

Batemans Bay Bridge replacement

Review of environmental factors
consistency review 2 – temporary boat
ramp

Roads and Maritime Services | April 2019

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Prepared by SLR Consulting on behalf of John Holland and Roads and Maritime Services

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1. Introduction

1.1 The determined project

Roads and Maritime Services (Roads and Maritime) completed a review of environmental factors (REF) for the Batemans Bay Bridge replacement project (the project) in November 2017 (the project REF). The project REF described the project, assessed the potential environmental and social impacts associated with the construction and operation of the project and identified safeguards and management measures to avoid, mitigate or manage those potential impacts.

The project REF was placed on public display between 8 November and 8 December 2017 for community and stakeholder comment. The Batemans Bay Bridge replacement REF submissions report (the submissions report) was published in May 2018 to respond to the issues raised during the display period. The submissions report identified a number of design changes to the project. Some of these design changes resulted in a change to the REF area (the revised REF area). The revised REF area is shown in Figure 4-1 of the submissions report.

An environmental impact statement (EIS) was also published for the project in November 2017, as a small part of the project is located on land to which the State Environmental Planning Policy No 14 – Coastal Wetlands (SEPP 14) (now repealed) applied. Development consent for this part of the project was issued by Eurobodalla Shire Council in May 2018.

The project REF and submissions report considered potential impacts on biodiversity and concluded that the project is not likely to significantly impact threatened species, populations or ecological communities or their habitats, within the meaning of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), *Biodiversity Conservation Act 2016* (BC Act) or *Fisheries Management Act 1994* (FM Act) and therefore, there was no requirement for a Species Impact Statement or Strategic Assessment.

Subsequent to determination of the project, Roads and Maritime proposed to modify the project to include the demolition of the former Batemans Bay bowling clubhouse to facilitate the establishment of project ancillary facilities at this site. The former bowling clubhouse site is owned by Eurobodalla Shire Council and would be leased to Roads and Maritime for the project construction period. Although the former bowling clubhouse site is located within both the REF area and the EIS area, the proposed demolition works fall wholly within the REF area. The proposed modification was therefore subject to an Addendum REF (AREF). An AREF was determined in September 2018 to document the potential environmental impacts of the proposed modification.

The project was also subject to a consistency review determined in January 2019 (consistency review 1). Consistency review 1 assessed the potential environmental impacts of a proposed modification to the project that included a design change for the approach and departure lanes associated with the Kings Highway / Princes Highway intersection improvements and Kings Highway slip lanes, and additional electrical, telecommunication and water utility adjustment works required to support the project that would be located outside of the revised REF area.

1.2 Purpose

This consistency review describes and considers only those aspects of the project that are proposed to be modified since the determination of the project REF and AREF. This consistency review should be read in conjunction with the determined REF and AREF. It helps to ensure that any proposed modifications are undertaken in accordance with the statutory requirements of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The purpose of this consistency review is to:

- describe the determined project and the proposed modification
- review the potential environmental impacts of the proposed modification against the environmental impacts of the determined project
- decide whether or not the proposed modification is consistent with the determined project in accordance with the EP&A Act and the EPBC Act requirements
- based on the decision of whether or not the proposed modification is consistent with the determined project, identify any further environmental impact assessment or environmental management requirements applicable to the proposed modification.

2. The proposed modification

2.1 The proposed modification

The proposed modification comprises:

- the construction and removal of a temporary boat ramp and public car park at Korners Park on the northern foreshore of the Clyde River
- temporary closure of the southern foreshore boat ramp and associated public parking, demolition, then reinstatement of the public amenities off Clyde Street
- impact to the southern foreshore boat ramp structure due to installation of temporary jetty piles and subsequent repairs following the construction period
- retention of the existing boat ramp on the northern foreshore at the Old Punt Road car park during operation.

An overview of the proposed modification is shown in Figure 2.1. The proposed modification is described further in Section 2.1.1.

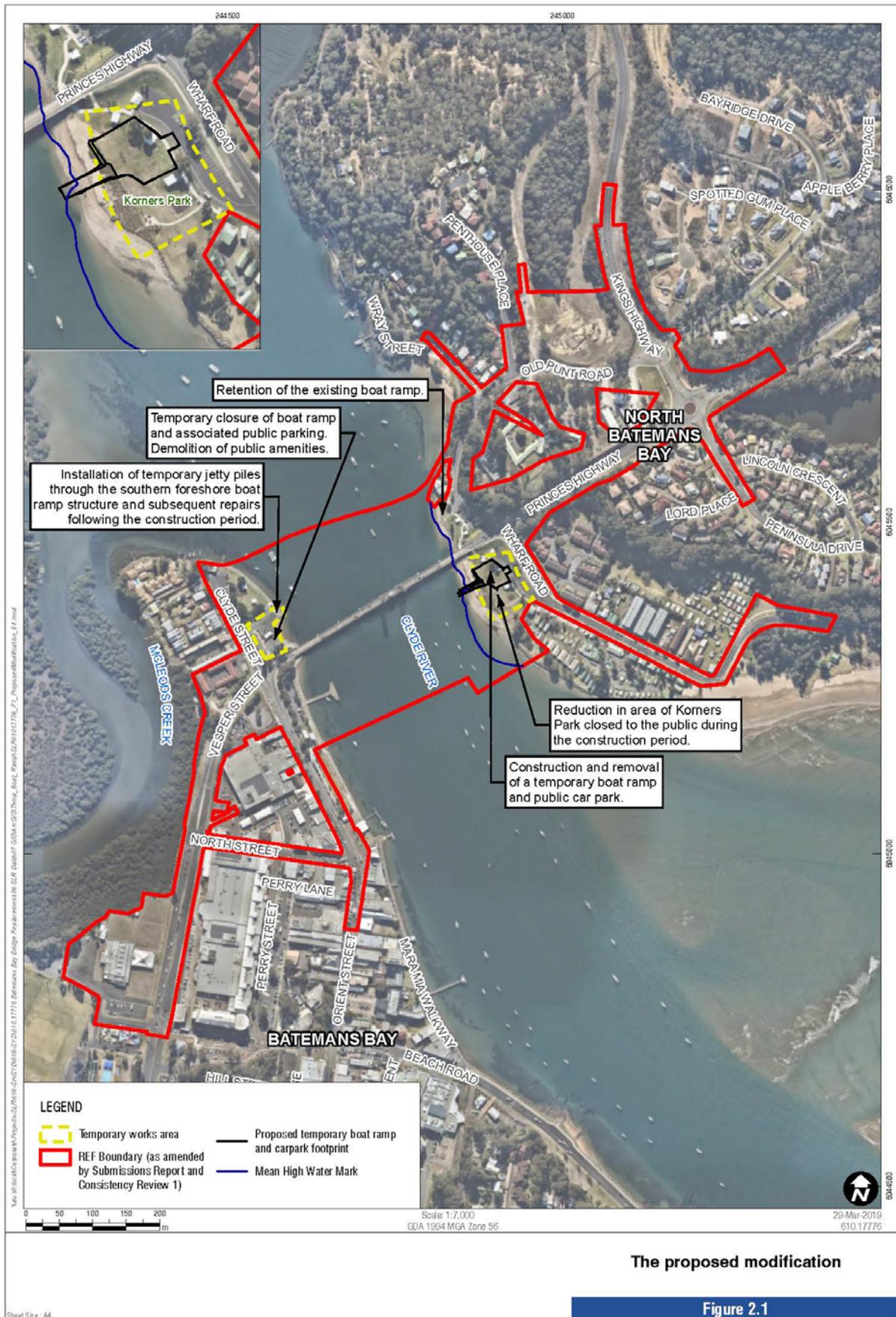


Figure 2.1 Location of proposed modification

2.1.1 Temporary boat ramp

The determined project committed to at least one of the two existing boat ramps within the project area remaining open to the public at all times during construction. The proposed modification differs from the determined project by closing both of the existing boat ramps during construction for constructability and safety reasons.

The proposed modification includes the construction and removal of a temporary boat ramp and public boat and trailer parking in a portion of Korner's Park on the northern foreshore of the Clyde River.

Details of the temporary boat ramp include:

- construction of a 35-metre-long double lane boat ramp
- installation of scour protection as part of the temporary boat ramp construction
- implementation of a laydown area to facilitate the construction of the temporary boat ramp
- erection of safety fences around the site
- construction of a carpark (13 car capacity including space for trailers)
- removal of the temporary boat ramp once the existing boat ramps have been reopened
- rehabilitation of the foreshore area following the temporary boat ramp removal.

This area of Korner's Park was assessed for use as an ancillary site in the REF and is entirely within the REF boundary. The construction of the proposed temporary boat ramp and parking at the western end of Korner's Park would reduce the area of the park closed to the public during the construction period.

Temporary boat ramp construction works would commence in April 2019 (weather permitting) and would take approximately 4 weeks to complete. Works would be undertaken during standard working hours as detailed in the project REF. Designs of the proposed temporary boat ramp are provided in Appendix A. The proposed modification would be within the determined project REF footprint. The methodology for the construction and removal of the proposed temporary boat ramp is as follows:

Site Preparation

Prior to construction of the temporary boat ramp the following would be undertaken:

- relevant management plans and permits would be complete (e.g. Environmental Work Method Statement (EWMS), Marine Parks permit)
- installation of temporary fencing, construction signage, erosion and sedimentation controls in accordance with site-specific ESCP, including silt curtains and hydrocarbon boom around the area below the Mean High Water Mark (MHWM).

Construction

The temporary boat ramp would be constructed as follows:

- mobilisation and assembly of plant / machinery at site on the foreshore
- works below the MHWM would be scheduled to occur outside the 1.5 hours either side of high tide (3 hours of tide-restricted work per shift), as measured at the Batemans Bay (Clyde River Bridge) tide gauge
- re-grading and preparation of the boat ramp foundation with plant such as excavators, trucks and compaction equipment
- minor excavation for cut-off wall / scour rock at the end of the boat ramp to prevent undermining
- installation of foundation material would occur as per Roads and Maritime Boat Ramp Facility Guidelines, this would include:
 - a suitably designed non-woven geotextile filter fabric underlay
 - a minimum 200 mm thick layer of compacted 50 mm to 100 mm sized igneous rock or equivalent.

- following completion of the foundation, scour/armour rock at the boat ramp toe would be positioned as close to the final location as per the design drawings
- a crane would be mobilised above the MHWL and the precast slabs would be laid at a grade across the ramp and bedded on the foundation material, connected with steel straps and pins. No grouting will be required
- following installation of precast units, the remaining ramp construction would be finalised. This would involve pouring the in situ concrete section of the boat ramp to tie into the precast section. This activity would be completed above the MHWL – refer to the design drawings
- the peripheral scour/armour rock would be installed in the final position as per the design drawings
- Progressive Erosion Sediment Control Plan (PESCP) controls would remain in place until approval for controls to be removed is received from the John Holland Environment Manager.

Decommissioning

The temporary boat ramp would be decommissioned and removed once the existing boat ramps have been reopened as follows:

- relevant management plans and permits would be complete (e.g. EWMS, Marine Parks permit)
- installation of erosion and sedimentation controls in accordance with site-specific PESCP, including silt curtains and hydrocarbon boom around the area below the MHWL
- works below the MHWL would be scheduled to occur outside the 1.5 hours either side of high tide (up to 3 hours of tide-restricted work per shift), as measured at the Batemans Bay (Clyde River Bridge) tide gauge
- the in situ concrete section would be broken up using an excavator and removed from site
- the scour / armour rock would be removed from site with excavators
- where practicable, any clean rock from the decommissioned boat ramp would be reused in other project areas
- during low tide periods only, the precast concrete planks would be disconnected and lifted by crane out of the river and transported offsite. The planks would be re-used wherever possible
- the foundation material (bedding rock) and geotextile would then be removed
- the beach area would be re-shaped to previous levels and conditions using an excavator or bobcat
- all waste associated with the construction and removal of the temporary boat ramp would be removed from site as per the project Waste Management Plan (WMP) and activity-specific EWMS.

2.1.2 Temporary closure of southern foreshore area

The determined project allowed for the southern foreshore area including the boat ramp, parking, and amenities to remain open to the public during construction. Due to constructability and safety constraints closure of this area to the public during construction is required. This would include the following:

- Closure of the southern boat ramp and associated parking during construction, once the temporary boat ramp is open to the public
- Demolition of the public amenities block and reinstatement of amenities at the completion of construction

2.1.3 Impact to southern foreshore boat ramp

The determined project provided for the installation for two temporary jetties during construction however the location of the jetties was not specified in the REF. Due to constructability constraints a temporary jetty is required to be installed on the southern foreshore area in the location of the existing boat ramp. Installation of the temporary jetty in the location would require the closure of the existing boat ramp and

impact to the structure of the boat ramp via the installation of temporary jetty piles. The boat ramp will be repaired to design standards agreed and deemed acceptable by the asset owner, Eurobodalla Shire Council (ESC).

Site Preparation

Prior to construction of the temporary jetty piles the following would be undertaken:

- design standards of the repair methodology for the southern boat ramp will be agreed and deemed acceptable by the asset owner, Eurobodalla Shire Council (ESC)
- relevant management plans and permits would be complete (e.g. Environmental Work Method Statement (EWMS), Marine Parks permit)
- installation of temporary fencing, construction signage, erosion and sedimentation controls in accordance with site-specific ESCP, including silt curtains and hydrocarbon boom around the area below the Mean High Water Mark (MHWM).

Construction

The installation of temporary jetty piles into the existing southern boat ramp would be carried out as follows:

- mobilisation and assembly of plant / machinery at site on the foreshore
- works below the MHWM would be scheduled to occur outside the 1.5 hours either side of high tide (3 hours of tide-restricted work per shift), as measured at the Batemans Bay (Clyde River Bridge) tide gauge
- use concrete cutting equipment to cut out required section of boat ramp, or, remove precast planks as required, to facilitate the positioning of the pile/s required for the temporary jetty
- minor excavation and removal of surface spoil material from below removed boat ramp section to allow for positioning and then impact driving of temporary jetty pile/s (refer EWMS009 Temporary Jetty Construction for all detail around the temporary jetty activity)
- PESCP controls would remain in place until approval for controls to be removed is received from the John Holland Environment Manager.

Decommissioning

The repairs to the existing southern boat ramp upon removal of all temporary jetty piles would be carried out as follows:

- localised damage to the boat ramp structure will be in the form of concrete cut out sections, or, removed precast planks
- relevant management plans and permits would be complete (e.g. EWMS, Marine Parks permit)
- installation of erosion and sedimentation controls in accordance with site-specific PESCP, including silt curtains and hydrocarbon boom around the area below the MHWM
- works below the MHWM would be scheduled to occur outside the 1.5 hours either side of high tide (up to 3 hours of tide-restricted work per shift), as measured at the Batemans Bay (Clyde River Bridge) tide gauge
- repairs to cut out sections would be in consultation with ESC and likely comprise re-instating foundation materials, installing reinforcing mesh and then pouring new concrete to re-instate the boat ramp to an operational capacity
- replacement of precast planks would be in consultation with ESC and likely comprise re-instating foundation materials, then placing the precast planks using a crane situated above MHWM, then planks connected with steel straps and pins
- all waste associated with the repairs to the existing southern boat ramp upon removal of all temporary jetty piles would be removed from site as per the project WMP and activity-specific EWMS.

2.1.4 Retention of existing boat ramp

The determined project allowed for the demolition and replacement of the existing boat ramp on the northern foreshore at Old Punt Road. Changes during the detailed design process have resulted in the existing boat ramp on the northern foreshore being retained during operation, eliminating the need to replace this boat ramp during operation.

2.2 Need for the proposed modification

Subsequent to the determination of the project, it was identified that both of the existing boat ramps in the proposal area would need to be closed to the public during construction for safety reasons. A construction zone and exclusion zone for crane operation will exist over both existing boat ramps during construction and, as such, they would not be safe for public use. The proposed modification is required to facilitate safe recreational and emergency services boating in response to the temporary closure of the existing boat ramps off both the southern and northern foreshores during construction.

The project REF, as amended by the submissions report, allowed for the southern boat ramp off Clyde Street to remain open for the majority of the new bridge construction period. The submissions report also stated that, whilst the existing northern boat ramp would be temporarily closed to the public during construction, it may be removed and relocated further east if the structure was to be affected by the final bridge design. However, it has since been determined that both boat ramps would need to be temporarily closed to accommodate major construction areas for the new bridge.

Construction on the southern foreshore upstream of the existing bridge will include a temporary jetty that will be used to move equipment to and from the river and the use of large equipment, including cranes up to 450 tonnes, which would require the establishment of construction and exclusion zones for safety reasons. Construction and exclusion zones for equipment and activities of a similar scale, but excluding the temporary jetty, would also be required on the northern foreshore upstream of the existing bridge. The cranes will operate within, or in very close proximity to, the existing boat ramps at Old Punt Road and Clyde Street (refer to Appendix C).

To facilitate construction activities and for the safety of workers, the public and river users, the two existing boat ramps will be temporarily closed during construction while major work is underway. On the southern foreshore, the boat ramp public parking will also be temporarily closed during construction, whilst the associated amenities block will be demolished (replaced post-construction). Temporary piles would be installed into the southern boat ramp itself to establish the temporary jetty, with the damage to be repaired post construction.

The existing northern boat ramp was closed to the public in late January 2019. The existing southern boat ramp will be closed once the proposed temporary boat ramp is commissioned (around late April 2019, weather permitting). Both existing boat ramps and associated car parks will be reopened to the public after construction is complete and prior to bridge operation. Prior to bridge operation, the southern boat ramp precinct would see the demolished amenities rebuilt and the damage to the boat ramp repaired. This would occur in conjunction with the decommissioning and site rehabilitation of the proposed temporary boat ramp off Korner's Park.

The proposed temporary boat ramp would address a commitment made in the submissions report that at least one of the two existing boat ramps within the proposal area would be available to the public at all times. Considering both current boat ramps would be closed for an extended period of time during bridge construction, an operational boat ramp is required to deliver on that commitment which would be fulfilled by the proposed modification.

Importantly, the proposed modification would address safety concerns associated with public boating. This would be achieved through moving public boaters away from the construction zones adjacent to both the southern and northern existing boat ramps, creating a safer environment. Utilising the proposed temporary boat ramp during bridge construction would further increase public safety by reducing the demand on alternative boat ramps such as those at Hanging Rock and the smaller boat ramps at Nelligen (upstream of Batemans Bay). Both alternative launching spots are more remote than the boat ramps off Clyde Street and Old Punt Road, which are temporarily being replaced by the proposed modification. In addition, the sand bar between the Hanging Rock boat ramp and existing Batemans Bay bridge is hazardous to inexperienced boaters and the safe crossing of the bar can be restricted by the tide. The road travel distance to the existing boat ramp at Nelligen would not be practical for most recreational boaters wanting to access the river area in the vicinity of the project. Increased use of the existing alternative boat ramps outside the

project footprint may also lead to traffic congestion on the urban and Kings Highway routes to both these locations, as well as increased marine traffic at the boat ramps themselves.

In addition to minimising potential maritime traffic impacts at the alternative launch sites at Hanging Rock and Nelligen, the proposed temporary boat ramp would also provide a location easily accessible by emergency services if an accident was to occur. Emergency services using marine vessels launched from land have been consulted on the proposed modification, specifically around upstream access under the existing bridge due to vessel height limitations.

In summary, the proposed modification would increase public safety by moving boat launching away from active construction zones located predominately upstream of the existing bridge and abutments. The proposed modification would also minimise potential traffic congestion along routes to the alternative boat ramps outside the project footprint and reduce marine traffic congestion and increase public safety at alternative launching sites (especially during holiday periods).

2.3 Consultation

Consultation was undertaken with Department of Primary Industries (DPI) Batemans Bay Marine Park and DPI Fisheries in November and December 2018 regarding the proposed modification. Additional consultation with Marine Rescue, Water Police, the Maritime branch of Roads and Maritime and Eurobodalla Shire Council was carried out in March 2019.

Consultation with DPI Fisheries was undertaken to review potential impacts to sensitive species that may occur around the foreshore area as a result of the temporary boat ramp. Concerns from DPI Fisheries around saltmarsh species were addressed during a site inspection on 26th November 2018 which confirmed there were no saltmarsh species on the foreshore around the temporary boat ramp construction footprint. DPI Fisheries concerns around impact to seagrass raised at the same site inspection were addressed by the provision of additional seagrass mapping which confirmed that the proposed modification would not impact seagrass (Appendix B).

Consultation with DPI Batemans Marine Park commenced with a site inspection on 22nd November 2018 where concerns were raised about the temporary boat ramp, including hydrological impacts and ongoing maintenance, which are addressed in Section 3.1 of this document. Additionally, a detailed description of construction and decommissioning activities, materials and timing (as requested by DPI Batemans Marine Park and Fisheries) has been provided to these stakeholders by the activity-specific EWMS.

Further consultation with DPI Batemans Bay Marine Park and DPI Fisheries has been carried out throughout early 2019 during the application process for an activity-specific Marine Parks permit under Part 1 of the Marine Estate Management (Management Rules) Regulations 1999, and as part of the notification process under section 199 of the *Fisheries Management Act 1994*, respectively. The main concerns raised by DPI Batemans Marine Park and DPI Fisheries surrounding justification for the activity-specific Marine Parks permit have been addressed in this consistency review document, which highlights public safety as the primary purpose of the proposed modification.

Emergency services using marine vessels launched from land were consulted on the proposed modification by phone call on 14th March 2019, specifically around upstream access under the existing bridge due to vessel height limitations. Marine Rescue, NSW Water Police and the Maritime branch of Roads and Maritime have all confirmed that no bridge lift is required for any of their vessels to transit upstream from the proposed temporary boat ramp.

Eurobodalla Shire Council (ESC) were consulted on the southern boat ramp impacts component of the proposed modification by phone call and follow up email on 25th March 2019, specifically around damage to this boat ramp to facilitate the installation of temporary jetty piles and the agreed repair standards once the temporary piles are removed. A commitment to pre and post-works dilapidation surveys of the structure has been made with ESC, in addition to a commitment that all repair works be carried out to the standards proposed by ESC.

Roads and Maritime will continue to consult with ESC, government agencies, (including DPI Fisheries and DPI Batemans Bay Marine Park), emergency services and the community throughout the detailed design and construction phases of the proposed modification in accordance with the Community Involvement Plan.

Table 2-1: Summary of issues raised by stakeholders

Group	Issue raised	Response / where addressed in addendum REF
<p>DPI Batemans Marine Park and DPI Fisheries</p>	<ul style="list-style-type: none"> • Why use of the current boat ramps at Nelligen or Hanging Rock has been deemed insufficient. • There is a new permanent boat ramp proposed for the northern side of the bridge situated approx. 100m upstream of this temporary ramp. Given the disturbance to the sand dunes and beach area caused to construct and then remove a ‘temporary ramp’ we would strongly recommend that a single ramp only is built. • The ramp is situated in a highly dynamic site on the western edge of the large sand lobe which extends out onto the Batemans Bay bar. The current ramp which is upstream is often inundated by sand accumulating over the top of it. Further information is required about how this issue will be managed during the operational phase of the ramp. • Has any hydrological data been considered in the design and placement of the ramp? If a single permanent ramp were considered, we recommend that a raised design be adopted on the northern bank of the river to allow for sand to flow beneath the ramp surface rather than accumulate above it. 	<ul style="list-style-type: none"> • Sending small/recreation vessels to the Hanging Rock boat ramps creates additional safety risks (Section 2.2). Sending small/recreation vessels to Nelligen introduces risks due to longer transit distances required to travel to access the stretch of Clyde River at Batemans Bay (Section 2.2). • New permanent boat ramp to be constructed on northern foreshore is not confirmed at this stage. Due to immediate safety concerns presented by the construction of the new bridge the temporary boat ramp needs to be constructed in this position (Section 2.2 and Table 3-1). • Noted. In line with the Design Documentation there is rock scour protection at the toe and sides of the ramp to mitigate the issue of scour. The Design Documentation also nominates scour protection along the sides of the ramp which is in direct response to hydraulic modelling of scour at the proposed ramp structure (Appendix A). The management of any sand at the temporary boat ramp will be in line with the activity-specific EWMS and will include regular monitoring and maintenance (Table 3-1). • A site-specific hydrographic survey has been undertaken 500m up and downstream of the existing bridge to assess local bathymetry and determined that this location is suitable for the boat ramp. Hydraulic modelling of scour at the proposed temporary ramp structure has also been carried out and resulted in the rock scour protection design at the toe and sides of the ramp (Appendix A). Photos and design comments on a permanent boat ramp have been noted, however, at this stage there is only a need to construct a temporary

Group	Issue raised	Response / where addressed in addendum REF
	<ul style="list-style-type: none"> Although termed a ‘temporary ramp’ in practice the works undertaken to construct and remove it would be the same as those employed on a permanent structure and as a result cause substantial disturbance and present higher environmental risks to the site through the use of large machinery on the beach over multiple time frames. To adequately assess the proposed works DPI require a full scope of works, describing each stage of construction, future ramp maintenance and removal of the ramp with expected timeframes. A CEMP and EWMS should be prepared to address all environmental controls. If the ramp proceeds as a temporary structure it must be designed so that it can be removed in its entirety. Detailed designs and an explanation of how it will be installed and removed are required. Of most interest at this stage is how the base layer will be contained during operation and during any flood or high flow events? Also, how the base layer material including all small rock and fines will be removed from the site. 	<p>boat ramp to be removed following completion of the project.</p> <ul style="list-style-type: none"> The disturbance created by works proposed to construct and remove a temporary boat ramp are equivalent to those works proposed by the project REF, whereby the existing Old Punt Road boat ramp was to be potentially demolished and a new boat ramp constructed further east on the northern foreshore (Section 2.1.4). The use of the use of large machinery on the beach will only be short-term and, again, equivalent to the short-term impacts that have been assessed by the project REF. An activity-specific EWMS which addresses all environmental controls will be provided to DPI for review prior to works commencing (Section 2.1.1). Noted. The proposed temporary boat ramp will be removed in its entirety. Detailed designs and an explanation of how it will be installed and removed are contained within the activity-specific EWMS which will be provided to DPI for review. Based on hydraulic modelling the Design Documentation specifies rock scour protection at the toe and sides of the ramp (Appendix A). This scour protection rock will act to contain and protect the base layer during any flood or high flow events. The geotextile proposed to underlie the gravel and rock layer required below the ramp is of high quality that will last the lifetime of the temporary boat ramp and will be fully recovered. The geotextile will act as a barrier to the base rock fill layer and any fines to ensure it is all encapsulated and recoverable during removal (Table 3-1).

Group	Issue raised	Response / where addressed in addendum REF
	<ul style="list-style-type: none"> Permits will be required under CI 1.16 2 (b) of the Marine Estate Management (Management Rules) Regulations 1999 for 'works in a habitat protection zone'. In this case works can only be permitted for the purposes of 'public safety' or an 'ecologically sustainable use' and our assessment needs to address the proposal from this basis; otherwise a permit cannot be granted. Based on the information presented at the site inspection on 22nd November 2018 DPI don't consider that either of these parameters have been adequately met. 	<ul style="list-style-type: none"> The proposed modification would address safety concerns associated with public boating. This would be achieved through moving public boaters away from the construction zones adjacent to both the southern and northern existing boat ramps, creating a safer environment. Utilising the proposed temporary boat ramp during bridge construction would further increase public safety by reducing the demand on alternative boat ramps such as those at Hanging Rock and the smaller boat ramps at Nelligen. Both alternative launching spots are more remote than the boat ramps off Clyde Street and Old Punt Road, and the sand bar between the Hanging Rock boat ramp and existing Batemans Bay bridge is hazardous to inexperienced boaters and the safe crossing of the bar can be restricted by the tide.

3. Consistency review

3.1 Potential environmental impacts

The project REF described the existing environment, addressed the potential impacts from construction and operation of the project, and identified safeguards and management measures to be implemented to ameliorate the identified potential impacts. Further environmental assessment of specific issues and revised safeguards and management measures in response to submissions received and early design changes were detailed in the submissions report.

Assessment of the proposed modification has been carried out to compare the environmental impacts of the proposed modification relative to the environmental impacts of the determined project. All aspects of the environment potentially impacted upon by the proposed modification have been considered. The identified environmental factors are consistent with those described in the project REF and the submissions report.

The revised safeguards and management measures identified in section 6 of the submissions report are considered adequate and appropriate in managing potential impacts arising from the proposed modification. Table 3-1 compares the potential impacts assessed in the project REF, as amended by the submissions report, with the potential impacts arising from the proposed modification. It also determines whether the proposed modification would result in an additional positive, neutral or negative impact for the respective environmental aspects.

Table 3-1: Comparison of environmental impacts

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
Landscape character and visual impact	<p>Potential impacts on landscape character and visual impact associated with the determined project are included in section 6.1 of the project REF and section 4.1.2 of the submissions report.</p> <p>Construction</p> <p>Neutral impact - Korners Park was included in the 'North Shore Link' visual catchment area that was assessed as part of a landscape character and visual impact assessment in Section 6.1 of the project REF, as amended by the submissions report. This assessment found that the project would result in moderate to high visual impacts to the North Shore Link visual catchment. Further landscape character and visual impacts associated with the proposed modification are generated by the temporary closure of the southern foreshore boat ramp, which was to remain open to the public at all times under the determined project, and the associated temporary loss of public parking, demolition of the public amenities and localised damage via the installation of temporary jetty piles into the southern foreshore boat ramp off Clyde Street west.</p> <p>While temporary minor landscape character and visual impacts on the northern foreshore could be reasonably expected, the proposed modification is likely to reduce any visual or landscape character impacts as assessed by the project</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>REF, due to the reduced ancillary facility area required at Korner's Park when compared with the project REF, as amended by the submissions report. This area no longer required for the Korner's Park ancillary facility, would be taken up by a temporary boat ramp for use by the public, associated offset public parking (including boat and trailer parking) and minor associated features. In addition, the retention of the existing northern foreshore boat ramp at the Old Punt Road carpark, rather than impacting upon this piece of marine infrastructure during construction as foreshadowed under the determined project, sees a reduction in overall landscape character and visual impacts attributable to the determined project.</p> <p>Note that minor and temporary landscape character and visual impacts resulting from earthworks, civil works and the removal of grass would occur during construction of the temporary boat ramp and the installation of temporary piles at the southern boat ramp. However, this would not alter overall neutral impact on landscape character and visual aspects of the proposed modification.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Biodiversity	<p>Potential impacts on biodiversity are included in section 6.2.3 of the project REF and section 4.1.2 of the submissions report.</p> <p>Construction</p> <p>Neutral impact - No impact on biodiversity additional to those assessed in the project REF and submissions report would be expected due to construction of the proposed modification. The proposed modification would result in no change to the determined project's EEC clearing boundary and no need for clearance of additional native vegetation, including marine vegetation.</p> <p>The Clyde River throughout the study area is considered Type 1 Highly Sensitive Key Fish Habitat and Class 1 Major Key Fish Habitat. Due to the environmental control measures to be implemented, the proposed modification is unlikely to significantly increase turbidity in the Clyde River during construction and is therefore unlikely to impact any aquatic species. Construction and removal of the temporary boat ramp, and installation and removal of temporary piles from the existing southern boat ramp would result in a relatively small area of disturbance secured by stringent water quality control measures set out in an activity-specific EWMS (e.g. double silt curtains).</p> <p>The biodiversity assessment within the project REF, as amended by the submissions report, found shorebirds were unlikely to nest in the shoreline near</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>the existing bridge due to the high levels of use and disturbance. As such, the proposed modification is unlikely to have any impact upon shorebird species.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Hydrology and coastal processes	<p>Potential impacts on hydrology and coastal processes associated with the determined project are included in section 6.3.3 of the project REF and section 4.1.2 of the submissions report.</p> <p>Construction</p> <p>Neutral impact - No impact on hydrology or coastal process issues additional to those assessed in the project REF, as amended by the submissions report, would be expected due to construction of the proposed modification. The key risk associated with construction of the temporary boat ramp and installing temporary piles into the existing southern boat ramp would be erosion from earthworks around and at the structures. Details regarding rock scour protection required for the construction of the temporary boat ramp based on design analysis can be found in Appendix A (Temporary boat ramp design). The southern boat ramp is already stabilised and protected from erosive scour by a revetment and timber retaining wall installed along the southern foreshore. Other risks associated with the proposed modification are flooding of the Clyde River during construction or during decommissioning activities. However, the scour protection measures to be installed have been designed for flood impacts.</p> <p>The project REF, as amended by the submissions report, found that the river bed and banks are primarily comprised of sands and gravels. Bedrock close to the surface on the northern bank would be expected to limit lateral movement but elsewhere the river is likely to have the potential to alter its bank alignment and bed profile during major flooding where stabilisation is not already present. These findings, the rock scour protection measures to be installed around the temporary boat ramp and the existing revetment on the southern foreshore, would suggest the northern and southern banks will be resilient to erosion and sediment movement and would not be significantly impacted as a result of the minor construction activities associated with the proposed modification.</p> <p>The project REF, as amended by the submissions report, also identified the beach area associated with Korner's Park as varying in size and shape over long periods of time. It concluded the beach is impacted by coastal processes namely the influence of waves, ambient tidal currents and extreme flood flows</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>rather than by the existing bridge or other infrastructure. The temporary construction and removal of a boat ramp is not expected to cause any significant changes to the geomorphology of this beach.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Soils and water quality	<p>Potential soil and water quality impacts are included in section 6.4 of the project REF and section 4.8.4 of the submissions report.</p> <p>Construction</p> <p>Neutral impact - Section 3.2.3 of the project REF, as amended by the submissions report (Section 5.1), proposed the relocation of the existing northern boat ramp to a suitable location further east if this ramp was to be impacted by the determined project, in particular the final location of the bridge piers which had not yet been determined.</p> <p>During construction of the temporary boat ramp and the installation of temporary piles into the southern boat ramp, minor excavation and concrete cutting / removal would be required, as would be the case for the demolition and relocation of the existing northern boat ramp.</p> <p>The demolition and relocation of the existing northern boat ramp, as proposed in the project REF, would have similar soils and water quality impacts as those expected by the construction and removal of the temporary boat ramp on the northern foreshore, and the installation of a temporary pile into the existing southern boat ramp. The like for like nature of this modification would see the determined project's disturbance footprint of earthworks unchanged, along with any impacts to soils and water quality. The potential for spills and leaks from construction plant and equipment will also remain unchanged from the determined project under the proposed modification.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification, in addition to the 2 further safeguards below, to ensure all environmental issues are addressed.</p> <p>As stated in the activity-specific EWMS, installation and removal of the</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>foundation material (bedding rock), geotextile and precast planks, concrete cutting at the southern boat ramp, beach area rehabilitation, and all other works below the MHWL would only be scheduled to occur outside the 1.5 hours either side of high tide (3 hours of tide-restricted work per shift), as measured at the Batemans Bay (Clyde River Bridge) tide gauge.</p> <p>Water quality would be visually monitored during construction and removal, and field sampling and testing would be undertaken in line with the project Water Quality Monitoring Program (WQMP) to compare against the ambient water quality parameters.</p>
Aboriginal heritage	<p>Potential impacts on Aboriginal heritage associated with the determined project are included in section 6.5.3 of the project REF and section 4.8.5 of the submissions report.</p> <p>Construction Neutral impact – No impacts on Aboriginal heritage additional to those assessed in the project REF and submissions report would be expected due to the construction of the proposed modification. The Aboriginal site Korner's Park AFT 1, within the vicinity of the proposed modification, was assessed in the REF as being wholly impacted. An AHIP has been obtained for impact to this site.</p> <p>Operation No impacts would occur during operation.</p> <p>Safeguards and management measures Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Noise and vibration	<p>Potential noise and vibration impacts associated with the determined project are included in section 6.6.4 of the project REF and section 4.1.2 of the submissions report.</p> <p>Construction Neutral impact - No impacts on noise and vibration additional to those assessed in the project REF and submissions report would be expected due to the construction of the proposed modification. This is due to the fact that an ancillary facility was to be established on the northern foreshore under the project REF, and will still be established in a reduced form at this location, using similar plant and equipment as required to construct the temporary boat ramp, with standard construction hours to be adhered to in line with the project REF, as amended by the submissions report. Similarly, the project REF assessed the construction of a temporary jetty on the southern foreshore and, as such, noise impacts will be unchanged for the proposed modification.</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>Construction of the proposed temporary boat ramp, installation of temporary piles into the existing southern boat ramp and demolition of southern boat ramp amenities would be minor in nature and would occur over a short period during March-April 2019 (weather permitting) at similar distances from residences as the bridge construction activities assessed in the project REF, as amended by the submissions report. In addition, working hours would be in line with the project REF:</p> <p>Mon-Fri: 0700 to 1800 Sat: 0800 to 1300 Sun and Public Holidays: No work</p> <p>Construction equipment used at both northern and southern foreshores would include excavators, cranes, trucks and a piling rig, impacts from all of which were assessed by the project REF, as amended by the submissions report, at both respective locations. For more information on timing and equipment associated with the temporary boat ramp refer to Section 2.1.1.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Traffic and transport	<p>Potential traffic and transport impacts associated with the determined project are included in section 6.7.3 of the project REF and section 4 of the submissions report. Potential marine transport impacts associated with the determined project are included in section 6.7.3 of the project REF.</p> <p>Construction</p> <p>Minor negative impact – Road traffic Neutral impact – Marine traffic</p> <p>The proposed modification would result in minor and temporary additional traffic impacts to those assessed in the project REF, as amended by the submissions report.</p> <p>During temporary boat ramp construction Wharf Road would likely experience minor traffic increases due to the movement of heavy equipment and deliveries of materials such as concrete and foundation rock. Considering construction would occur during April (predominately the Easter holiday period) and the range of other construction activities occurring on Wharf Road as part of project, the minor increase in traffic volumes would not be expected to result in additional impacts to those described in Section 6.7 of the project REF and</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>Section 4 of the submissions report.</p> <p>Wharf Road is designated as a flood evacuation route in the Eurobodalla Shire Council Emergency Management Plan 2013. During times of flood, traffic management would be implemented to allow residents located in Wharf Road and McLeod Street to access higher ground and the designated evacuation point at the Lincoln Downs Motel on the Princes Highway.</p> <p>The project REF, as amended by the submissions report, identified local adjustments were needed on the T-intersection of Wharf Road and the Princess Highway. However, these would not commence until after the new bridge is opened to traffic and would therefore not affect the temporary boat ramp construction or removal.</p> <p>The project designers have confirmed Peninsula Drive to Wharf Road is an existing bus route and, as such, would be sufficient for boat and trailer access.</p> <p>During closures of Wharf Road, vehicles (including those with boat trailers) utilising the temporary boat ramp as an alternative launch spot to the Old Punt Road boat ramp would access it via Peninsula Drive or Wharf Road. During Wharf Road closures all access for southbound traffic would be via Peninsula Drive. Public boaters using the temporary boat ramp as an alternative launch spot to the Clyde Street boat ramp would access it via Peninsula Drive only, due to there being a restriction on right hand turning into Wharf Road for northbound traffic. Northbound traffic leaving the temporary boat ramp would also be required to exit via Peninsula Drive, as Wharf Road is a left turn only onto the Princess Highway.</p> <p>The limitations described above would likely generate increases in traffic on both Peninsula Drive and Wharf Road during construction. However, whilst additional traffic on Peninsula Drive, Wharf Road and the Princess Highway would likely occur, the increase would be minimal considering the temporary boat ramp would have a capacity to accommodate only 13 boat trailers. Furthermore, the temporary boat ramp would not absorb all original traffic from the temporarily closed boat ramps given some of the boats usually launching from Clyde Street on the southern foreshore would launch from the Hanging Rock boat ramp (downstream), which would not require boat trailers to traverse the highway bridge, decreasing potential traffic impacts on the Princes Highway.</p> <p>Importantly the project REF, as amended by the submissions report, assessed future traffic scenarios and concluded the North Street / Princes Highway intersection has sufficient capacity to handle the increased traffic into the Batemans Bay CBD and foreshore areas. This finding suggests traffic around the Batemans Bay foreshore would have capacity to accommodate the minor increase of traffic associated with the construction of the temporary boat ramp and temporary closure of existing boat ramps.</p> <p>In the absence of the proposed modification, the road travel distance to the existing boat ramp at Nelligen would not be practical for most recreational boaters wanting to access the river area in the vicinity of the project, whilst increased use of the existing alternative boat ramps outside the project</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>footprint would likely generate traffic congestion on the urban and Kings Highway routes to both these locations.</p> <p>The proposed modification may also result in changes to traffic patterns associated with the determined project during removal of the temporary boat ramp, as compared with traffic conditions if the boat ramp was retained as a permanent fixture. While minor traffic delays may be experienced, it is important to note minor traffic delays and road closures around the northern foreshore associated with the temporary boat ramp decommissioning would only occur for a short period of time.</p> <p>No impacts on marine transport aspects additional to those assessed in the project REF, as amended by the submissions report, would be expected due to the construction of the proposed modification. The existing southern boat ramp on Clyde Street would remain operational until the temporary boat ramp is constructed and opened to the public. Emergency services using marine vessels launched from land have confirmed that no restrictions will be imposed on their operations by the proposed modification and that no bridge lifts are required for their vessels to transit upstream from the proposed temporary boat ramp.</p> <p>Upon opening of the proposed temporary boat ramp, the existing southern boat ramp on Clyde Street would be closed for the duration of construction. The temporary boat ramp would ensure one boat ramp within the project footprint remains open to the public at all times throughout the project, in line with the commitments made in the project REF, as amended by the submissions report.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report, are considered adequate for the proposed modification to ensure all environmental issues are addressed. Key safeguards and mitigation methods would include the approved CEMP and associated Traffic and Safety Management Plan (TS&MP). Traffic control arrangements, fencing, signage and consultation with residents on Wharf Road, Peninsula Drive and Mundarra Way would be implemented as part of the TS&MP to reduce traffic delays, ensure safety of road users, cyclists and pedestrians and to keep residents updated on changing traffic conditions.</p>
Property and land use	<p>Potential impacts on property and land use associated with the determined project are included in section 6.8.2 of the project REF and section 4.3.2 of the submissions report.</p> <p>Construction</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>Neutral impact – The proposed modification will have no additional impact upon property and land use aspects as assessed by the project REF, given that the reduction in property and public land use area caused by the temporary closure of the southern boat ramp will be offset by the reduced ancillary facility area required to support construction at Korner's Park. This area of public space to be retained at Korner's Park, when compared to the project REF, as amended by the submissions report, will be utilised for the establishment of the proposed temporary public boat ramp and provision of car and boat trailer parking, in addition to amenities.</p> <p>Furthermore, the proposed temporary boat ramp construction would occur within the existing project footprint on Crown Land. As such, the area subject to the proposed modification would not require any further acquisition of land to that assessed in the project REF, as amended by the submissions report.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Socio-economic	<p>Potential socio-economic impacts associated with the determined project are included in section 6.9.3 of the project REF and section 4.1.2 of the submissions report.</p> <p>Construction</p> <p>Positive impact - The proposed modification would be expected to result in positive overall socio-economic impacts during construction, when compared to the impacts of the overall project considered in the REF and submissions report, whereby the existing southern boat ramp, car park and amenities were to remain open to the public nearby to construction zones. During bridge construction, the temporary boat ramp would increase public safety by ensuring that public boat users are moved well away from major construction zones, such as the existing southern boat ramp, car parking and associated amenities. The proposed modification would also increase safety by reducing the number of boaters launching from alternative ramps such as Hanging Rock which presents significant safety issues in that the sand bar between the Hanging Rock boat ramp and the existing Batemans Bay bridge is hazardous to inexperienced boaters and the safe crossing of the bar can be restricted by the tides. Additionally, the impacts of the proposed modification are reduced for emergency services vessels and workers by locating the temporary boat ramp away from major construction zones and ensuring better local accessibility than that provided by the alternative ramps at Hanging Rock and Nelligen if an accident was to occur in the vicinity of the project footprint, therefore further increasing public safety.</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>Cultural events held in Korners Park and around the southern foreshore area such as ANZAC Day services (25 April), the Batemans Bay Paddle Challenge (27 April) and Sculpture on Clyde (late August-early September) would not be impacted by the boat ramp construction given the temporary boat ramp is expected to be open to the public by these dates in 2019.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Non-Aboriginal heritage	<p>Potential impacts on non-Aboriginal heritage associated with the determined project are included in section 6.10.3 of the project REF and section 4.8.7 of the submissions report.</p> <p>Construction</p> <p>Neutral impact – No impacts on non-Aboriginal heritage additional to those assessed in the project REF, as amended by the submissions report, would be expected due to construction of the proposed modification.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Waste management	<p>Potential impacts on waste management associated with the determined project are included in section 6.11.1 of the project REF.</p> <p>Construction</p> <p>Neutral impact – No additional waste impacts to those assessed in the project REF, as amended by the submissions report, would be expected due to the construction of the proposed modification. This is due to the reduction in waste realised by retaining the existing northern boat ramp, which was to be potentially impacted under the determined project as a consequence of the detailed design process for the proposed bridge.</p> <p>The waste generation during construction of the temporary boat ramp and</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>temporary pile installation at the southern boat ramp, via the removal of non-reusable materials associated with decommissioning of the proposed temporary boat ramp, would offset the aforementioned northern boat ramp waste reduction to have an overall neutral impact. The materials which would be removed under the proposed modification include concrete bedding, precast concrete planks, scour / armour rocks, clean rocks, bedding rocks, geotextile fabric, safety fences, erosion and sediment controls and general waste associated with workers.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Air quality	<p>Potential air quality impacts associated with the determined project are included in section 6.12.3 of the project REF.</p> <p>Construction</p> <p>Neutral impact - No impacts on air quality additional to those assessed in the project REF and submissions report would be expected due to construction of the proposed modification. Construction activities associated with proposed modification may produce dust emissions, although these are unlikely to increase the air quality impacts considered in the project REF, as amended by the submissions report, and would not be additional to those dust impacts which would have been generated by the removal of the existing northern boat ramp, as foreshadowed by the project REF.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Climate change and sustainability	<p>Potential climate change and sustainability issues associated with the determined project are included in section 6.13.2 of the project REF.</p> <p>Construction</p> <p>Neutral impact - The proposed modification would not result in a measurable</p>

Environmental issue	Consideration of the relative environmental impacts of the proposed modification compared to the determined project
	<p>variation in the quantity of greenhouse gas emitted during construction of the proposed modification. The increase of extreme weather events such as flooding associated with climate change may impact the northern foreshore area around the temporary boat ramp and carpark and the southern foreshore area around the installed temporary piles in the southern boat ramp. However, considering the proposed modification would be removed within a few years, it would not be impacted in the longer term by climate change.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>
Cumulative impacts	<p>Potential cumulative impacts associated with the determined project are included in section 6.14.1 of the project REF.</p> <p>Construction</p> <p>Neutral impact - No cumulative impacts additional to those assessed in the project REF and submissions report would be expected due to construction of the proposed modification. This is due to the fact that there has been no change in the number and scale of projects occurring in the at the same time as the proposed modification.</p> <p>Operation</p> <p>No impacts would occur during operation.</p> <p>Safeguards and management measures</p> <p>Safeguards and mitigation measures within the submissions report are considered adequate for the proposed modification to ensure all environmental issues are addressed.</p>

3.2 EPBC Act factors

Under the environmental assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999*, the following matters of national environmental significance and impacts on Commonwealth land are required to be considered for the proposed modification.

Table 3-2: Comparison of EPBC Act factors

Factor	Consideration of the relative impact of the proposed modification compared to the determined project
Any impact on a World Heritage property?	There are no World Heritage properties within or near the proposed modification area.
Any impact on a National Heritage place?	There are no National Heritage places within or near the proposed modification area.
Any impact on a wetland of international importance?	There are no wetlands of international importance within or near the proposed modification area. There would be no impact to wetlands of international importance by the proposed modification.
Any impact on a listed threatened species or communities?	There would be no impact to EPBC Act listed threatened species which are known to occur in the proposed modification area.
Any impacts on listed migratory species?	There would be no impact to listed migratory species known to occur in the proposed modification area.
Any impact on a Commonwealth marine area?	There are no Commonwealth marine areas within or near the proposed modification area. There would be no impact to Commonwealth marine areas by the proposed modification.
Does the proposal involve a nuclear action (including uranium mining)?	The proposed modification does not involve a nuclear action.
Additionally, any impact (direct or indirect) on Commonwealth land?	There is no Commonwealth land within or near the proposed modification area. The proposed modification would not impact Commonwealth land.

3.3 Licences, permits and approvals

Table 3-3: Comparison of licence, permit and approval requirements

Existing requirement for the determined project	Identification of additional requirements or any change to the existing requirements as a result of the proposed modification
Environment protection licence (EPL) for scheduled activities being extractive activities from the EPA under Protection of the Environment Operations Act 1997 (s43).	The proposed modification would not result in the requirement for any additional licences, permits or approvals.
Permit to harm marine vegetation from the Minister for Primary Industries under Fisheries Management Act 1994 (s205).	A Section 199 notification Letter to DPI Fisheries for “dredging and reclamation” work is required to be submitted at least 21 days prior to “dredging and/or reclamation” works for the proposed modification commencing.
Aboriginal heritage impact permit (AHIP) from the Chief Executive of OEH under National Parks and Wildlife Act 1974 (s90).	The proposed modification would not result in the requirement for any additional licences, permits or approvals.
Written notification to OEH of removal of heritage items from the Roads and Maritime S170 heritage and conservation register under Heritage Act 1977.	The proposed modification would not result in the requirement for any additional licences, permits or approvals.
Water supply work approval from DPI (Water) under Water Management Act 2000 (s90).	The proposed modification would not result in the requirement for any additional licences, permits or approvals.
Aquifer interference approval from DPI (Water) under Water Management Act 2000 (s91F).	The proposed modification is not defined as an aquifer interference activity; therefore, it would not result in the requirement for any additional licences, permits or approvals.

Existing requirement for the determined project	Identification of additional requirements or any change to the existing requirements as a result of the proposed modification
<p>Marine Parks Permit for work in the Batemans Bay Marine Park under Marine Estate Management Act 2014.</p>	<p>The proposed modification will require a Marine Parks Permit under Clause 1.19(2)(b) of the Marine Estate Management (Management Rules) Regulations 1999 for the 'works in a habitat protection zone'. The Permit and the supporting documentation will need to satisfy the permissibility criteria that the proposal must be for the purposes of 'public safety' or an 'ecologically sustainable use'. This consistency review highlights the 'public safety' purpose served by the temporary boat ramp (See Section 2.2).</p> <p>Any Marine Parks Permit application required for the proposed modification would be assessed independently by DPI Batemans Marine Park against Clause 9 of the Marine Estate Management Regulation 2017. The assessment criteria for a Marine Parks Permit are detailed in Table 2-2 of the submissions report.</p>
<p>Licence to occupy areas of Crown land under Crown Lands Act 1989 (s6).</p>	<p>The proposed modification would not result in the requirement for any additional licences, permits or approvals.</p>

3.4 Consistency review

Table 3-4 below presents a set of questions to assist in identifying whether the proposed modification is consistent with the project, or if further environmental impact assessment is required. These questions are addressed with consideration to the information above.

Table 3-4: Consistency review questions

Consistency questions	Discussion	Response
<p>Q1) Is the proposed modification to be carried out as part of a project which has a determined REF?</p> <p><i>If answered No, this consistency review does not apply to your proposed works. Seek advice from your Environmental Manager.</i></p>	<p>The proposed modification would be carried out as part of the existing Batemans Bay Bridge Replacement project which was subject to an REF that was determined in November 2017.</p>	Yes
<p>Q2) Is the proposed modification so different in scope and impacts to the determined REF as to be a radical transformation and so, in reality, an entirely new project?</p> <p><i>If answered Yes, a separate environmental impact assessment is required. This may take the form of a new REF, an environmental impact statement or a development application as advised by the Roads and Maritime Environment Manager.</i></p> <p><i>If answered No, proceed to the next question.</i></p>	<p>The proposed modification would be carried out entirely within the determined project footprint and does not result in a substantive change to the key design elements of the project or the potential impacts identified and assessed in the project REF, or the submissions report. The safeguards and management measures of the submissions report are therefore considered adequate and appropriate in managing potential impacts arising from the modification.</p>	No

Consistency questions	Discussion	Response
<p>Q3) If the proposal is subject to the EPBC strategic assessment or other EPBC Act approval, would the proposed modification change the potential impacts on matters of national environmental significance or the environment of Commonwealth land?</p> <p><i>If answered Yes, advice is to be sought from the Roads and Maritime Environment Manager and the Senior Specialist (Biodiversity) on how to proceed.</i></p> <p><i>If answered No, proceed to the next question.</i></p>	<p>The determined project is not subject to the EPBC Strategic Assessment or any other EPBC Act approval.</p> <p>The assessment of the impact of the proposed modification on matters of national environmental significance and the environment of Commonwealth land considers that there would be no change to the findings of the determined project and the proposed modification is not likely to significantly impact threatened species, populations, ecological communities or migratory species, or the environment of Commonwealth land, within the meaning of the EPBC Act.</p> <p>A referral to the Australian Government Department of the Environment and Energy is not required for the proposed modification.</p>	<p>No</p>
<p>Q4) If the proposal is subject to a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR), would the proposed modification change the potential impacts on areas of outstanding biodiversity value, threatened species or ecological communities and their habitats as set out in the SIS or BDAR and its Conditions?</p> <p><i>If answered Yes, advice is to be sought from the Roads and Maritime Environment Manager and the Senior Specialist (Biodiversity) on how to proceed.</i></p> <p><i>If answered No, proceed to the next question.</i></p>	<p>The determined project is not subject to a SIS or BDAR.</p> <p>The proposed modification is not likely to significantly impact threatened species, populations or ecological communities or their habitats, within the meaning of the BC Act or FM Act and therefore a Species Impact Statement is not required.</p>	<p>No</p>

Consistency questions	Discussion	Response
<p>Q5) Would the proposed modification result in a reduction of the overall environmental impacts of the determined project including that it would not be likely to trigger the EPBC Act strategic assessment, other EPBC approval, SIS or BDAR?</p> <p><i>If answered Yes, the proposed modification is consistent with the determined project. This consistency review is to be completed and endorsed. Any actions identified by the Roads and Maritime Environment Manager are to be implemented.</i></p> <p><i>If answered No, further environmental impact assessment is required and will need to be documented. This may take the form of an Addendum REF (Resource 19 or 20) as advised by the Roads and Maritime Environment Manager.</i></p>	<p>This consistency review has assessed the environmental risks associated with undertaking the proposed modification and considers that it would result in an overall reduction in impacts associated with the determined project. The proposed modification is integral to the project and would deliver positive socio-economic benefits throughout the project lifetime by addressing safety concerns associated with public boating. This would be achieved through moving public boaters away from construction zones which are directly upstream of the existing bridge at both existing northern or southern boat ramps, creating a safer environment for the public and emergency services using the temporary boat ramp than would have been the case if the southern boat ramp directly adjacent to a construction zone was to remain open to the public at all times during construction, in line with the REF.</p> <p>Other positive impacts will be realised from a landscape character and visual impacts perspective, given the inclusion of Korners Park in the 'North Shore Link' visual catchment area under the project REF, as amended by the submissions report. The project REF assessment found that construction would result in moderate to high visual impacts to the 'North Shore Link' visual catchment. The visual or landscape character impacts assessed by the project REF, as amended by submissions report, would be reduced and positive benefits realised under the proposed modification due to the reduction in overall area required for the ancillary facility at Korners Park. Under the proposed modification this area would be used for offset public parking and a temporary boat ramp, as opposed to the project REF, whereby the entire area was to be utilised as an ancillary facility.</p> <p>Potential minor negative short-term impacts associated with the proposed modification during the construction period would be minimised through implementation of safeguards and management measures outlined in the submissions report, and other approved environmental management plans (such as the CEMP and associated sub-plans).</p> <p>The positive benefits of the proposed modification over the project lifetime outweigh the minor short-term negative localised impacts during construction.</p>	<p>Yes</p>

Consistency questions	Discussion	Response
<p>Q6) Whatever the outcome of the consistency review, are modifications to any other authorisations, or new authorisations, required, eg environment protection licences, Heritage Act permits, permits under the Fisheries Management Act etc?</p> <p><i>If answered Yes, provide details as to which authorisations would require modification or would now be required and the associated implications.</i></p>	<p>The proposed modification would require an activity-specific marine parks permit under Part 1 of the Marine Estate Management (Management Rules) Regulations 1999 and would require the notification of DPI Fisheries under section 199 of the <i>Fisheries Management Act 1994</i>, respectively.</p> <p>This process would involve further consultation with DPI Batemans Bay Marine Park and DPI Fisheries.</p>	<p>Yes</p>

4. Conclusion

This consistency review has considered the proposed modification in terms of consistency against the determined project *Batemans Bay Bridge replacement – Review of environmental factors – November 2017 and Batemans Bay Bridge replacement – Review of environmental factors submissions report – May 2018*.

As set out in Table 3-4 above, the proposed modification is considered to be consistent with the determined project and would not result in any potential impacts additional to those identified and assessed in the project REF and submissions report. Furthermore, the project would not result in additional impacts that would likely trigger the need for an EPBC Act strategic assessment, EPBC Act approval, SIS, or BDAR.

The proposed modification is located entirely within the project determined footprint. It is considered that the potential impacts arising from the proposed modification are consistent with the potential construction and operational impacts identified and assessed in the project REF, as amended by the submissions report.

5. Certification and endorsement

5.1 Certification – Consistency review preparer

This document provides a true and fair consistency review of the scope and potential impacts of the proposed modification compared with the scope and environmental impacts of the determined project.

Signed		Signed	
Name	Sam McDonald	Name	Clint Dedden
Position	Environmental Scientist (SLR Consulting)	Position	Environment Manager (John Holland)
Date	4 April 2019	Date	5 April 2019

5.2 Roads and Maritime certification and endorsement

I have reviewed the scope and potential environmental impacts of the proposed modification against the determined project. The proposed modification would reduce the overall environmental impacts of the determined project and as such, in accordance with section 5.4(a) of the EP&A Act, is exempt from further environmental impact assessment.

The proposed modification would not trigger the EPBC Act strategic assessment/other EPBC Act approval and/or a SIS or BDAR.

The CEMP and sub plans will be updated to incorporate the modification.

Signed		Signed	
Name	Michelle Toms	Name	Kylie Curran
Position	Roads and Maritime Environment Officer	Position	Roads and Maritime Project Manager
Date	12 April 2019	Date	15 April 2019

5.2.1 Endorsement

I have examined consistency of the proposed modification with the determined Batemans Bay Bridge Replacement. In accordance with section 5.4(a) of the EP&A Act I endorse the findings of this consistency review subject to adoption of my requirements in the table below

Requirements	<ul style="list-style-type: none">• Eurobodalla Shire Council will be consulted and provide agreement regarding impact to the existing boat ramp off Clyde Street on the southern foreshore. Evidence of this agreement must be provided to RMS prior to any impact to the boat ramp.• The existing boat ramp will be repaired to design standards agreed and deemed acceptable by Council. Evidence of this agreement must be provided to RMS prior to any repairs to the boat ramp.
--------------	--

Signed  _____

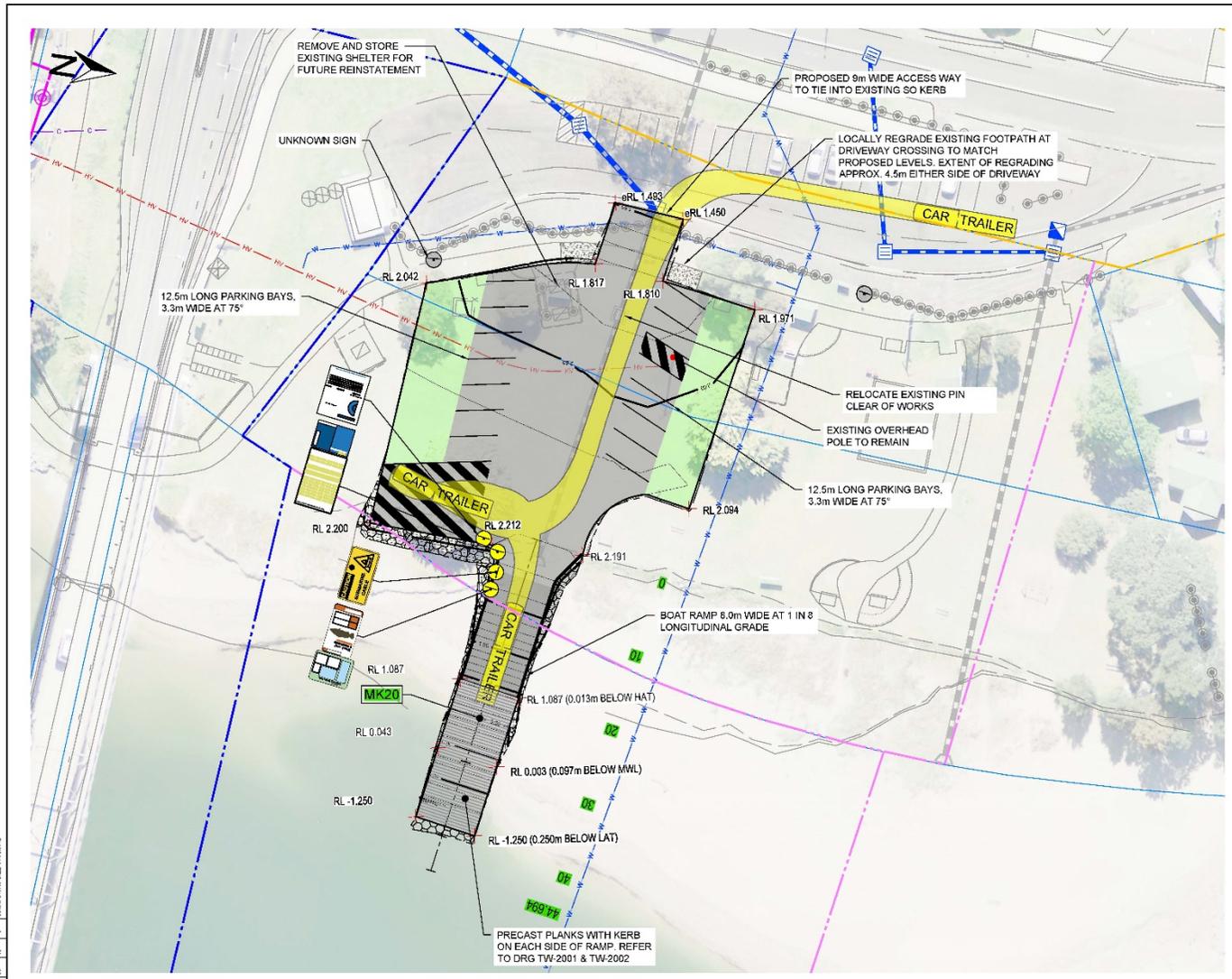
Name David Ledlin _____

Position Roads and Maritime Environment Manager, SaWPO and Hunter NPO _____

Date 17/04/2019 _____

Appendix A

Temporary Boat Ramp Design



LEGEND

- EXISTING SURVEY
- PROPOSED DESIGN
- CADASTRAL BOUNDARY
- SITE BOUNDARY
- LOCAL ROAD BOUNDARY
- TEMPORARY WORKS BOUNDARY
- PAVEMENT TYPE 1
- PAVEMENT TYPE 2
- PAVEMENT TYPE CAR PARK
- GRASS AREA
- PAVEMENT FOOTPATH
- SCOUR PROTECTION
- DESIGN FINISHED SURFACE LEVEL
- PROPOSED SIGN LOCATION
- EXISTING SIGN LOCATION
- PROPOSED SIGN
- RMS CODE FOR REGULATORY SIGNAGE
- EXISTING SIGN TO REMAIN / RELOCATE
- EXISTING SIGN TO BE REMOVED OR COVERED
- EXISTING SIGN RELOCATED

PROPOSED SERVICES

- COMMUNICATION
- ELECTRICAL HV
- WATER
- PROPOSED STORM WATER DRAINAGE

- NOTES:**
- REDUCED LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
 - CO-ORDINATES ARE TO MAP GRID OF AUSTRALIA (MGA), CO-ORDINATE SYSTEM (ZONE 56).
 - BOLLARDS IS INSTALLED AS PER EUROBOODALLA SHIRE COUNCIL STANDARDS.
 - TIDE LEVELS: LAT = RL -0.800
HAT = RL 1.100
 - PAVEMENT MARKING FOR PARKING BAYS TO BE IN ACCORDANCE WITH RMS DELINEATION GUIDELINES, AND RMS QA SPECIFICATION R141.
 - REFER TO DESIGN MODEL FOR SET-OUT CO-ORDINATES.
 - INSTALL SUBSOIL DRAINAGE AT THE INTERFACE BETWEEN GRASS AND PAVEMENT TYPE 1 ON BOTH SOUTH AND NORTH SIDE AND OUTLET AT SCOUR PROTECTION AREA.

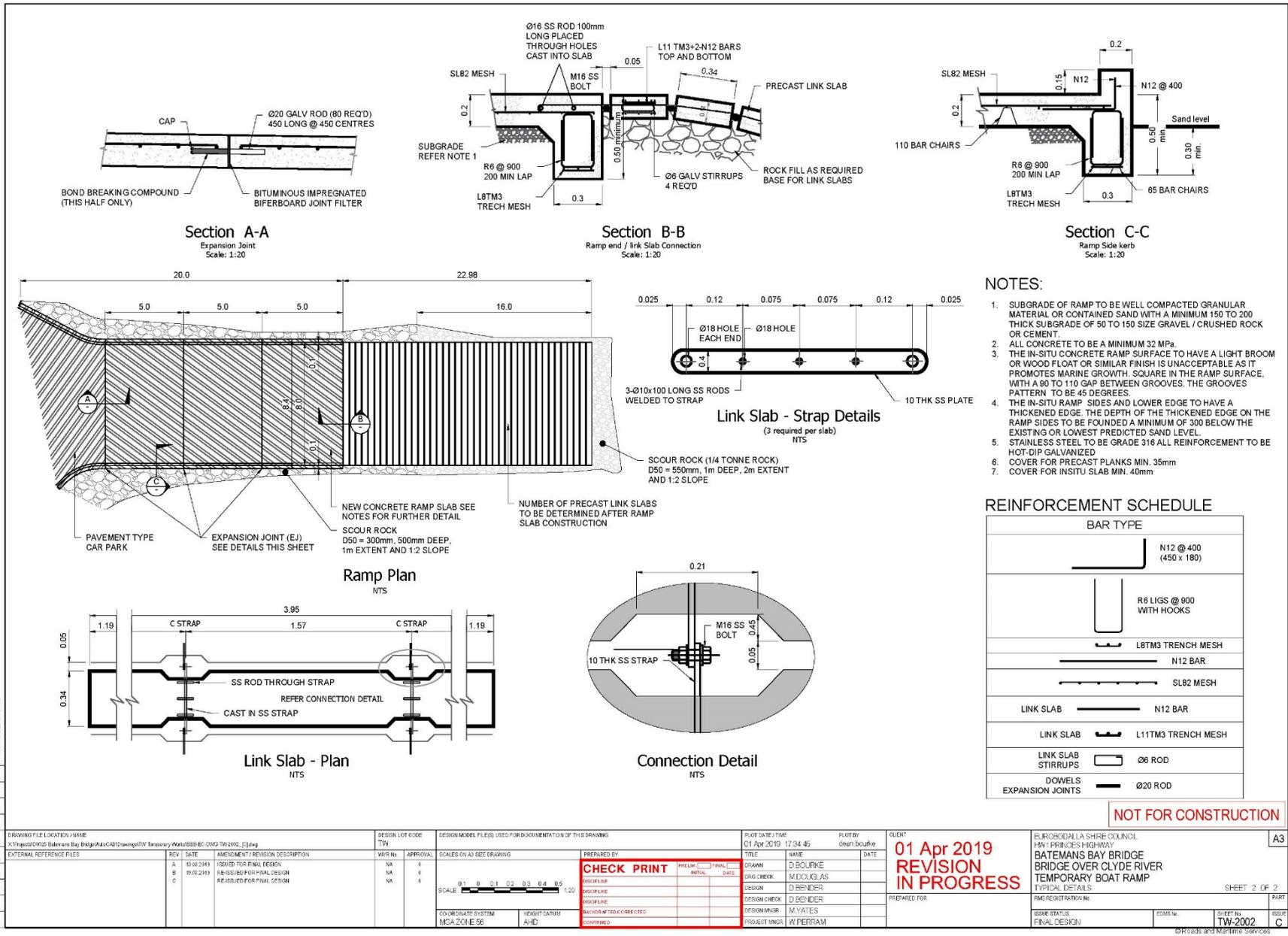


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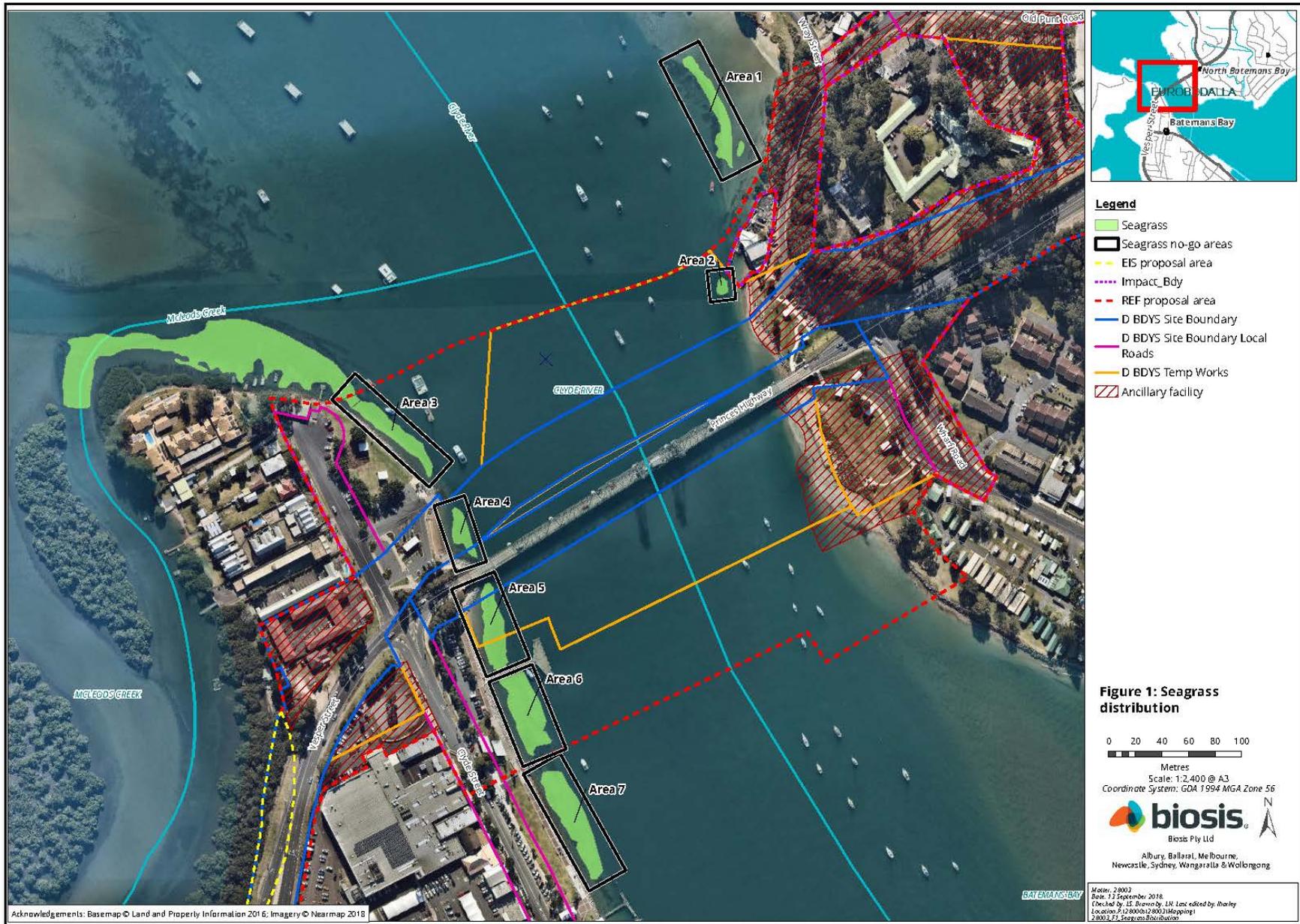
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EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REV'S OR DESCRIPTION	WVR No.	APPROVAL	PREPARED BY	TITLE	NAME	DATE
	A	13/02/2019	ISSUED FOR FINAL DESIGN	NA	0	D. BOURKE	DRAWN	D. BOURKE	
	B		REISSUED FOR FINAL DESIGN	NA	0	M. DOUGLAS	DWG CHECK	M. DOUGLAS	
						D. BENDER	DWG IMP	D. BENDER	
						D. BENDER	DWG CHK	D. BENDER	
						M. YATES	BACKDRIFTED/CORRECTED	M. YATES	
						W. PERRAM	COURT REPORT	W. PERRAM	



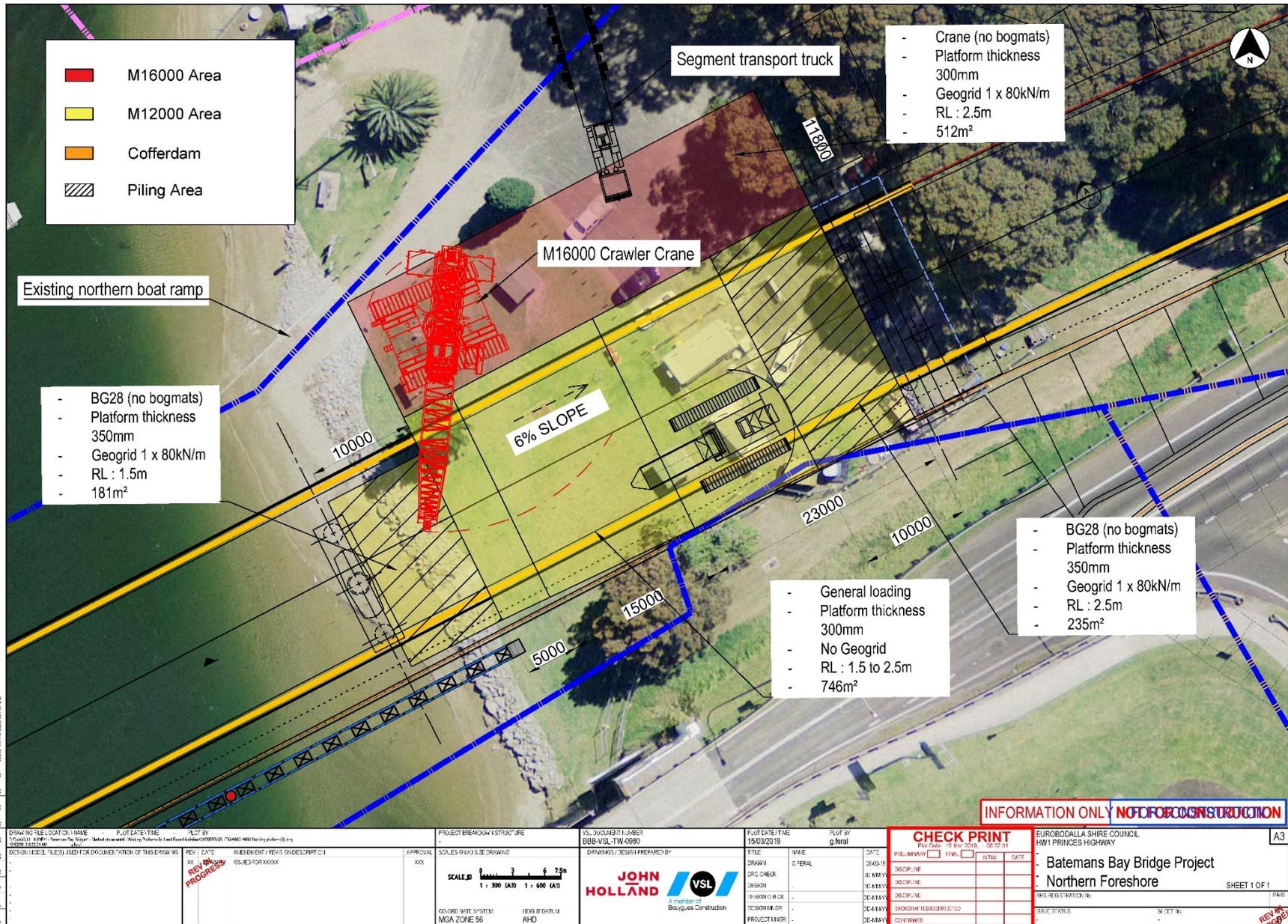
Appendix B

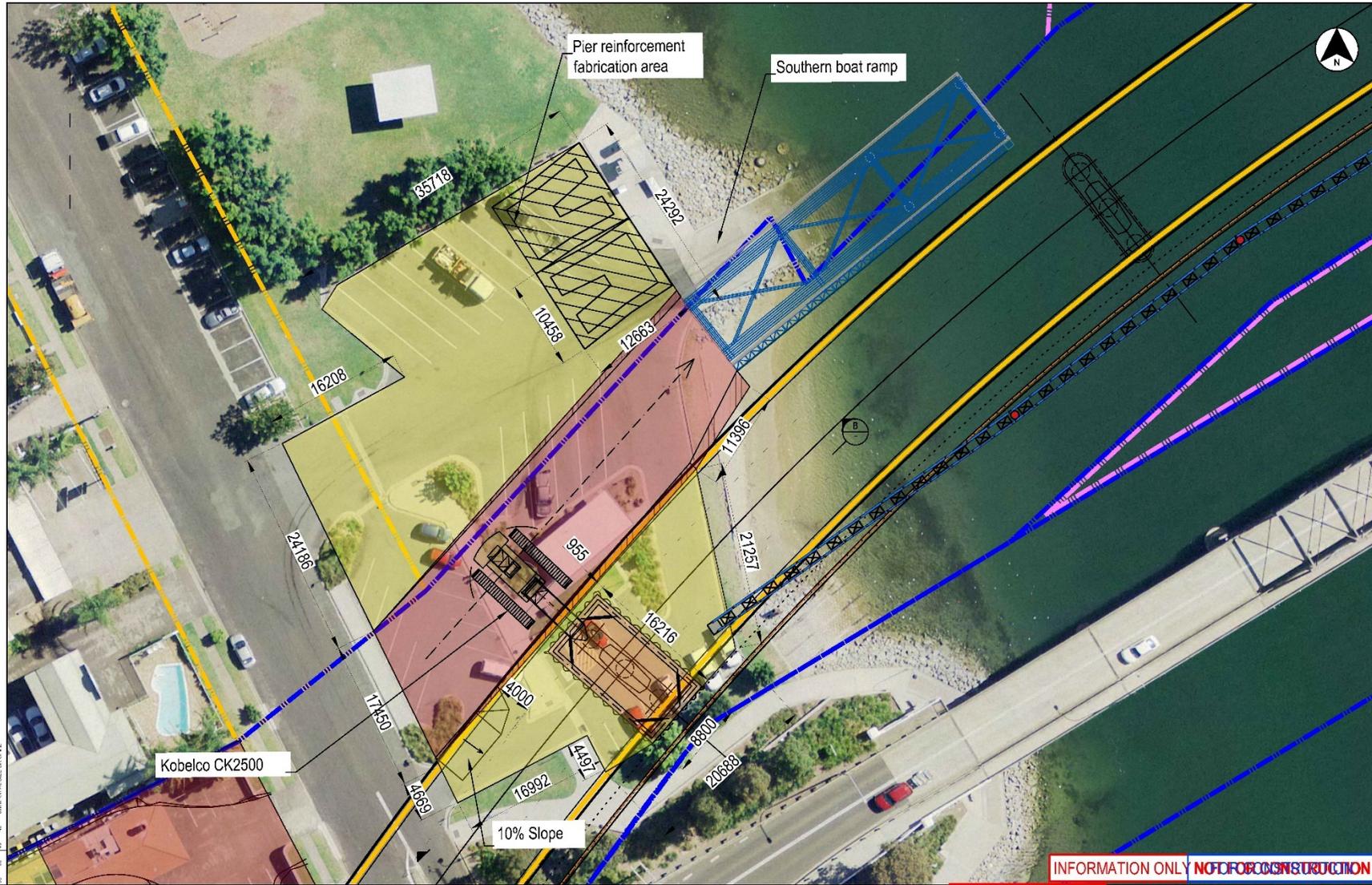
Additional Seagrass Mapping



Appendix C

Crane Movement - Northern and Southern Foreshores





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INFORMATION ONLY NOT FOR CONSTRUCTION

DRAWING FILE LOCATION NAME: PLOT DATE/TIME: PLOT BY:		PROJECT BREAKDOWN STRUCTURE: SCALES ON THIS DRAWING:		VSL ACCOUNT NUMBER: BBB-VSL-TW-0883		PLOT DATE/TIME: 19/03/2019		PLOT BY: g.foral		EUROODALLA SHIRE COUNCIL HW1 PRINCES HIGHWAY		A3
DESIGN/SCALE FILES USED FOR DOCUMENTATION OF THIS DRAWING:		APPROVAL: X00		DRAWINGS / DESIGN PREPARED BY:		TITLE: NAME:		DATE:		PRELIMINARY <input type="checkbox"/> FINAL <input type="checkbox"/> INITIAL <input type="checkbox"/> DATE:		
REVISIONS: NO. DATE AMENDMENT / REVISIONS / DESCRIPTION ISSUED FOR:		COORDINATE SYSTEM: MGA ZONE 56		HOURS AT DESK: AHD		JOHN HOLLAND VSL A member of Bayview Construction		DRAWN: DRG CHECK: DESIGN: DESIGN CHECK: DESIGN APPROVED: PROJECT NUMBER:		DATE: 19/03/2019		
BATEMANS BAY BRIDGE REPLACEMENT REVIEW OF ENVIRONMENTAL FACTORS CONSISTENCY REVIEW 2 - TEMPORARY BOAT RAMP		1:1 (HORIZONTAL) 1:1 (VERTICAL)		DRAWING NUMBER:		NAME:		DATE:		EUROODALLA SHIRE COUNCIL HW1 PRINCES HIGHWAY		
KOBELCO CK2500		1:1 (HORIZONTAL) 1:1 (VERTICAL)		DRAWING NUMBER:		NAME:		DATE:		BATEMANS BAY BRIDGE PROJECT TEMPORARY JETTY SOUTHERN FORESHORE		
10% Slope		1:1 (HORIZONTAL) 1:1 (VERTICAL)		DRAWING NUMBER:		NAME:		DATE:		ISSUED STATUS:		
Southern boat ramp		1:1 (HORIZONTAL) 1:1 (VERTICAL)		DRAWING NUMBER:		NAME:		DATE:		SHEET NO:		
Pier reinforcement fabrication area		1:1 (HORIZONTAL) 1:1 (VERTICAL)		DRAWING NUMBER:		NAME:		DATE:		© VSL Australia Pty Ltd		

Batemans Bay Bridge replacement review of environmental factors consistency review 2 – temporary boat ramp



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Customer feedback
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