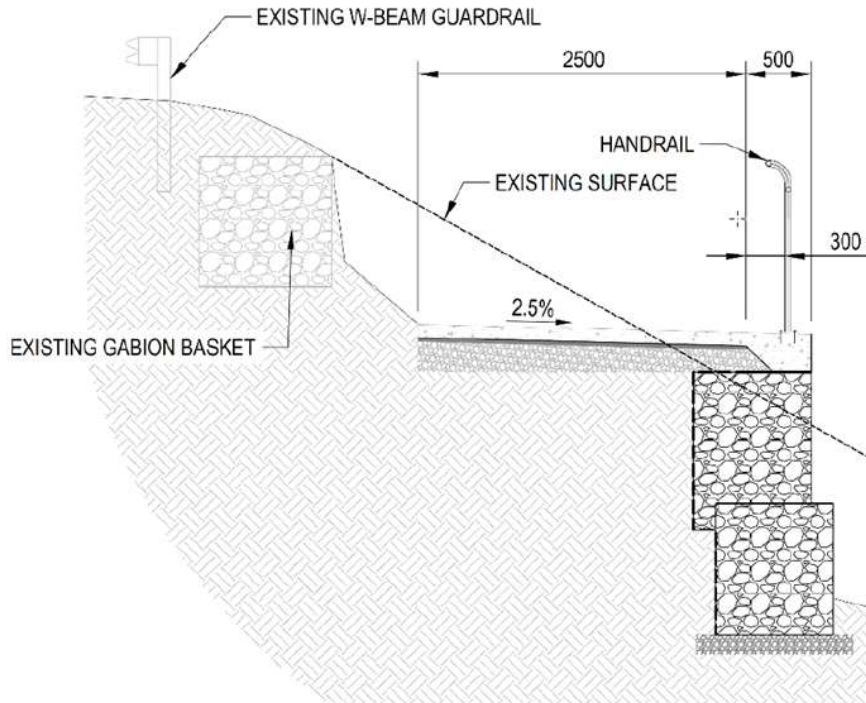


Figure 6 – Typical cross-section where there is no verge and existing wall behind guardrail (from fishing platform to southern extent of Stage 1 works)

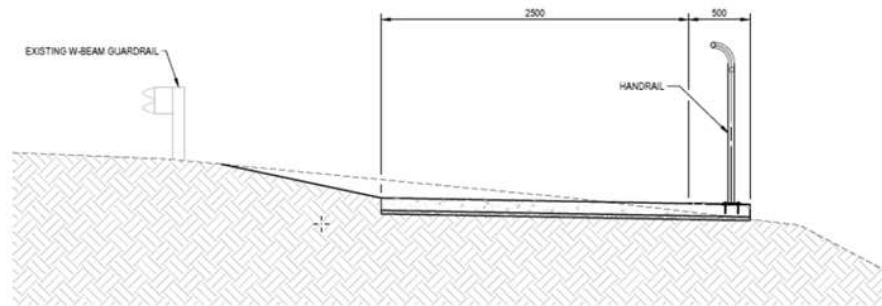


Figure 7 – Typical cross-section where there is a verge behind guardrail (from northern extent of Stage 2 works to southern boundary of golf course)

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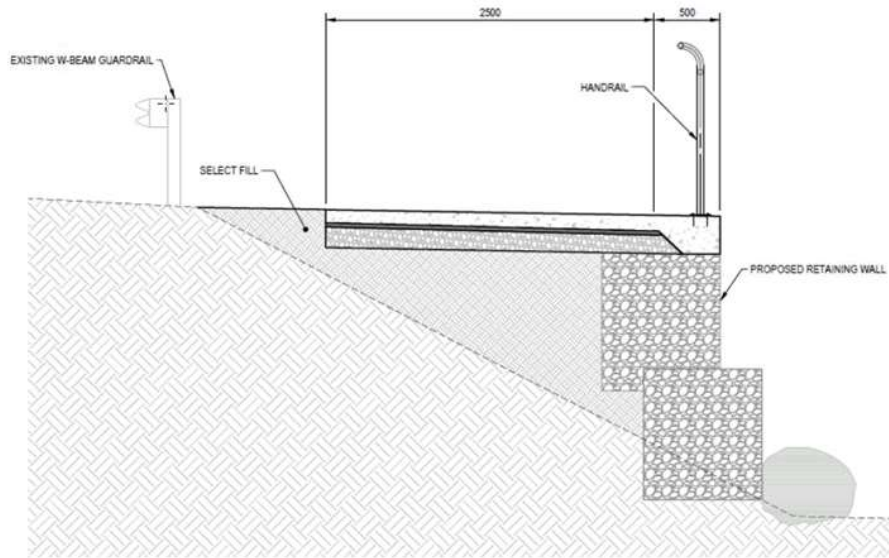


Figure 8 – Typical cross-section where there is no verge behind guardrail (from southern boundary of golf course to start of overwater section)

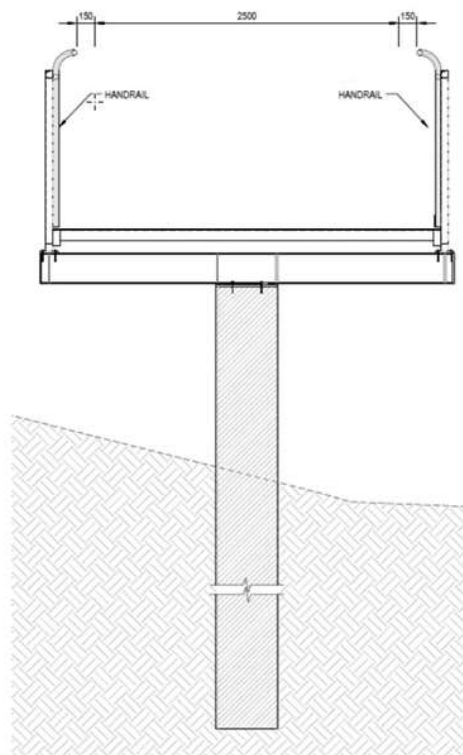


Figure 9 – Typical cross-section of overwater section

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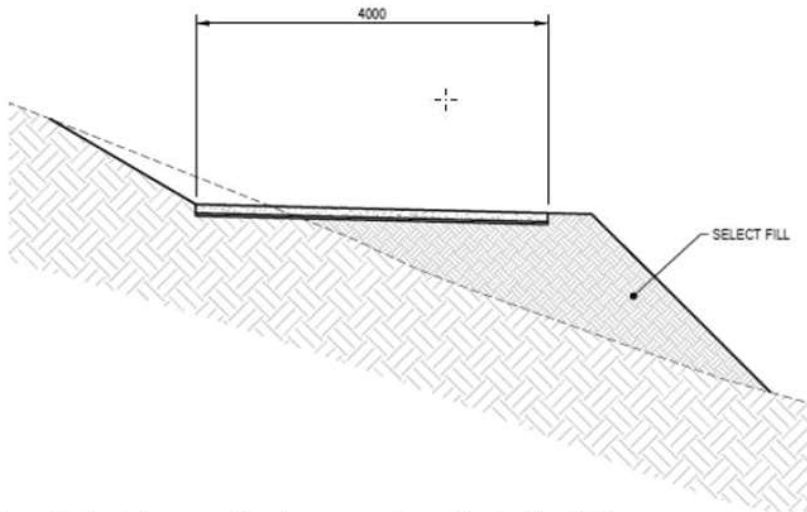


Figure 9 – Typical cross-section from overwater section to Duguid Way

3 Site Investigation

A site inspection was undertaken between 8:00 a.m. and 9:30 a.m. on 12 March 2019. Photographs taken at the time and comments have been included below.



Photograph 1

Photograph 1 shows the car park and rest stop 160 metres north of Minnamurra Bridge.



Photograph 2

Photograph 2 shows the car park and boat ramp at Trevethan Reserve.



Photograph 3

Photograph 3 shows failing stacked rock wall, between Minnamurra River Bridge and existing fishing platform.



Photograph 4

Photograph 4 shows another location of failing stacked rock wall, between Minnamurra River Bridge and existing fishing platform.



Photograph 5

Photograph 5 shows the sealed car park in the vicinity of the fishing platform.



Photograph 6

Photograph 6 shows location near fishing platform where storm water collected from Riverside Drive is disposed of into Minnamurra River.



Photograph 7

Photograph 7 shows remnants of previously sealed road in vicinity of car park near fishing platform.



Photograph 8

Photograph 8 shows the fishing platform



Photograph 9

Photograph 9 shows concrete stairs to existing fishing platform which has failed due to bank de-stabilisation.



Photograph 10

Photograph 10 is taken on Riverside Drive looking south opposite the northern boundary of the golf course.



Photograph 11

Photograph 11 is taken on Riverside Drive looking north, between Federal Avenue and northern boundary of golf course.



Photograph 12

Photograph 12 is taken on Riverside Drive adjacent to the golf course, between Federal Avenue and northern boundary of golf course and shows a storm water inlet



Photograph 13

Photograph 13 is taken on Riverside Drive looking north, between Federal Avenue and northern boundary of golf course.



Photograph 14

Photograph 14 is taken on Riverside Drive looking south, at bend in road between Federal Avenue and northern boundary of golf course.



Photograph 15

Photograph 15 is taken on Riverside Drive looking south, at bend in road between Federal Avenue and northern boundary of golf course and shows a mature Fig tree

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Photograph 16

Photograph 16 is taken on Riverside Drive looking south, at the intersection with Federal Avenue.



Photograph 17

Photograph 17 shows weed infestations and rubbish in the riparian zone

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Photograph 18

Photograph 18 shows the northern extent of the Minnamurra bends, looking south.



Photograph 19

Photograph 19 shows Riverside Drive looking south approximately halfway between the northern extent of the bends and the start of the overwater section of the boardwalk.

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Photograph 20

Photograph 20 shows a storm water outlet from the pipe drainage system from Golfers Parade.



Photograph 21

Photograph 21 shows a navigation marker halfway along the bends.

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Photograph 22

Photograph 22 shows the vegetation where the boardwalk will be constructed overwater.



Photograph 23

Photograph 23 shows a view looking west at the proposed point where the boardwalk will be constructed overwater.



Photograph 24

Photograph 24 shows the southern extent of the Minnamurra bends



Photograph 25

Photograph 25 shows the Minnamurra River at its southern extent, looking north



Photograph 26

Photograph 26 shows the Minnamurra River at the shoreline of its most southern extent



Photograph 27

Photograph 27 shows a view to the Minnamurra River at its most southern shoreline looking north

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Photograph 28

Photograph 28 shows a view looking south along a mown pathway approximately 100meters to Duguid Way.



Photograph 29

Photograph 29 shows a view looking from the cul-de-sac at Duguid Way.

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Attachment 1

4 Approval Process

Activities to be undertaken by the Minister or a public authority (including a council) that do not require consent and which are not exempt fall under Part 5 of the *Environmental Planning and Assessment Act, 1979*, as amended. Part 5 of the Act sets out the environmental impact assessment requirements for a determining authority.

Establishing that the proposal is an activity under Part 5 of the Act requires consideration of a number of related pieces of legislation:

- State Environmental Planning Policy (Infrastructure) 2007 (clause 65(3)) allows development including pedestrian pathways, cycleways and viewing platforms to be carried out by Council on a public reserve without consent.
- State Environmental Planning Policy (Coastal Management) 2018 (clause 10) states that certain development of the nature of the proposed activity on land identified as coastal wetlands requires consent under Part 4 of the Act. However, under clause 21(2) savings provisions, clause 10 does not apply for those Part 5 assessments that commenced prior to 3 April 2018 and that are determined before 3 April 2018.
- State Environmental Planning Policy No. 14 – Coastal Wetlands applies during the savings provision period of State Environmental Planning Policy (Coastal Management) 2018 and does not require consent for the proposed activity.
- Kiama Local Environmental Plan 2011 (LEP) identifies environmental facilities as permissible with consent (under Part 4 of the Act) in the E2 zone; however, the LEP is overridden by the operation of SEPP's outlined above.

The proposed activity is infrastructure to be carried out by Council on a public reserve for which the Part 5 assessment had commenced prior to 3 April 2018. Therefore, the proposed activity is an activity under Part 5 of the Act. Council is the determining authority for the proposed activity. Section 5.5 of the Act sets out the duty of a determining authority to consider the environment impact of an activity, which includes under section 5.5(1) the requirement to *examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity*.

Clause 228 of the Environmental Planning and Assessment Regulation 2000 sets out the factors that must be taken into account concerning the impact of an activity on the environment. The document that compiles the assessment of factors listed under cl 228 is frequently referred to as a Review of Environmental Factors (REF). A Clause 228 summary has been included in this report in Section 9.

The NSW Government provides a guideline (ESG2 : Guideline for Preparing a Review of Environmental Factors) for how a REF is to be prepared and what it is to include. The Guideline is not considered to constitute legal or regulatory advice, which is provided for by the operation of the Act, Regulation and other statutory instruments. The Guideline sets out a consultation process, which for this proposed activity includes:

- NSW Office of Environment and Heritage;
- Other government agencies

- Local Aboriginal community; and
- The community

Below is a direct quote from the guideline as to whether a REF or an EIS is required for the proposal

If, in reviewing the REF, the Government decision-maker forms the opinion that the activity is likely to significantly affect the environment, an EIS must be prepared (section 5.7(1) of the EP&A Act). The purpose of an EIS is to provide a thorough public examination of a proposed activity that is likely to have a significant impact on the environment, and to inform a decision as to whether that activity should proceed.

In many cases, the scale of the activity may be such that the title holder will know from the outset that an EIS is required and will operate on that basis from the outset. For some activities, however, it may be the case that the significance of impacts becomes apparent only after some assessment has taken place (such as a REF)

5 Legislative Review

The legislation in **Table 1** below applies to the entire proposal. Comments on compliance have been included in the table.

Table 1 – Applicable Legislation

Legislation	Comment
<i>Environmental Planning & Assessment Act 1979 (EP & A Act)</i>	The <i>EP & A Act</i> and the <i>Environmental Planning and Assessment Regulation 2000 (EP & A Regulation)</i> set out statutory planning requirements for environmental assessment and approvals.
<i>State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)</i>	<i>ISEPP</i> facilitates the effective delivery of infrastructure across the State.
Kiama Local Environmental Plan 2011 (LEP)	The LEP zones the land as E2 Environmental Conservation. <i>Environmental facilities</i> (by definition a building or place that provides for the recreation use or scientific study of natural systems such as walking tracks, seating, shared paths, observation decks, and associate display structures) is permissible with consent within the E2 zone. The proposed development is subject to Clause 65(3) of <i>ISEPP</i> and development consent is not required. The relevant clauses of the LEP have been complied with.

<p><i>State Environmental Planning Policy No.14 - Coastal Wetlands (SEPP14)</i></p> <p><i>State Environmental Planning Policy (Coastal Management) 2018 (Coastal SEPP)</i></p> <p><i>Coastal Management Act 2016 (CM Act)</i></p>	<p>The introduction of the <i>Coastal Management Act 2016 (CM Act)</i> and the Coastal SEPP as the new coastal management framework for NSW has repealed the <i>Coastal Protection Act 1979</i> and SEPP 14.</p> <p>The proposal is located within a ‘coastal wetland’ as defined by the Coastal SEPP. Clause 10 of the SEPP outlines the legislative requirements for land within the coastal wetland area. Clause 10(2) declares the proposal to be designated development (pursuant to requirements of <i>EP & A Act 1979</i>) and an Environmental Impact Statement (EIS) would be required. However, transitional arrangements are currently in place, as described in Clause 21 of the Coastal SEPP that revert development controls back to the repealed SEPP 14, subject to meeting certain requirements, thus negating the need for an EIS.</p> <p>Clause 10 of the Coastal SEPP does not apply if the project complies with the transitional provisions of Clause 21, which are :</p> <ol style="list-style-type: none"> 1. Any approval required is granted under Part 5 of the Act within 12 months after that commencement, and 2. Any environmental impact assessment that is required had commenced before the commencement of this Policy. <p>In response to item 1, the determining authority will need to issue their approval before 3 April 2019 in order to comply with the requirements of the current legislation.</p> <p>In response to item 2, a conceptual design report commissioned by Council and received from Niche Environment and Heritage (Niche) in July 2017 addressed environmental constraints and geotechnical constraints Council has obtained legal advice that item 2 has been met through the report by Niche.</p> <p>The REF’s have responded to all legislative requirements and nothing in the legislation precludes approval of the proposal.</p>
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<p><i>Environment Protection & Biodiversity Conservation Act 1999 (EPBC Act)</i></p> <p><i>Biodiversity Conservation Act 2016 (BC Act)</i></p> <p><i>Fisheries Management Act 1994 (FM Act)</i></p>	<p>The <i>EPBC Act</i> is the relevant Commonwealth environment and heritage legislation. The <i>EPBC Act</i> identifies Matters of National Environmental Significance (MNES) that trigger a referral to the Commonwealth Government. The <i>EPBC Act</i> requires approval from the Department of the Environment and Energy for any action that has, will have or is likely to have a significant impact on the listed matters of MNES, which are:</p> <ul style="list-style-type: none"> ○ World Heritage properties ○ National Heritage places ○ Wetlands of international importance (listed under the Ramsar Convention) ○ Great Barrier Reef Marine Park ○ Commonwealth Marine Park ○ Listed threatened species and ecological communities ○ Migratory species protected under international agreements ○ Nuclear actions (including uranium mining) ○ A water resource, in relation to coal seam gas development and large coal mining development. <p>The <i>BC Act</i> describes the requirements for determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities or their habitats.</p> <p>The <i>FM Act</i> and the associated Fisheries Management Regulations set out provisions to protect marine vegetation (such as saltmarshes, mangroves, seagrass and seaweeds whether alive or dead) from ‘harm’ on public water land below the astronomical high tide mark or the foreshore of such land.</p> <p>The REF’s have responded to all legislative requirements and nothing in the legislation precludes approval of the proposal.</p>
<p><i>Crown Land Management Act 2016 (CLM Act)</i></p> <p><i>Native Title (New South Wales) Act 1994 (NT Act)</i></p> <p><i>Aboriginal Land Rights Act 1983 (ALR Act)</i></p>	<p>The CLM Act provides for the management of Crown lands for environmental protection, natural resource conservation, and public use and enjoyment.</p> <p>The activity is proposed on Crown land, which Council has care and control over; however, landowners consent and licensing will be required prior to any commencement of physical works.</p>

	<p>The <i>NT Act</i> is a Commonwealth Act that provides a process to determine where native title exists, how future activity impacting upon native title may be undertaken, and provides compensation where native title is impaired or extinguished.</p> <p>The <i>ALR Act</i> enables Local Aboriginal Land Councils (LALC) to claim Crown Land, owned and managed by the State government.</p> <p>The REF's have responded to all legislative requirements and nothing in the legislation precludes approval of the proposal.</p>
<p><i>National Parks and Wildlife Act 1974 (NPW Act)</i></p> <p><i>Heritage Act 1997</i></p>	<p>The <i>NPW Act</i> is administered by the NSW Office of Environment and Heritage (OEH) and controls activities carried out in Aboriginal heritage areas. The <i>NPW Act</i> also requires consideration of impacts to all native birds, reptiles, amphibians and mammals protected under the Act.</p> <p><i>The Heritage Act</i> is concerned with all aspects of the conservation of heritage places and provides protection for non-Aboriginal historic artefacts and/or sites.</p> <p>The REF's have responded to all legislative requirements and nothing in the legislation precludes approval of the proposal.</p>
<p><i>Protection of Environmental Operations Act 1997 (POEO Act)</i></p> <p><i>Contaminated Land Management Act 1997 (CLM act)</i></p>	<p>The <i>POEO Act</i> regulates and controls pollution of land, air, water, and noise and provides for environment protection licenses, notices and offences.</p> <p>The <i>CLM Act</i> establishes a process for investigating, managing and remediating contaminated land.</p> <p>The REF's have responded to all legislative requirements and nothing in the legislation precludes approval of the proposal.</p>
<p><i>Rural Fires Act 1997 (RF Act)</i></p>	<p>The <i>RF Act</i> is administered by the NSW Rural Fire Service and aims to protect persons from injury, death and property arising from fires, along with the management, protection and coordination of other activities relating to fires, risk of fire and prevention of fires.</p> <p>The REF's have responded to all legislative requirements and nothing in the legislation precludes approval of the</p>

	proposal.
<i>Water Management Act</i>	<p>The <i>Water Management Act</i> provides that certain types of development and activities carried out within 40metres of a river lake or estuary are controlled activities.</p> <p>As a public authority Council is exempt from the need to obtain a controlled activity approval.</p>
<i>Roads Act 1993</i>	<p>The <i>Roads Act 1993</i> provides for the classification of roads, and establishes the jurisdiction of roads. Section 138 set outs requirements for working in a road.</p> <p>Any use or closure of public roads by contractors will require a Road Occupation Permit to be issued by Council, as the Local Roads Authority, prior to construction.</p>
<i>Marine Safety Act 1998 (MS Act)</i>	<p>The <i>MS Act</i> and <i>Marine Safety Regulation 2016</i> ensure the safe operation of vessels in waterways.</p> <p>The REF's have responded to all legislative requirements and nothing in the legislation precludes approval of the proposal.</p>
Coastal Zone Management Plan for the Minnamurra River Estuary (CZMP)	<p>The CZMP aims to protect and enhance the key values of the study area by increasing resilience of the coastal zone and addressing key threats through efficient, effective and timely management. The key values of the Minnamurra River Estuary relate to preservation of the natural character, maintenance of productive farmland and extractive industries, as well as highly valued passive recreational opportunities.</p> <p>The proposed works are are not inconsistent with the Management Plan in the CZMP.</p>

6 Potential Impact Evaluation

Table 2 (below) evaluates the potential impacts discussed in REF 1 and REF 2 against 21 separate heads of consideration.

Table 2 – Potential Impacts

Head of Consideration	Comment
Context and setting	<ul style="list-style-type: none"> • The proposal may adversely affect scenic qualities, character and features of the existing landscape. The proposal is currently only conceptual and will require a detailed design prior to construction. The detailed design of the overwater section can ensure that it is sympathetic with the natural environment by keeping the structure as open as possible and using earthy tones and natural materials where possible. • The proposal may affect some aquatic activities during construction. For safety reasons, the navigable channel may need to be closed off from public use. • The proposal may positively affect the existing amenity in the locality by encouraging walking and cycling activities between Kiama Downs and Minnamurra. • The proposal is unlikely to affect other land uses in the locality. • The proposal is unlikely to impact on land uses and adjacent properties in terms of compatibility, overshadowing, visual and acoustic privacy, affecting of views/vistas and boundary treatments (e.g. fencing).
Access, transport and traffic	<ul style="list-style-type: none"> • The proposal may cause a temporary impact on access for existing road users of Riverside Drive as short-term and long-term lane closures and entire road closures will need to occur during construction of both the land based and water based components of the boardwalk. • The proposal may have benefit in increasing the use of public transport as Minnamurra Train Station is in close proximity. • The proposal may increase traffic generation through Riverside Drive as the proposal is designed to attract visitors. The impacts are considered minor as Riverside Drive can cater for the increase traffic flows as it once served as a highway.

	<ul style="list-style-type: none"> There will be a reduction in informal car parking spaces along Riverside Drive both during and after construction. There appears to be sufficient car parking spaces (in the short term) to cater for visitors. Areas include: the rest area north of the Minnamurra River (see Photo 1 above), Trevethan Reserve (see Photo 2 above and a parking area opposite The Village (see Photo 5 above). Additional parking areas can be assessed and provided (if required) after a period of significant operational use has occurred.
Public Domain	<ul style="list-style-type: none"> During the construction period some current activities in public reserve areas may be restricted for safety reasons. The proposal upon completion will not decrease overall total areas of public use. The proposal will provide better pedestrian linkages. Some current areas available will be restricted with fencing and railing that will protect the areas from being trampled.
Utilities	<ul style="list-style-type: none"> The proposal may be provided with lighting for safety and security reasons. The installation of lighting is unlikely to cause an adverse impact on electricity supply in the locality. The proposal is unlikely to affect the supply and installation of any existing utilities. Some relocation of utilities may be required, so some outages may occur during the construction period.
Heritage	<ul style="list-style-type: none"> The proposal is unlikely to cause a negative impact on the historic, scientific, social, aesthetic, anthropological, cultural, spiritual, archaeological (Aboriginal, non-Aboriginal and underwater) significance of the land. The NSW Office of Environment and Heritage have provided their requirements for the project.
Other Land Resources	<ul style="list-style-type: none"> The proposal is unlikely to have an effect on upstream agricultural land or any other resources in the locality.
Water	<ul style="list-style-type: none"> The proposal is unlikely to affect water quality or cause pollution of water bodies, including groundwater. Mitigation measures are included in Appendix A to ensure there are no environmental impacts. The proposal is unlikely to negatively impact on groundwater tables. The proposal is unlikely to negatively impact on the conservation of water resources and the water cycle in terms of drainage, flow regimes, flooding on-site, up and downstream and in the catchment floodplain.

Soils	<ul style="list-style-type: none"> • The proposal is unlikely to increase erodibility, permeability, expansion/contraction, fertility/productivity, salinity, sodicity, acidity, and contaminants in the soil. Mitigation measures are included in Appendix A to ensure there are no environmental impacts. • The proposal is unlikely to increase instability, subsidence, slip and mass movement if the work is undertaken in accordance with good engineering practice. • The proposal is unlikely to increase soil erosion and degradation. Mitigation measures are included in Appendix A to ensure there are no environmental impacts. • The proposal is unlikely to increase sedimentation and pollution of water bodies. Mitigation measures are included in Appendix A to ensure there are no environmental impacts. • Any contaminated soils found will need to be treated and/or disposed of in accordance with legislative requirements. • An Acid Sulfate Soils management plan will be required before construction commences. Mitigation measures are included in Appendix A to ensure there are no environmental impacts.
Air and microclimate	<ul style="list-style-type: none"> • The proposal is unlikely to affect the air or microclimate. Mitigation measures are included in Appendix A to ensure there are no environmental impacts.
Flora and fauna	<ul style="list-style-type: none"> • The proposal is unlikely to cause adverse impacts to critical habitats; threatened species, populations, ecological communities or their habitats; and other protected species • The proposal is unlikely to cause an increase weeds, feral animal activity, vermin and disease. • The proposal is unlikely to be a disturbance to native fauna and habitats. Mitigation measures are included in Appendix A to ensure there are no environmental impacts.
Waste	<ul style="list-style-type: none"> • The proposal will be provided with waste facilities for the public. • Construction waste will be re-used or disposed of in accordance with the required waste management plan • Existing storm water systems may need adjustment, extending, relocation or amplification during the

	<p>construction period. Mitigation measures are included in Appendix A to ensure there are no environmental impacts.</p>
Energy	<ul style="list-style-type: none"> No concerns are raised in regard to the energy needs of the development.
Noise and vibration	<ul style="list-style-type: none"> During construction, noise, particularly the driving of the piles will result in the emission of noise and vibration. Mitigation measures are included in Appendix A to ensure there are no environmental impacts. After completion, noise from visitors may be audible from locations in the locality depending on meteorological conditions, wind speed, wind direction and temperature inversions. The noise created is unlikely to impact significantly on amenity.
Natural hazards	<ul style="list-style-type: none"> The proposal is unlikely to cause a risk to the people, property and biophysical environment from soil instability, subsidence, slip and mass movement. The proposal is unlikely to cause a risk to people, property and biophysical environment from flooding or tidal inundation. The proposal is unlikely to cause a risk to people, property and biophysical environment from bushfire.
Technological hazards	<ul style="list-style-type: none"> The proposal is unlikely to cause a risk to people, property and biophysical environment from land contamination and its remediation.
Safety, security and crime prevention	<ul style="list-style-type: none"> The proposal is unlikely to cause a risk to safety and security of the public in terms of natural surveillance and visibility in public areas. The proposal can be provided with lighting for safety and security after dark.
Social impact in the locality	<ul style="list-style-type: none"> The proposal is unlikely to impact the locality in terms of social cohesion, social equity or social displacement. The proposal may provide an opportunity for persons to congregate and undertake anti-social behavior. The proposal may create an opportunity for increased social interactions.
Economic impact in the locality	<ul style="list-style-type: none"> It is unlikely that the proposal will cause a negative economic impact in the locality, including devaluing of property.
Design	<ul style="list-style-type: none"> The design will need to take into account aesthetics through selection of materials and landscaping and tree planting to compensate for removal of vegetation.
Construction	<ul style="list-style-type: none"> There are no concerns with site safety. There are no concerns with protection of the

	environment. Mitigation measures are included in Appendix A to ensure there are no environmental impacts.
Cumulative impacts	<ul style="list-style-type: none"> There are no concerns raised that the impacts from the proposal would act in unison with existing impacts from other activities (e.g. roads, storm water disposal points, bridges, housing and the golf course) to cause an increased impact.

7 Consultation

7.1 Public Consultation

REF 1 was placed on public exhibition from 17 December 2018 to the 21 January 2019.

REF 2 was placed on public exhibition from 15 February 2019 to the 15 March 2019.

Submissions received have been tabled and commented on in Section 8 of this report.

7.2 Aboriginal Community Consultation

The supporting documentation in REF 2 indicates Aboriginal Community Consultation was undertaken. A smoking ceremony was undertaken prior to test excavations occurring.

7.3 NSW Government Consultation

Table 3 (below) lists Government Department referrals and responses received.

Table 3 – Government Departmental Referrals & Responses

Government Department	Stage	Response
Office of Environment & Heritage	Preferred Route Report	<p>A four page response was issued on 28 August 2018 which setout requirements for:</p> <ul style="list-style-type: none"> - Estuarine Health; - Physical Estuarine Process; - Flood Risk Management; and - Aboriginal cultural heritage <p>Aboriginal cultural heritage included requirements on:</p> <ul style="list-style-type: none"> - Aboriginal Community Consultation; - Recorded sites and areas with potential to contain Aboriginal heritage sites; - Proposed geotechnical investigations; - Likely impacts to Aboriginal heritage; - Heritage weighting in the preferred route; and - Permit requirements -

Office of Environment & Heritage	Geotechnical Investigation	An email was issued 14 September 2018 with the following response: <i>"The REF has been reviewed and suitably characterises the potential environmental impacts and risks associated with the works and proposes suitable environmental safeguards."</i>
Office of Environment & Heritage	Aboriginal Heritage Impact Permit	An email was issued 17 December 2018 which included the issue of an Aboriginal Heritage Impact Permit
Office of Environment & Heritage	REF 2	A letter was issued on 8 March 2019. Summarised comments are listed below: <ul style="list-style-type: none"> - OEH encourages the installation of interpretive signage along the boardwalk, to assist raising of community awareness on the environmental, social and cultural values of the Minnamurra River - Council should consider offsetting environmental impacts associated with the proposal through implementing priority management actions set out in the Minnamurra CZMP - The results of the test excavations should be forwarded. The excavations should be used to inform the final project design and suggest that flexibility is built into the project - No works may occur that will harm Aboriginal objects, including compaction of ground from path construction and stockpiling. - If test excavations show that Aboriginal objects cannot be avoided or if objects are found during construction then a second AHIP must be applied for.
Department of Primary Industry (DPI) Fisheries	Design of overwater section	A series of emails were sent from Cardno to DPI Fisheries which included the (combined) following advice on construction: <i>"Please find attached the Minor Works Review of Environmental Factors for the proposed geotechnical investigations to support the proposed Minnamurra River Boardwalk Design for DPI (Fisheries) review and comment. Casing diameter will be HWT size (114.3mm) pushed into the seabed. Once casing is set, casing diameter will be HQ size (96.0mm) progressed to the target depth. All drill fluids (including sediment/spoil) are pumped through the drill bit and returned to a collection tank on the barge via the casing for recirculation. At the completion of the drilling campaign, the residual drill fluids are pumped from the barge to IBC storage containers on land for disposal."</i> A reply was received 21 September 2018 which stated

		<i>"As all spoil will be contained, and there is a commitment to avoid any harm to marine vegetation a permit will not be required from DPI Fisheries for the works."</i>
NSW Maritime Division of Roads and Maritime Service	REF 2	A letter was issued 28 February 2018 which stated that there was no objection to the proposal. The letter did offer comment that the installation of piles or similar into the seabed, where current exists, can cause scouring around the base of a pile.

8 Submissions

Council received 18 submissions for REF 1 which included 10 submissions which listed concerns.

Council received 16 submissions for REF 2 which included 15 submissions which listed concerns regarding the proposal.

In **Table 4** (below) the concerns in the submissions have been re-formatted for the purpose of clarity. Concerns which related to: reasons for undertaking the proposal; alternative routes; inadequacies of consultation; timings or costing have not been included, as they are considered not relevant to an environmental evaluation.

Table 4 - Review of Submissions

Concern	Response
Process	
The Review of Environmental Factors (REF) is not an Environmental Impact Study (EIS). Environment impacts should be determined through the EIS process.	Part 5 of the EP & A Act sets out the requirements for undertaking an environmental impact assessment for proposed activities. The REF is the report that addresses the factors required to be taken into account concerning the impact of the proposed activity on the environment. The requirement for an Environmental Impact Statement (EIS) is triggered only if the REF indicates that the proposed activity is likely to have a significant impact on the environment. The REF is a comprehensive assessment of potential environmental impact of the proposed activity and is the process required by legislation.
Only a one day on-site assessment (to ground truth the mapping and to survey for	The objection is considered a matter of opinion only as:

<p>the presence of threatened species and their habitats) occurred. It would be expected that to determine environmental impacts on a pristine ecosystem that it would take longer than this.</p> <p>There are inconsistencies between the preferred route report. The accuracy of the REF is questioned.</p> <p>The REF cherry picks information from other publications which will support its case, or glosses over or understates what should be more fuller detailed assessment as required by NSW Government Guidelines for Preparing A Review of Environmental Factors.</p>	<ul style="list-style-type: none"> • NSW OEH had no concerns in their letter to Council dated 8 March 2019 in regard to presence of threatened species and their habitats; and • The contents of the REF's were prepared by suitably qualified and experienced persons.
<p>Splitting of project into two separate REF's should be avoided as cumulative impacts may not be apparent.</p>	<p>Agreed. It is recommended that REF 1 and Ref 2 are determined at the same time.</p>
<p>Flora</p>	
<p>REF 1 should have included an Arborist Report</p>	<p>Agreed. This is an oversight which was corrected when REF 2 was prepared. This is another reason why both REF's should be determined at the same time.</p>
<p>The consultant Arborist in REF 1 has misinterpreted 22 of 66 trees to be removed. The trees are considered to form a part of an endangered ecological community, Minnamurra Estuary Sub-Tropical Rainforest (currently being considered by the Commonwealth) and some trees are 100 years old. The consultant also misidentified 2 out of 3 mature figs present on the site. The consultant has counted one tree as two (Tree 52 & 53). Another tree was wrongly identified because of an overhanging branch from another tree.</p>	<p>Agreed. This was an error by the project Arborist. The matter was corrected when REF 2 was prepared. Again, this is another reason why both REF's should be determined at the same time.</p>
<p>Retention of trees opposite Federal Avenue would be a mark of respect for traditional owners as there is quite a diversity of trees. Some are notable for edible fruit include a plant that was used to stun fish.</p>	<p>Prior to the preparation of REF 2 the boardwalk route has been adjusted to retain more trees.</p>

The Sections of the Stage 1 can be easily moved to protect trees and other vegetation.	
Special areas along the bank should be protected and rehabilitated	The boardwalk works will involve replanting works to compensate for tree loss. Providing physical barriers (e.g. fencing) will restrict the general public from creating informal pathways through the inter-tidal areas and trampling vegetation.
Fauna	
The boardwalk will cause a disturbance to the habitat of water birds. The southern bay of the Minnamurra River (near Duguid Way) is an important nursery for sea mullet and other species. The boardwalk may impact on breeding cycles.	The objection is considered a matter of opinion only as: <ul style="list-style-type: none"> • NSW OEH had no concerns in their letter to Council dated 8 March 2019 in regarding habitat impacts; and • The contents of the REF's were prepared by suitably qualified and experienced persons.
Aboriginal Heritage	
Kiama Council and Cardno are working with Crown lands to have four Aboriginal land claims over the project area withdrawn, thereby denying legal rights of the Aboriginal and Australia community generally.	Council has committed, at this time, to construct a boardwalk with grant funding. As part of a due diligence process, the validity of claims need to be assessed prior to any construction. Council is complying with all legislation regarding this matter.
The REF does not provide sufficient information about possible impact to Aboriginal heritage in REF 1. The NSW OEH has told Cardno that the proposal, particularly in Stage 1 will harm or destroy Aboriginal heritage, including burial sites. A preparation of an EIS would enable a much more detailed and comprehensive study of Aboriginal heritage sites to be undertaken.	REF 2 has provided sufficient information regarding these matters. This is evident by NSW OEH in their advice to Council dated 8 March 2019 (See Section 7.2 of this report) which gave approval to proceed, subject to conditions.
Visual Impacts	
The overwater section of the boardwalk will be visually unappealing and cause scenic	It's acknowledged that the overwater section will cause a change to the scenery

<p>impacts.</p> <p>The scale of the proposal is out of proportion to size of river. Natural scenic values of the river will be affected. The proposal is highly intrusive.</p>	<p>and therefore adversely impact on the views to passengers in vehicles and from waterway users (paddlers and fishers); however, the benefits to the general public which includes better connectivity in the locality, recreational opportunities and an opportunity to connect with the natural environment (especially those who are not abled-bodied) far outweighs this impact.</p>
<p>Traffic & Parking</p>	
<p>Traffic generation will impact on the residents who live on the The Village and Duguid Way.</p> <p>Trevethan Reserve at the moment does not cope with visitor numbers.</p> <p>There will be insufficient car parking and toilets available for visitors.</p>	<p>There will be car parking available in the rest area to the north of the road bridge, Trevethan Reserve and at the intersection of Riverside Drive & The Village.</p> <p>Toilet facilities are available at Trevethan Reserve, James Oates Reserve and Jones Beach</p> <p>It is difficult to assess what will be the likely visitation numbers and what mode of transport visitors will use when the boardwalk is operational. It's proposed that when the boardwalk becomes operational accurate visitor numbers can be determined before funds are committed for parking.</p> <p>In the short term, signage could be provided directing visitors to existing toilet and car park facilities.</p>
<p>Design & Construction</p>	
<p>Reconstruction of existing boulder revetment walls will harm seagrass.</p>	<p>The wall will require repair regardless of the boardwalk proposal. All care should be taken when the works are done.</p>
<p>Where the boardwalk transition from land base to overwater, seagrass beds will be affected.</p>	<p>Figure 6-1 in REF 2 indicates that this section of the boardwalk will be outside of the sea grass meadow.</p>
<p>There are potential scouring impacts around the base of piers.</p>	<p>Scour naturally occurs on the river bed during flood events. Scour around the piles is expected during tidal and flood currents. Sediments will deposit back during normal tidal currents. Rocks can be placed around the piers; however, this could increase scour impact</p>
<p>Large storm events will submerge the overwater section of the boardwalk and may lead to damage.</p>	<p>It is expected that in a flood event of the magnitude that submerges the boardwalk that there will be significant and widespread storm damage to the infrastructure in the</p>

	region and natural features such as riverbanks.
The removal of trees and other vegetation along the river banks will expose the shoreline and embankments to increased risk of erosion and undermining when floods occur during storm and intense rainfall events, which is increasing due to climate change.	Any tree removal proposed is not expected to compromise bank stability. Vegetation is to be provided which will assist bank stabilisation.
The proposal is not in accordance with the adopted Coastal Zone Management Plan.	The proposal does not appear to contradict the Management Actions set-out in the CZMP. The concern is considered unsubstantiated.
The boardwalk will cause irreversible change to environment.	The REF's and the author of this evaluation report disagree with the comment. The concern is unproven.
Kiama Council works continuously with Cardno staff on preparation of detailed engineering designs and plans for the boardwalk. Meetings are held regularly as demonstrated by the meeting minutes. There is a continuing substantial expenditure for the work prepared by Cardno and this comes out of the government grant given to Council.	Council has limited resources to prepare engineering designs and needs to outsource this work. Cardno has been commissioned to undertake the designs. Payment for this works comes from the grant funding. The provider of the grant is aware of this arrangement.
Sections of the boardwalk will allow for anti-social behaviour.	The boardwalk will have good surveillance from the public domain.

9 Clause 228 Review

Clause 228 Environmental Planning and Assessment Regulation 2000 shall be considered prior to final determination by a determining authority. A response has been provided in **Table 5** below to each factor

Table 5 – Clause 228 Responses

Factors		Response
(a)	any environmental impact on a community	It is considered that the proposal is unlikely to generate unacceptable environmental impacts on a community as: <ul style="list-style-type: none"> • Impacts are considered minor and would only consist of road closures and

		<p>construction noise during the building phase of the proposal; and</p> <ul style="list-style-type: none"> • Only 0.32ha of vegetation will be affected and any clearing will be outside of the SEPP14 mapped areas.
(b)	any transformation of a locality	<p>It is considered that the proposal will not significantly transform the locality as:</p> <ul style="list-style-type: none"> • The land based shared pathway in Stages 1 and 2 will generally follow the existing embankment, therefore not resulting in a major transformation of the locality; and • The design of the overwater section will follow a general alignment of approximately 10 -15 metres from the bank to avoid mangroves. The overwater section will cause extra visual impact. Existing visual impacts include roads, guardrails and signage. It is considered that the resulting impacts are negated by the resulting benefit which is provided to users, as it will provide them a unique view of the river and an ability to experience and appreciate an estuarine environment.
(c)	any environmental impact on the ecosystems of the locality	<p>It is considered that there will not be a significant environmental impact on the ecosystems of the locality as:</p> <ul style="list-style-type: none"> • The land based shared pathway in Stages 1 and 2 will generally follow the existing embankment to avoid and protect aquatic vegetation at the location; and • The transition area between the on ground shared path and the over water structure has been selected in this location as there is a minimal amount of existing shoreline vegetation and only minor lopping of branches is required; and • The overwater section will ensure protection of mangroves along the embankment.
(d)	any reduction of the aesthetic, recreational, scientific or other environmental quality or value of	<p>It is considered that there will not be a significant reduction of the aesthetic, recreational, scientific or other environmental</p>

	a locality	<p>quality or value of a locality as:</p> <ul style="list-style-type: none"> • The overwater section of the proposal will be designed as permeable as possible to reduce its bulk and let light through. Natural earthy and subtle tones will be used for different components; and • Recreational opportunities on the river foreshore and in the navigable channel will only be reduced during some periods of construction.
(e)	any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations,	<p>The REF's have satisfactorily demonstrated that there will be no adverse impacts on any locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations.</p> <p>No objections have been raised by OEH.</p>
(f)	any impact on the habitat of protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i>)	<p>The REF's confirm that the proposal will not result in significant impacts on the habitat of protected fauna.</p> <p>No objections have been raised by OEH.</p>
(g)	any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air	<p>The REF's confirm that the proposal will not result in the endangering of any species of animal, plant or other form of life whether living on land, in water or in the air.</p> <p>No objections have been raised by OEH.</p>
(h)	any long-term effects on the environment	<p>The REF's confirm that the proposal will not result in any long-term effects on the environment.</p> <p>No objections have been raised by OEH.</p>
(i)	any degradation of the quality of the environment	<p>Some impacts (e.g. noise) may occur during the construction period. Mitigation measures to reduce impacts have been proposed in REF 1 & 2 and these have been included in Appendix A.</p> <p>The REF's confirm that the proposal will not result any degradation of the quality of the environment when the proposal is operational.</p>

		No objections have been raised by OEH.
(j)	any risk to the safety of the environment	The REF's confirm that the proposal will not result in any significant risks to the safety of the environment other than minor temporary impacts that may occur during construction. Mitigation measures to reduce construction impacts have been proposed in REF 1 & 2 and these have been included in Appendix A.
(k)	any reduction in the range of beneficial uses of the environment	<p>The current beneficial uses of the environment include water based activities such as fishing in small boats, kayaking and paddle boarding. There will be temporary impacts to the public during the construction of the overwater section as there will be exclusion zones in place around construction equipment.</p> <p>Land based activities are presently difficult due to the narrow verges adjacent to the pavement in Riverside Drive. Fishing from the bank and fishing platform is an activity that is currently undertaken by the public. The proposal will reduce fishing locations during construction as there will be exclusion zones in place around construction equipment. When operational there will be more fishing locations available and better protection of the riverbank due to existing informal tracks being inaccessible.</p> <p>Any reduction in the range of beneficial uses of the environment is therefore considered temporary.</p>
(l)	any pollution of the environment	The REF's confirm that the proposal will not result in pollution of the environment.
(m)	any environmental problems associated with the disposal of waste	Waste created will be treated in accordance with industry practice. No environmental problems are likely to result.
(n)	any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply	The proposal would not increase the demand for resources or cause resources to become short of supply.
(o)	any cumulative environmental effect with other existing or likely	The proposal is unlikely to act in unison with any other activity in the locality to have an

	future activities	environmental effect.
(p)	any impact on coastal processes and coastal hazards, including those under projected climate change conditions	The REF's confirm that the proposal will not result in impacts on coastal process and coastal hazards, including those under projected climate change conditions.

10 Conclusion

The evaluation concludes that:

- The contents of REF 1 and REF 2 have been reviewed and no concerns are raised;
- The proposal can be determined by the determining authority (Council) utilising the savings Clause in SEPP14 and the requirement in the Coastal SEPP for an EIS is not triggered;
- All other applicable legislation has been complied with;
- The site investigation undertaken raised no concerns regarding significant impact to the environment from the proposal. It should be noted that the Minnamurra River is presently suffering from other anthropogenic impacts more severe; such as untreated storm water run-off from Riverside Drive and other roads, weed infestations, denuding of shellfish, and dumping of rubbish;
- Consultation has been undertaken;
- No objections have been raised by any State Government Departments;
- Matters raised by objectors have been reviewed. No matters raised warrant any further investigation. An issue was raised during REF 1 which related to the absence of an Arborist report and the misidentification of trees and this has now been satisfactorily addressed in REF 2. For this reason REF 1 and REF 2 should be assessed at the same time ; and lastly
- Clause 228 of the EP & A Regulations has been undertaken and it is the view that the proposal does not cause significant impacts on the environment and the proposal can proceed in accordance with the Mitigation Measures in Appendix A and pursuant to the requirements of Part 5 of the EP&A Act.

APPENDICES

Appendix A - Mitigation Measures

Stage 1

The following mitigation measures are recommended to be implemented to avoid, minimise and mitigate the impact of the proposed Stage 1 works on the ecological values of the Stage 1 study area.

1. Retention of native vegetation wherever possible, through measures such as locating plant parking areas, stockpiles etc. in locations which do not require additional removal of vegetation
2. Only remove and trim trees identified in REF 2. All trees identified for removal or trimming are to be physically marked by an arborist with reference to the arborist report prior to any tree removal works. Trimming of branches must be undertaken in accordance with Australian Standard (AS) 4373-2007 Pruning of Amenity Trees;
3. All retained trees with Tree Protection Areas (TPZs) falling within the disturbance corridor are to be managed in accordance with AS 4970-2009 Protection of Trees on Development Sites. Such measures include (but are not limited to):
 - Use of tree protection fencing where required;
 - All services should be routed outside the TPZ;
 - Where structural woody roots with a diameter of 20mm or greater are to be pruned outside the area of the TPZ, they are to be found manually first by using hand tools to determine their location. Once located, those roots to be severed are to be cut cleanly with a final cut to undamaged woody tissue;
 - Where the shared path is to pass by a fig tree, a suspended slab is to be constructed (or an approved similar mechanism) to protect the roots that may be encountered at, near or above ground, and may be constructed on gap graded fill;
 - To prevent excavation from damaging the existing roots (which may be located at, near or above the surface of the soil) a gap graded fill is to be used to a depth of 100mm either above the soil surface or above the top of the root of any tree to be retained, as a base treatment to construct the foot path; and
 - When excavating near trees to be retained, excavation should be done by hand to enable shared user pathway construction over existing roots to avoid root damage and indirect tree impacts.
4. Wash down fluids must be collected and disposed appropriately offsite and not discharged into the estuary;
5. Refueling must occur in a designated, bunded area at least 50 m from the banks of the estuary;
6. Chemical and fuel must be stored in a protected, bunded area at least 50 m from the banks of the estuary;
7. Monitoring of seagrass beds directly adjacent to the revetment wall offset works is required for the duration of the works to ensure impacts are limited to those outlined in this assessment;
8. Stockpiles and equipment storage must not occur outside of the disturbance footprint;
9. Landscaping and revegetation should use native plants from local nurseries which have species native to the study area;
10. Seeds of native removed trees should be saved and distributed to local bush care groups who would use them for future planting in the area;

11. Tree species chosen for re-planting following works are to be of the species identified for removal in the REF . Preferably, these trees are to be propagated from local stock to preserve local genetic integrity. A replanting ratio of 2:1 for the removed trees is recommended;
12. A Vegetation Management Plan (VMP), including weed management, should be established within the Construction Environmental Management Plan(CEMP) to ensure mitigation measures to protect existing native vegetation are observed;
13. All tree pruning works should be undertaken by a Certification 3 arborist;
14. Measures are to be implemented to prevent damage or injury to existing trees, plants and other vegetation that are to be retained within or adjacent to the proposed works;
15. If an animal dwelling is discovered in or adjacent to a tree to be removed or trimmed, work must cease immediately so that appropriate management actions can be undertaken where necessary; and
16. If an animal is encountered during works, a certified wildlife handler is to be contacted to undertake safe rescue and relocation. If any native animals are injured during the construction process, the local wildlife rescue service (WIRES) should be contacted.
17. Removal and disposal of noxious weeds is to be undertaken in accordance with the *Biosecurity Act 2015*. Specific removal techniques for noxious weeds include (chemical treatments are not advised in this instance due to proximity to the estuary):
 - Removal of the seeds / fruit and bag (prior to other removal techniques);
 - Removal of small seedlings by hand;
 - Physical removal with minimum disturbance to the surrounding environment; and
 - Biological controls that are approved by the Commonwealth Scientific and Industrial Research Organisation (CSIRO).
18. Erosion and sediment control measures are to be implemented as described in REF in order to reduce any impacts on fauna and help reduce the likelihood of weed dispersal. Sediment controls must also mitigate the mobilisation of sediment and contaminants into the nearby estuarine environment. This could best be achieved through multiple controls, appropriate to particular portions of the corridor (e.g. sediment fencing, floating booms etc.). Areas abutting mangroves, saltmarsh and seagrass vegetation are to be the target for the most stringent runoff controls. Controls installed are to be inspected regularly and maintained throughout the works period.
19. Soil and Water Management Plan (SWMP) be developed and be included in the CEMP to cover all erosion, sedimentation and contaminant mobilisation controls on land and in the water;
20. Routine and event-based water quality monitoring to be undertaken during construction;
21. Wherever possible works should be undertaken during the drier months (August to November) so as to minimise weed proliferation;
22. Where appropriate, washing of plant and other vehicles is recommended to prevent contamination from other areas, particularly if trucks are coming from non-local areas; and
23. Landscaping and revegetation of disturbed terrain via the use of native plants from local nurseries that have species native to the study area.
24. SWMP will be prepared by the contractor prior to the issue of construction certificate, and will be consistent with 'the Blue Book' Managing Urban Stormwater,

Soils and Construction Vol 1 and 2A (Landcom, 2004).

25. Recommendations given in the Geotechnical Investigation Report in the REF must be considered during construction to minimise the risks of erosion and stability issues identified on site.
26. Surface runoff will be diverted away from sensitive areas ,stockpiles and erodible material
27. Erosion controls will be inspected weekly and after rainfall, and damaged controls will be fixed immediately.
28. Measures will be installed to prevent the tracking soils and sediment off site.
29. Vehicles will be kept in designated areas.
30. Disturbed areas will be stabilized as soon as possible.
31. Procedures will be included in the CEMP and installed at the site for dealing with unexpected rain.
32. Where the compound site extends beyond the existing hardstand area, preparation of a suitable gravel access area will be required.
33. Emergency procedures for chemical/fuel spills will be included in the CEMP.
34. A functioning 'spill kit' will be kept on site at all times for clean-up of accidental spills.
35. Chemicals and fuels will be stored within designated bunded areas and identified with appropriate signage.
36. All stored chemicals will be recorded on a register with their Material Safety Data Sheets (MSDS).
37. Equipment with fuel, oil or hydraulic leaks will not be used on site, and this equipment will be repaired or removed immediately.
38. A traffic management plan will be developed as part of the CEMP to define how local traffic will be managed during the construction phase. Considerations to limit the impact of single lane road closures should include:
 - Works method
 - Staging of works to reduce the distance of the closure and length of delay
 - Timing of vehicle movements
 - Avoidance of peak times
 - Acceleration of construction
 - Notification of affected residents
 - Alternative routes to be available
 - Detailed traffic control plans considering the work staging
39. The proposed site and associated temporary construction sites will be kept in a tidy condition, free of rubbish and waste materials.
40. All work will be contained within the boundaries designated on the plan.
41. Worksites will be restored as close to their original condition as possible.
42. Fencing and hand rails will be constructed of visually permeable material
43. The shared path will be finished with neutral tones.
44. All Aboriginal places and objects are protected under the NP&W Act. This protection includes Aboriginal places and objects which have not been identified in this report, but which may be identified during construction. Should any previously unidentified Aboriginal objects or places be identified during excavation and construction, all works must cease in the vicinity of the find and the following be notified:
 - Council
 - OEH

- A qualified archaeologist
- Aboriginal stakeholders

In the case of skeletal remains the following process will be implemented:

- The find will be reported to police and state coroner
- Council will be notified of the find
- Aboriginal stakeholders will be notified of the find
- OEH will be notified of the find.

If works commence prior to the AHIP being sought then PAD and AHIMS sites will be delineated as no go areas through the use of flagging.

45. Contractors will undertake work in accordance with the *Interim Construction Noise Guidelines* (DECCW, 2009) and the procedures in AS2436-1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites.
46. Works will be carried out during standard construction hours between the hours of 7.00am to 6.00pm Monday to Friday, and 8.00am to 2.00pm on Saturdays. There will be no work undertaken on Sundays or public holidays. Should out of hours work be required, an updated CEMP should be provided to Council and Environmental Protection Authority for their endorsement prior to works commencing.
47. The quietest practical plant will be used, and will be regularly maintained and fitted with appropriate mufflers.
48. Plant and equipment will be turned off if not being utilized.
49. Any complaints relating to noise impacts will be investigated and responded to in a timely manner.
50. Working areas are to be maintained, kept free of rubbish and cleaned up at the end of each working day.
51. Consult with neighbors potentially impacted by temporary noise and amenity impacts. Neighbors will be contacted prior to the commencement of works and informed of likely duration of work and traffic mitigation measures.
52. Provide appropriate lighting to discourage antisocial behavior (where required and taking into consideration impacts on the natural environment, such as avoiding light spill into habitats), along with bins to discourage littering. Council will undertake waste collection and general maintenance as per the situation in nearby reserves and parklands to help prevent these events occurring.
53. All work will be contained within the boundaries designated on the site plan which will be informed by Dial Before You Dig information prior to works commencing.

Stage 2

The following mitigation measures are recommended to be implemented to avoid, minimise and mitigate the impact of the proposed Stage 1 works on the ecological values of the Stage 1 study area.

1. Retention of native vegetation wherever possible, through measures such as locating plant laydown areas, stockpiles and any equipment in locations that do not require additional removal of vegetation
2. Only remove and trim trees identified in this REF. All trees identified for removal or trimming are to be physically marked by an arborist with reference to the arborist report prior to any tree removal works. Trimming of branches must be undertaken in accordance with Australian Standard (AS) 4373-2007 Pruning of Amenity Trees
3. All retained trees with Tree Protection Zones (TPZs) falling within the disturbance corridor are to be managed in accordance with AS 4970-2009 Protection of Trees on

Development Sites. Such measures include (but are not limited to):

- Use of tree protection fencing where required
 - All services should be routed outside the TPZ
 - Where structural woody roots with a diameter of 20mm or greater are to be pruned outside the area of the TPZ, they are to be found manually first by using hand tools to determine their location. Once located, those roots to be severed are to be cut cleanly with a final cut to undamaged woody tissue
 - To prevent excavation from damaging the existing roots (which may be located at, near or above the surface of the soil) a gap graded fill is to be used to a depth of 100mm either above the soil surface or above the top of the root of any tree to be retained, as a base treatment to construct the shared path; and
 - When excavating near trees to be retained, excavation should be done by hand to enable shared user pathway construction over existing roots to avoid root damage and indirect tree impacts.
4. Wash down fluids must be collected and disposed appropriately offsite and not discharged into the estuary
 5. Refueling must occur in a designated, bunded area at least 50 m from the banks of the estuary
 6. Chemicals and fuel must be stored in a protected, bunded area at least 50 m from the banks of the estuary
 7. Monitoring of seagrass beds directly adjacent to the boardwalk alignment is required for the duration of the works to ensure impacts are limited to those outlined in this assessment including placement of anchors etc.
 8. Stockpiles and equipment storage must not occur outside of the disturbance footprint
 9. Landscaping and revegetation should use native plants from local nurseries which have species native to the Study Area
 10. Seeds of removed native trees should be saved and distributed to local bush care groups who would use them for future planting in the area
 11. Tree species chosen for re-planting following works are to be of the species identified for removal. Preferably, these trees are to be propagated from local stock to preserve local genetic integrity. A replanting ratio of 2:1 for the four trees removed is recommended. A Vegetation Management Plan (VMP), including weed management, should be established within the CEMP to ensure mitigation measures to protect existing native vegetation are observed
 12. All tree pruning works should be undertaken by a Certification 3 arborist
 13. Measures are to be implemented to prevent damage or injury to existing trees, plants and other vegetation that are to be retained within or adjacent to the proposed works
 14. Removal and disposal of listed priority weeds is to be undertaken in accordance with the NSW Biosecurity Act 2015.
 15. If an animal dwelling is discovered in or adjacent to a tree to be removed or trimmed, work must cease immediately so that appropriate management actions can be undertaken where necessary.
 16. If an animal is encountered during works, a certified wildlife handler is to be contacted to undertake safe rescue and relocation. If any native animals are injured during the construction process, the local wildlife rescue service (WIRES) should be contacted
 17. Soil and Water Management Plan (SWMP) be developed and be included in the Construction Environmental Management Plan (CEMP) to cover all erosion, sedimentation and contaminant mobilisation controls on land and in the water

18. Routine and event-based water quality monitoring to be undertaken during construction
19. Wherever possible works should be undertaken during the drier months (August to November) so as to minimise weed proliferation; and
20. Where appropriate, washing of plant and other vehicles is required to prevent contamination from other areas, particularly if trucks are coming from non-local areas.
21. SWMP will be prepared by the contractor prior to the works on site, and will be consistent with 'the Blue Book' Managing Urban Stormwater, Soils and Construction Vol 1 and 2A (Landcom, 2004)
22. Recommendations given in the Geotechnical Investigation Report in the REF must be considered during construction to minimise the risks of erosion and stability issues identified on site
23. Surface runoff will be diverted away from sensitive areas, stockpiles and erodible material
24. Erosion controls will be inspected weekly and after rainfall, and damaged controls will be fixed immediately
25. Measures will be installed to prevent the tracking soils/sediments offsite
26. Vehicles will be kept in designated areas
27. Disturbed areas will be stabilised as soon as possible.
28. Procedures will be included in the CEMP and installed at the site for dealing with unexpected rain
29. Where the compound site extends beyond the existing hardstand area, preparation of a suitable gravel access area will be required
30. Emergency procedures for chemical/fuel spills will be included in the CEMP
31. A functioning 'spill kit' will be kept on site at all times for clean-up of accidental spills
32. Chemicals and fuels will be stored within designated bunded areas and identified with appropriate signage
33. All stored chemicals will be recorded on a register with their Material Safety Data Sheet (MSDS)
34. Equipment with fuel, oil or hydraulic leaks will not be used on site, and this equipment will be repaired or removed immediately
35. An acid sulfate management (ASS) plan will be required as part of the works and any soil to be taken offsite will be subject to testing for ASS
36. Overwater works will be limited to piling and will not include the excavation of soil in order to reduce disturbances to the riverbed and potential ASS
37. Pre-boring of piles may mitigate the issue of near shore boulder debris; and
38. Landscaping works will follow the civil works and include measures for screening, scour and erosion protection and path enhancement
39. A Traffic Management Plan will be developed as part of the CEMP to define how local traffic will be managed during the construction phase. Considerations to limit the impact of single lane road closures should include:
 - Works method
 - Staging of works to reduce the distance of the closure and length of delay
 - Timing of vehicle movements
 - Avoidance of peak times
 - Acceleration of construction
 - Notification of affected residents
 - Alternative routes to be available
 - Detailed traffic control plans considering the work staging
40. A Traffic Management Strategy will be developed by Council which will:

- Identify monitoring to be undertaken
 - Determine triggers for development of additional parking spaces and network upgrades if required
 - Include monitoring, reporting and consultation requirements to ensure transparency of this process.
41. The proposed site and associated temporary construction sites will be kept in a tidy condition, free of rubbish and waste materials
 42. All work will be contained within the construction footprint on the site plan
 43. Work sites will be restored as close to their original condition as possible
 44. Lighting, if utilised, will be designed to illuminate the path whilst having minimum light spill outside of the route
 45. Fencing and hand rails will be constructed of visually permeable material
 46. The shared path will be finished with neutral tones and/or subtle tones. Over water sections will be permeable as specified in the REF.
 47. Allowance will be made for discrete rubbish bins along the alignment to be maintained by Council.
 48. All Aboriginal places and objects are protected under the NP&W Act. This protection includes Aboriginal places and objects which have not been identified in this report, but which may be identified during construction. Should any previously unidentified Aboriginal objects or places be identified during excavation and construction, all works must cease in the vicinity of the find and the following be notified:
 - Council
 - OEH
 - A qualified archaeologist
 - Aboriginal stakeholdersIn the case of skeletal remains the following process will be implemented:
 - The find will be reported to police and state coroner
 - Council will be notified of the find
 - Aboriginal stakeholders will be notified of the find
 - OEH will be notified of the find.
 49. If works commence prior to the AHIP being sought, then PAD and AHIMS sites will be delineated as no go areas through the use of flagging
 50. Property owners and residents adjacent to the proposal site will be contacted via letter box drops two weeks before the commencement of works. One day before construction, residents will be notified again by door knock, or letter box drop if they are not present. Information will be provided regarding the proposal including working hours, and contact details should residents have any questions or concerns.
 51. Contractors will undertake work in accordance with the Interim Construction Noise Guidelines (DECCW, 2009) and the procedures in AS2436-1981: Guide to Noise Control on Construction, Maintenance and Demolition Sites.
 52. Works will be carried out during standard construction hours between the hours of 7.00am to 6.00pm Monday to Friday, and 8.00am to 2.00pm on Saturdays. There will be no work undertaken on Sundays or public holidays.
 53. The quietest practical plant will be used, and will be regularly maintained and fitted with appropriate mufflers.
 54. Plant and equipment will be turned off if not being utilised.
 55. Any complaints relating to noise impacts will be investigated and responded to in a timely manner.
 56. A Noise Management Plan will be developed for construction in accordance with the Interim Construction Noise Guidelines including:
 - Identification of proposed work

- Identification of sensitive receivers
 - Proposed notification and consultation
 - Provision of complaints hotline
 - Procedure in the event a complaint is received
 - Notification requirements
57. Working areas are to be maintained, kept free of rubbish and cleaned at the end of each working day.
58. Neighbors will be contacted prior to the commencement of works and informed of likely duration of work and traffic mitigation measures.
59. All work will be contained within the boundaries designated on the site plan which will be informed by Dial Before You Dig information prior to works commencing.

Item 3.1

Attachment 1

4 CLOSURE