

# Rydalmere Wharf Upgrade

Submission report

Roads and Maritime Services | June 2018





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## Submissions report

Roads and Maritime Services | Sept 2018

Prepared by Roads and Maritime Services

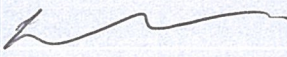
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# Document controls

## Approval and authorisation

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Dated:	June 2018

## Document status

Document status	Date	Prepared by	Reviewed by
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# Executive summary

This submissions report relates to the Review of Environmental Factors (REF) prepared for the Rydalmere Wharf Upgrade, and should be read in conjunction with that document.

The Rydalmere Wharf Upgrade is one of the projects within the Ferry Wharf Upgrade Program being delivered as part of the Transport for New South Wales (TfNSW) Transport Access Program. The proposal involves the replacement of the existing Rydalmere Wharf, and upgrade of the existing interchange. The new wharf and interchange would provide access for people with a disability, meeting the standards of the *Disability Discrimination Act* (DDA) (1992) and *Disability Standards for Accessible Public Transport* (DSAPT) (2002).

As part of the planning process Roads and Maritime Services (Roads and Maritime) placed the REF on public display for 21 days between Monday 30 April and Monday 21 May 2018. A Community Information Session was held Wednesday 9 May 2018.

A total of six submissions were received by Roads and Maritime, with five submissions from the community and one from City of Parramatta Council (Council).

The issues raised in the submissions can be categorised into three main areas:

- Design, including how this would address weather protection, sustainability and public features;
- Construction, including timing, alternative transport, risk minimisation and coordination with other projects in the area; and
- Operation, including how the safety of pedestrians and cyclists in the shared zone would be managed.

In addition, a Community Information Session held on the Wednesday 9 May 2018 identified the following concerns which have been responded to in this Report:

- Location of temporary alternative bus stop during construction.

The Council submission was predominantly focused on: sustainability in the design including consideration of future sea level rises; coordination with other projects flood management and protection, and ongoing access and amenity on the foreshore.

The public submissions were focused predominantly on weather protection, amenities, alternative transport arrangements and routes and safety during construction.

## Conclusion

The REF for Rydalmere Wharf Upgrade identified a range of environmental outcomes and management measures which are required to avoid or reduce the environmental impacts.

Many of the issues raised in the submissions such as; sustainability in design, coordination with other projects, ongoing access and amenity to the foreshore, bins and safety during construction are already considered in the REF and provided in the proposal.

Other issues raised have been considered and not progressed such as; the provision of photo-voltaic panels because of low energy consumption and visual impact; uncovered gangway as shelter is provided under the pontoon and it is consistent with urban design principals of limiting interruption to views and, the provision of toilet facilities as it is considered a matter for Council.

After careful consideration of the issues raised in the public submissions, the proposal has been amended to provide a revised alternative transport route by relocating the Rydalmere Wharf bus stop from South Street to the Rydalmere Wharf Interchange. This would further minimise the wharf closure impacts.

In addition, a safeguard to check the Council's flood warning system has also been added.

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# 1. Introduction and background

## 1.1 The proposal

This submissions report relates to the Review of Environmental Factors (REF) prepared for the Rydalmere Wharf Upgrade, and should be read in conjunction with that document.

The Rydalmere Wharf Upgrade is one of the projects within the Ferry Wharf Upgrade Program, being delivered as part of the Transport for New South Wales (TfNSW) Transport Access Program. The proposal involves the replacement of the existing Rydalmere Wharf, and upgrade of the existing interchange. The new wharf and interchange would provide access for people with a disability, meeting the standards of the *Disability Discrimination Act* (DDA) (1992) and *Disability Standards for Accessible Public Transport* (DSAPT) (2002).

The new wharf structure would comprise a covered pontoon and uncovered gangway, maintain the existing berthing face location and provide a covered area for ferry users to wait close to the berthing face. The interchange surrounding the wharf would also be upgraded, providing accessible paths for users and improving shared areas between the wharf and the Parramatta Valley Cycleway as shown in Figure 1 below.

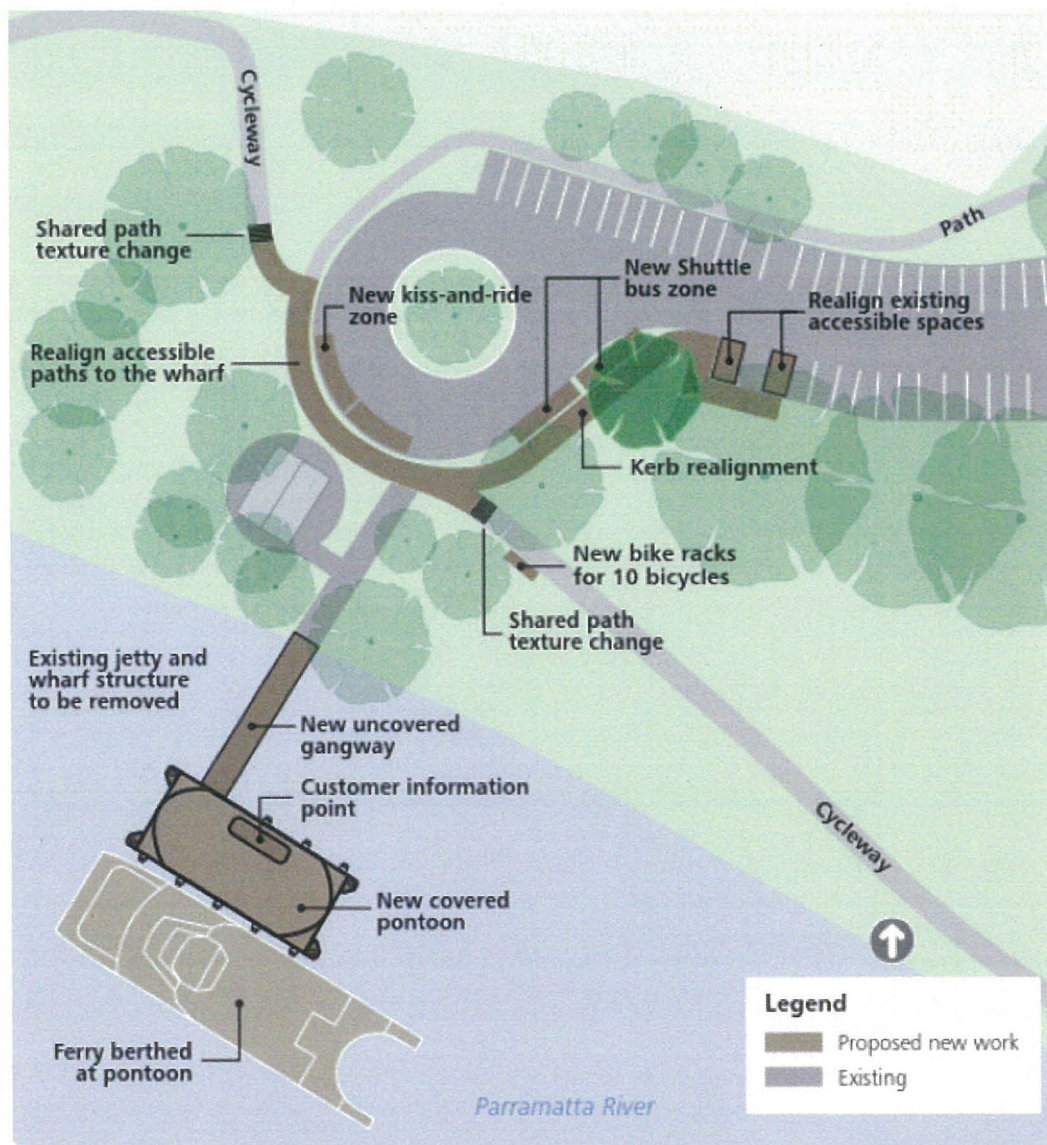


Figure 1 Extract from Rydalmere Wharf REF - Rydalmere Wharf Proposal Overview

Due to location of Rydalmere Wharf within a narrow area of the Parramatta River the upgrade of the wharf has been co-ordinated to occur at the same time as the Parramatta Wharf upgrade, thereby minimising the overall closure period of this section of the Parramatta River. Both REFs were displayed at the same time, with separate community information sessions held for each wharf.

A more detailed description of the Rydalmere Wharf Upgrade is found in the Review of Environmental Factors prepared by Roads and Maritime in April 2018.

## 1.2 REF display

Roads and Maritime prepared a Review of Environmental Factors (REF) to assess the potential environmental impacts of the proposed work. The REF was publicly displayed for 21 days between Monday 30 April and Monday 21 May 2018 at two locations, as detailed in Table 1-1. The REF was also placed on the Roads and Maritime project website and made available for download. The display locations, website and community information session were advertised in the Parramatta Advertiser.

In addition to the above public display, an invitation to comment was sent to about 3,350 local residents and businesses and emailed to about 180 stakeholders. A Community Information Session was also held on Wednesday 9 May at Rydalmere Wharf.

Table 1-1: Display locations

Location	Address
Roads and Maritime Head Office	20-44 Ennis Road, Milsons Point
City of Parramatta Council Offices	126 Church Street, Parramatta

## 1.3 Purpose of the report

This submissions report relates to the REF prepared for the Rydalmere Wharf Upgrade and should be read in conjunction with that document.

The REF was placed on public display and submissions relating to the proposal and the REF were received by Roads and Maritime. This submissions report summarises the issues raised and provides responses to each issue (Chapter 2).

It also details investigations carried out since finalisation of the REF (Chapter 3), describes and assesses the environmental impact of changes to the proposal (Chapter 4) and identifies new or revised environmental management measures (Chapter 5).

## 2. Response to issues

Roads and Maritime Services received six submissions which were accepted up until Tuesday 22 May 2018. Table 2-1 lists the respondents and each respondent's allocated submission number. The table also indicates where the issues from each submission have been addressed in Chapter 3 of this report.

Table 2-1: Respondents

Respondent	Submission No.	Section number where issues are addressed
Individual 1	1	2.2.1, 2.3.1
Individual 2	2	2.2.1, 2.2.2, 2.3.1
Individual 3	3	2.2.2
Individual 4	4	2.4.1
Council 1	5	2.2.3, 2.3.2, 2.3.3,
Individual 5	6	2.3.1

In addition, during the public display period a Community Information Session was held Wednesday 9 May 2018 at Rydalmere Wharf. During the session, 54 people were provided with information about the wharf and comments received are listed below:

- People congregate on the shared footpath in the area closest to the wharf waiting for pick-up which creates issues with cyclists;
- A toilet is needed at the wharf;
- Lack of wharf at Ermington (developer had previously promised new wharf);
- More Rydalmere Ferry services needed;
- Need to make sure the alternate transport times would allow people to get to work on time/line up with Olympic Park ferry times; and
- Location of the Rydalmere bus stop for alternative transport bus service and associated issues, including:
  - no available parking on South Street near suggested alternate transport bus stop – lots of businesses and school nearby as well as loading zones;
  - there is plenty of parking in the car park near the wharf, would be good to have the stop near this area; and
  - it is quite a distance from the car park to the proposed stop and footpaths are lacking, a dark walk at night especially in winter when it gets dark early.

### 2.1 Overview of issues raised

A total of six submissions were received in response to the display of the Review of Environmental Factors (REF). This included one from Council and five from the community.

Each submission has been examined individually to understand the issues being raised. The issues raised in each submission have been summarised and grouped, and corresponding responses to the issues have been provided. Where similar issues have been raised in different submissions, one single response has been provided. The issues raised and Roads and Maritime's response to these issues forms the basis of this chapter.

Submissions were generally supportive of the proposal providing comments on specific areas.

The submission received from Council was also generally supportive, making reference to existing safeguards in the REF and confirming these should be completed and providing suggestions as to where the existing proposal could be enhanced further.

The submissions received have been grouped into three key areas:

- Design, including how this would address weather protection, sustainability and public features;
- Construction, including timing, alternative transport, how risks would be minimised and project coordinated with others in the area; and
- Operation, including how the safety of pedestrians and cyclists in the shared zone would be managed.

## 2.2 Design

### 2.2.1 Weather Protection

#### ***Submission numbers***

1, 2

#### ***Issue description***

- Submissions questioned why the proposed design includes an uncovered gangway as other wharves include covered gangway.

#### ***Response***

Section 3.2.3 of the REF details the main design features of the proposal, including the covered pontoon and uncovered gangway. The covered pontoon has been designed to provide a sheltered waiting area close to the berthing face, enabling ferry users to wait undercover in an area protected from the elements, which would also enable efficient berthing.

The uncovered gangway and covered pontoon arrangement is used throughout Sydney Harbour, with the same arrangement seen at recent wharf upgrades at Pyrmont Bay Wharf, Drummoyne Wharf and Birchgrove Wharf. The uncovered gangway adheres to the urban design principles of the proposal, as noted in Section 2.4.3 of the REF, which seeks to minimise visual impact by limiting interruption to views.

## 2.2.2 Customer Amenities

### ***Submission numbers***

2, 3

### ***Issue description***

- Submissions questioned whether additional rubbish facilities would be provided with the proposal; and
- Submissions questioned whether public toilets could be provided as part of the proposal.

### ***Response***

Section 6.9.3 of the REF confirms that additional rubbish bins would be provided as part of the proposal, with Waste and Recycling bins provided on the new pontoon.

The provision of public toilets is seen as outside the scope of the Rydalmere Wharf Upgrade, and the wider Ferry Wharf Upgrade Program. However, Roads and Maritime will pass this feedback on to Council for information.

## 2.2.3 Sustainability

### ***Submission number***

5

### ***Issue description***

- Submissions questioned whether design has included future sea level rises up to 2070; and
- Submissions questioned whether the inclusion of photo-voltaic panels/batteries should be included within the wharf upgrade to enable the wharf to operate using renewable energy, and notes the proposal should consider recycled material and low energy LED lighting in order to minimise the operational impact.

### ***Response***

Section 3.1 of the REF confirms the design of the proposal has considered the overall height of the wharf above the water to allow for operation during extreme high and low tides while additionally allowing for climate change adaption in the future. The design has been developed to be resilient to flood and sea level rises by including a pile height designed to enable the structure to rise up safely within their current configuration to height levels consistent with a 1:100 year flood event.

Section 2.4.2 of the REF notes the development criteria and relevant principles for the proposal, including principles to deliver sustainable solutions that minimise environmental and community impacts which are adaptable to climate changes and include new technology.

The provision of photo-voltaic panels and battery storage to enable the proposal to use renewable energy was considered across the Ferry Wharf Upgrade Program as a whole during the development of the Kit-of-Parts design, however it was discounted due to; the low-energy usage of the wharves, the visual impact of photo-voltaic panels and the space required for battery storage which would reduce the patronage capacity of the pontoons. The flooring used for the gangway and pontoon (Regupol) is made

from recycled tyre rubber, and low energy lighting is used throughout the gangway and pontoon to reduce energy consumption and maintenance requirements.

## 2.3 Construction

### 2.3.1 Timing of construction and alternative transport provision

#### ***Submission numbers***

1, 2, 6

#### ***Issue description***

- Submissions questioned the timing and duration of construction;
- Submissions questioned why the alternative transport arrangements would not provide a bus route which stopped directly at the wharf as this would be preferred; and
- Submissions requested details of the alternative transport timetable.

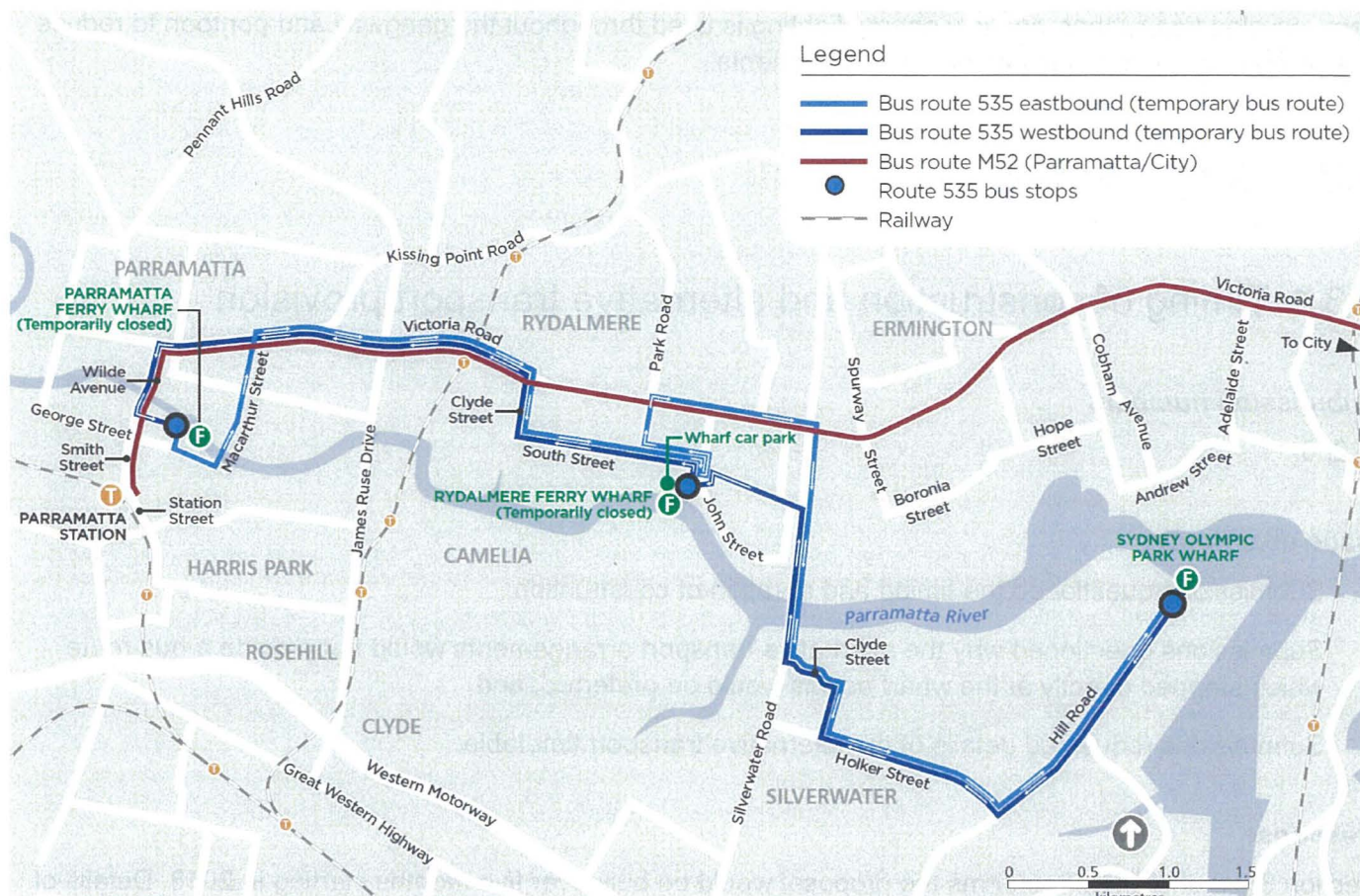
#### ***Response***

Section 3.3.2 of the REF confirms the proposal would be built over five months starting in 2018. Details of the alternative transport timetable would be made publicly available prior to the closure.

Section 6.6 of the REF for the Rydalmere Wharf Upgrade confirms the alternative transport arrangements which would be provided during construction whilst the wharf is closed.

At a Community Information Session held during the public display period, comments were also received from members of the public who wished to see the alternative bus stop at Rydalmere Wharf rather than South Street. It was noted that retaining the bus stop in the location of the wharf would minimise disruption for ferry users who could use the existing Rydalmere Wharf carpark as they do currently.

Following these comments Roads and Maritime have worked with TfNSW to update the alternative transport route for buses, providing a new route which would stop within the Rydalmere Wharf Interchange rather than on South Street as seen in the diagram below. It is anticipated that this change would minimise disruption to existing ferry users during construction.



## 2.3.2 Biodiversity

### Submission numbers

5

### Issue description

- Submission noted that excavation would take place within the vicinity of three mature Port Jackson Fig trees and measures noted in the REF would need to be followed to ensure trees would not be impacted by the proposal; and
- Submission requested that safeguards in the REF for minimising the impact on construction are adhered to, and that Construction Plans are shared with Council prior to starting construction.

### Response

Section 6.3 of the REF assesses the potential impacts of construction of the proposal on existing terrestrial and aquatic ecology and proposes safeguards to ensure that the methodology for construction considers a wide variety of environmental management measures.

As confirmed in Section 6.3.2 of the REF a tree protection plan, prepared for the proposal, would be included within the Construction Environment Management Plan prior to construction starting. This plan would provide requirements for any work taking place within a Tree Protection Zone to ensure trees would not be impacted by the proposal.

Roads and Maritime will update Council on the safeguards being used during regular meetings as the detailed design and planning process progresses.

## 2.3.3 Coordination of the proposal

### ***Submission numbers***

5

### ***Issue description***

- Submission requested that construction of the proposal is coordinated with any adjacent private development;
- Submission requested that construction is planned to ensure access and amenity for foreshore users is maintained during construction to minimise impact;
- Submission requested that the temporary construction compound adheres to safeguards included in the REF; and
- Submission requests the preferred contractor uses the City of Parramatta Council's Flood Warning System to provide visibility of potential flood events, and in the unlikely event of spills / plumes of sediment beyond the construction site then Council is to be informed.

### ***Response***

Section 6.12 of the REF assesses the cumulative impact of the proposal and considers any other construction activities in the vicinity. Searches were carried out using the Department of Planning and Environment's major project register, the Sydney West Central Planning Panel Development and Planning Register, and the City of Parramatta Council Development Application Register to identify any proposal with the potential to increase impacts of the assessed proposal.

Projects with the potential to impact on the proposal such as the Parramatta Wharf Upgrade, the Sydney Metro Clyde Barging Facility, and the Parramatta foreshore boardwalk and elevated walkway have been considered within the REF documentation, with safeguards provided to minimise the cumulative impact. These safeguards include consultation with these projects and the wider community prior to, and throughout, the construction period.

Section 6.5 of the REF considers the socioeconomic impact of the proposal, including the reduced access to the Rydalmere Wharf Interchange during the construction period. Safeguards are proposed to minimise the impact, including provision of alternative transport, securing the construction site and communicating with impacted parties.

The potential location of the construction compound has been assessed in Section 3.4 of the REF, which provides a series of requirements that the construction compound would need to adhere to. Due to the low-lying land surrounding Rydalmere Wharf, additional safeguards and management measures to be included in the Soil Water Management Plan have been included in the REF to mitigate the potential impact of setting up the construction compound within flood-prone land.

Section 6.1 of the REF provides details of these additional safeguards, including; monitoring weather forecast to understand when potential flood events may occur so additional measures can be put in place, and measures should spills occur during construction. In response to Council's request, the safeguards would be updated to refer to Council's Flood Warning System. In addition Roads and Maritime will update Council of any material environment issues that are experienced as part of the normal stakeholder communication process during construction.

## 2.4 Operation

## 2.4.1 Safety of shared pedestrian/cycle area

### ***Submission numbers***

4

### ***Issue description***

- Submission raised concerns with the safety of the existing shared pedestrian and cycle path (Parramatta Valley Cycleway) which runs through the wharf interchange and questioned how the proposal would address these concerns.

### ***Response***

Section 2.8 of the REF details the preferred landside design of the proposal which would provide new bicycle calming measures, installing path texture changes between the cycleway and the wharf to warn cyclists to reduce speed in this area. The path leading west from the wharf would also be widened to increase the shared area available to pedestrians and cyclists.

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### 3. Changes to the proposal

#### 3.1 Relocation of alternative transport bus stop during closure of Rydalmere Wharf

##### 3.1.1 Description

In response to community comments regarding the location of the alternative bus stop for Rydalmere Wharf (proposed use of an existing bus stop on South Street), Roads and Maritime has worked with TfNSW to update the alternative transport route for buses and is providing a new route which would stop within the Rydalmere Wharf Interchange, rather than on South Street. It is anticipated that this change would minimise disruption to existing ferry users during construction.

Copies of the original and proposed bus routes are included within Section 2.3.1 of this document.

## 4. Environmental management

The REF for the Rydalmere Wharf Upgrade identified the framework for environmental management, including safeguards and management measures that would be adopted to avoid or reduce environmental impacts (Section 7 of the REF).

After consideration of the issues raised in the public submissions and changes to the proposal, the safeguard and management measures have been amended as requested by Council to include regular check of the City of Parramatta's Flood Warning System.

Should the proposal proceed, environmental management would be guided by the framework and measures outlined below.

### 4.1 Environmental management plans (or system)

A number of safeguards and management measures have been identified in order to minimise adverse environmental impacts, including social impacts, which could potentially arise as a result of the proposal. Should the proposal proceed, these management measures would be incorporated into the detailed design and applied during the construction and operation of the proposal.

A Construction Environmental Management Plan (CEMP) would be prepared to describe safeguards and management measures identified. The CEMP would provide a framework for establishing how these measures would be implemented and who would be responsible for their implementation.

The CEMP would be prepared prior to construction of the proposal and must be reviewed and certified by environment staff at the Greater Sydney Program Office, prior to the commencement of any on-site works. The CEMP would be a working document, subject to ongoing change and updated as necessary to respond to specific requirements.

### 4.2 Summary of safeguards and management measures

The REF for the Rydalmere Wharf Upgrade identified a range of environmental outcomes and management measures that would be required to avoid or reduce the environmental impacts.

After consideration of the issues raised in the public submissions, the environmental management measures for the proposal (refer to Chapter 7 of the REF) have been revised. Should the proposal proceed, the environmental management measures in Table 4-1 would guide the subsequent phases of the proposal. Additional and/or modified environmental safeguards and management measures to those presented in the REF have been bolded and deleted measures, or parts of measures, have been struck out.

Table 4-1: Summary of environmental safeguards and management measures

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
1	Soil and water	<p>A Soil and Water Management Plan (SWMP) is to be prepared and implemented as part of the CEMP. The SWMP would identify all reasonably foreseeable risks relating to soil erosion and water pollution and describe how these risks would be addressed during construction.</p> <p>Erosion and sediment control measures are to be implemented and maintained (in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book) to:</p> <ul style="list-style-type: none"> <li>• Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets;</li> <li>• Reduce water velocity and capture sediment on site;</li> <li>• Minimise the amount of material transported from site to surrounding pavement surfaces; and</li> <li>• Divert clean water around the site.</li> </ul>	Contractor	Detailed design/ pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
2	Flooding	<p>The SWMP would include measures to address potential flood threats and evacuation requirements. The measures would include:</p> <ul style="list-style-type: none"> <li>• Regular consultation of the Bureau of Meteorology website for weather forecasts and flood warnings;</li> <li>• <b>Regular check of the City of Parramatta Council's Flood Warning System;</b></li> <li>• Scheduling of activities on land (including compound site) and water subject to flooding to avoid high flow periods;</li> <li>• A process for removing equipment and materials off site and out of flood risk areas quickly; and</li> <li>• Storing and use of fuels and chemicals away from the flood zone, in bunded areas.</li> </ul>	Contractor	Detailed design/ pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
3	Asbestos	<p>An Asbestos Management Plan would be developed and implemented. The plan would include:</p> <ul style="list-style-type: none"> <li>• identification of potential asbestos on site;</li> <li>• procedures to manage and handle any asbestos;</li> <li>• mitigation measures if asbestos is encountered during construction; and</li> <li>• procedures for disposal of asbestos in accordance with NSW EPA guidelines, Australian Standards and relevant industry codes of practice.</li> </ul>	Contractor	Detailed design/Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
4	Contaminated land	<ul style="list-style-type: none"> <li>• If contaminated areas are encountered during construction, appropriate control measures would be implemented to manage the immediate risks of contamination. All other works that may impact on the contaminated area would cease until the nature and extent of the contamination has been confirmed and any necessary site-specific controls or further actions identified in consultation with the Roads and Maritime Environment Manager and/or EPA are implemented.</li> </ul>	Contractor	Detailed design / Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
5	Accidental spill	<ul style="list-style-type: none"> <li>• An emergency spill kit will be kept on site at all times and maintained throughout the construction work. The spill kit will be appropriately sized for the volume of substances at the work site.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
6	Accidental spill	<ul style="list-style-type: none"> <li>• If an incident (eg spill) occurs, the Roads and Maritime Services Environmental Incident Classification and Reporting Procedure will be followed and the Roads and Maritime Services Contract Manager notified as soon as practicable.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
7	Accidental spill	<ul style="list-style-type: none"> <li>• Emergency contacts would be kept in an easily accessible location on vehicles, vessels, plant and site</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		office. All workers would be advised of these contact details and procedures.			Environmental Factors
8	Accidental spill	<ul style="list-style-type: none"> <li>Spill kits for construction barges must be specific for working within the marine environment.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
9	Accidental spill	<ul style="list-style-type: none"> <li>All workers would be advised of the location of the spill kit and trained in its use.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
10	Accidental spill	<ul style="list-style-type: none"> <li>Vehicles, vessels and plant must be properly maintained and regularly inspected for fluid leaks.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
11	Accidental spill	<ul style="list-style-type: none"> <li>No vehicle or vessel wash-down or re-fuelling would occur on-site.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
12	Accidental spill	<ul style="list-style-type: none"> <li>In the event of a maritime spill, the incident emergency plan would be implemented in accordance with Sydney Ports Corporation's response to shipping incidents and emergencies outlined in the 'NSW State Waters Marine Oil and Chemical Spill Contingency Plan' (Maritime, 2012).</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
13	Accidental spill	<ul style="list-style-type: none"> <li>Refuelling of plant and equipment and storage of hazardous materials on barges is to occur within a double-bunded area.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
14	Erosion and sedimentation	<ul style="list-style-type: none"> <li>Silt curtains are to be installed prior to and around the area of works that may disturb the seabed. The silt boom and curtain would extend from a minimum of 100 millimetres above the water line to a minimum of 2.5 metres below the water line before starting work.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
15	Erosion and sedimentation	<ul style="list-style-type: none"> <li>Silt curtains are to be installed, monitored and maintained as needed to contain any sediment.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
16	Erosion and sedimentation	<ul style="list-style-type: none"> <li>Visual monitoring of local water quality (ie turbidity, hydrocarbon spills/slicks) is to be undertaken on a regular basis to identify any potential spills or deficient silt curtains or erosion and sediment controls.</li> <li>Results of the observations of the integrity of the silt curtain are required to be recorded and maintained specifically for the purpose. Records are required to be kept on the site and to be made available for inspection by persons authorised by Roads and Maritime.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
17	Erosion and scour	<ul style="list-style-type: none"> <li>The number of jack-ups/anchor points would be minimised where possible. The locations would be selected to avoid areas of sensitive habitat, as discussed further in section 6.1.4.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
18	Erosion and scour	<ul style="list-style-type: none"> <li>Work positioning barges, drilling and pile driving should occur during calm conditions to prevent excessive scouring and other impacts.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
19	Water Quality	<ul style="list-style-type: none"> <li>A spill management plan would be developed and communicated to all staff working on site;</li> <li>Any aquatic spill (whether spill occurs on water on land and subsequently enters the water) is to be immediately reported to Roads and Maritime and Sydney Ports VTS and VHF Channel 13;</li> <li>Aquatic spill kits are to be kept on site during construction.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
20	Water quality	<ul style="list-style-type: none"> <li>All machinery and equipment would be maintained in good working order and regularly visually inspected for</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		leaks.			Environmental Factors
21	Aquatic biodiversity	<p>A Marine Ecology Management Plan would be prepared as part of the CEMP. This would include, but not be limited to, measures relating to the following activities to minimise the risk for pollution:</p> <ul style="list-style-type: none"> <li>• Sediment and rock debris control;</li> <li>• Spills from concrete pour;</li> <li>• Oil/fuel/chemical storage and spill management;</li> <li>• Machinery and engine maintenance schedule to reduce oil/fuel leakage;</li> <li>• Low impact barge positioning to prevent propeller; scouring and thrust wash onto sensitive habitats, such as the mangroves;</li> <li>• Minimise footprint and establish no-go zones in sensitive habitats;</li> <li>• Accidental waste/material overboard response (eg construction materials dropped into the harbour);</li> <li>• Biological hygiene (eg prevent spread of noxious species on and off the site); and</li> <li>• Aquatic fauna management.</li> </ul>	Contractor	Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
22	Biodiversity	No-go zones would be established to avoid damage to all terrestrial and nearby aquatic habitats. No-go zones should be marked on a map and displayed inside the construction barge and office. All staff responsible for manoeuvring the barge should check the map before selecting a new position. Establish no-go zones to avoid damage to nearby habitats, particularly mangroves for the construction period.	Contractor	Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
23	Aquatic Biodiversity	No anchors or mooring blocks/lines should be placed on the intertidal rock habitat. All lines should be suspended off the seafloor to minimise drag across benthic communities.	Contractor	Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
24	Aquatic	Install a floating boom with silt curtain to contain sediment	Contractor	Construction	Rydalmere Wharf

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
	Biodiversity	plumes during drilling and pile hammering. The silt curtain should encompass the aquatic construction zone fully, rather than being anchored to the shore and regularly inspected for entrainment and impingement of aquatic/marine wildlife.			Upgrade Review of Environmental Factors
25	Aquatic Biodiversity	<ul style="list-style-type: none"> <li>Vessel speeds would be minimised within the construction area to minimise wash and risk of injury to aquatic/marine fauna;</li> <li>All staff working on the proposal would be advised of the location of habitats within the construction footprint; and</li> <li>Care should be taken in the placement of jack-ups and/or anchors to avoid areas of aquatic habitat.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
26	Aquatic Biodiversity	Work positioning barges, drilling and pile driving should occur during calm conditions to prevent excessive scouring and other impacts.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
27	Aquatic Biodiversity	Gentle start-up of piling hammering would be completed to allow undetected aquatic fauna to leave the area.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
28	Pest species	<ul style="list-style-type: none"> <li>Regular inspections of all equipment, machinery and materials would be completed to prevent the importation of pests and weeds to the area, including the noxious marine alga <i>Caulerpa taxifolia</i>; and</li> <li>Good housekeeping of the aquatic construction area would be maintained.</li> </ul>	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
29	Aquatic Biodiversity	Work would temporarily be stopped if large aquatic fauna are observed within five metres of the construction works.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
30	Tree protection	The tree protection plan prepared for the proposal (Earthscape Horticultural Services, 2018) would form part of the CEMP and be implemented as part of the proposal. This would include but not be limited to the following measures to	Contractor	Pre-construction / Construction	Rydalmere Wharf Upgrade Review of Environmental Factors

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		<p>ensure the protection of the trees to be retained as part of the proposal:</p> <ul style="list-style-type: none"> <li>Prohibited activities within the extent of the TPZ for each of the Ficus rubiginosa (Port Jackson Figs);</li> <li>Tree protection fencing and signage would be installed;</li> <li>Excavation within a TPZ would be supervised by a qualified arborist;</li> <li>Exploratory excavation roots would be undertaken prior to excavations within a TPZ;</li> <li>All proposed stormwater lines and other underground services should be located outside all TPZs; and</li> <li>All pruning / trimming would be carried out by a qualified and experienced arborist, and in accordance with Australian Standard 4373-2007 – Pruning of Amenity Trees.</li> </ul>			
31	Noise and vibration	<p>A Noise and Vibration Management Plan (NVMP) would be prepared and implemented as part of the CEMP. The NVMP would generally follow the approach in the Interim Construction Noise Guideline (ICNG) (DECC, 2009) and would identify:</p> <ul style="list-style-type: none"> <li>All potential significant noise and vibration generating activities associated with the activity;</li> <li>Feasible and reasonable mitigation measures to be implemented; and</li> <li>A monitoring program to assess performance against relevant noise and vibration criteria.</li> </ul> <p>Arrangements for consultation with affected neighbours and sensitive receivers, including notification and complaint handling procedures contingency measures to be implemented in the event of non-compliance with noise and vibration criteria.</p>	Contactor	Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
32	Noise and	All sensitive receivers (eg schools, residents) likely to be	Roads and Maritime	Pre-construction	Rydalmere Wharf

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
	vibration	<p>affected would be notified at least five days before starting any work with an associated activity that may have an adverse noise or vibration impact. The notification would provide details of:</p> <ul style="list-style-type: none"> <li>• The proposal</li> <li>• The construction period and construction hours</li> <li>• Contact information for project management staff</li> <li>• Details of complaint and incident reporting</li> <li>• How to obtain further information.</li> </ul> <p>Receivers where noise management levels may be exceeded would receive letter notification. Highly noise affected receivers would receive direct notification through a door knock.</p>			Upgrade Review of Environmental Factors
33	Noise and vibration	All work would be carried out during standard construction hours identified in the Interim Construction Noise Guideline (DECC, 2009) unless Roads and Maritime approval has been granted.	Contactora	Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
34	Noise and vibration	During the site induction, all construction personnel would be notified of the location of sensitive receivers and the need to minimise noise and vibration from the work.	Contactora	Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
35	Noise and vibration	Plant and equipment would be in good working order to prevent excess noise generation.	Contactora	Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
36	Noise and vibration	<p>Verification measures would be carried out to confirm background noise levels already captured as part of the Noise and Vibration Impact Assessment report, and actual construction noise levels monitored using hand-held devices during periods associated with high noise impacts.</p> <p>This would apply to the following NCAs and scenarios described in:</p>	Contractor	Pre-construction/ construction	Rydalmere Wharf Upgrade Review of Environmental Factors

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		NCA02: S06 NCA04: S06.			
37	Noise and vibration	Where feasible, limited number of noise intensive plant (eg chainsaw, concrete saw, jackhammer) to no more than one item of equipment operating at any one time.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
38	Noise and vibration	Where feasible and practicable, any site hording or fences erected should be constructed with thick plywood or fitted with temporary acoustic barriers.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
39	Noise and vibration	Where feasible and practicable, implementation of temporary barriers around stationary sources of noise (paving, road cutting, jackhammering, compressor and generator) would be considered, including the use of alternative quieter equipment.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
40	Landscape and visual impact	Urban design principles would be integrated throughout the detailed design and construction of the proposal, including: <ul style="list-style-type: none"> <li>• Material selection location of services, and a standardised family of elements;</li> <li>• Covered pontoon and protection screens include transparent elements;</li> <li>• Existing landscape elements are retained; and</li> <li>• Colour of paint and materials are consistent with other recently wharves along Sydney Harbour.</li> </ul>	Roads and Maritime	Detailed design and pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
41	Visual impacts	Hoarding would be erected around the construction compound where possible, to reduce visibility.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
42	Landscape and Visual impacts	The construction area would be kept clean and clear of rubbish.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
43	Out of hours work	In the event that OOHW is required, lighting would be directionally controlled to limit impacts from light spill from surrounding receivers, including residential properties. Lighting direction would also include consideration of any reflective impacts from the river.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
44	General socio-economic impacts	<p>A Communication Plan (CP) would be prepared and implemented as part of the CEMP to help provide timely and accurate information to stakeholders during construction. The CP would include (as a minimum):</p> <ul style="list-style-type: none"> <li>• Mechanisms to provide details and timing of proposed activities to affected residents and local businesses; and including changed traffic and access conditions</li> <li>• Contact name and number for complaints.</li> </ul> <p>The CP would be prepared in accordance with the <i>Community Involvement and Communications Resource Manual</i> (RTA, 2008).</p>	Contractor	Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
45	General socio-economic impacts	<ul style="list-style-type: none"> <li>• An internet site and free-call number would be established for enquiries regarding the proposal for the entirety of construction;</li> <li>• Contact details would be clearly displayed at the entrance to the site; and</li> <li>• All enquiries and complaints would be tracked through a tracking system and acknowledged within 24 hours of being received.</li> </ul>	Roads and Maritime	Pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
46	Social impacts	The construction area would be secured at all times. If required, lighting would be positioned to minimise light spill into neighbouring residences.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
47	Land transport and parking	A traffic control plan would be prepared and implemented in accordance with the 'Traffic control at work sites manual' (RTA, 2010a) and Australian Standard 1742.3 (Manual of	Contractor	Pre-construction / construction	Rydalmere Wharf Upgrade Review of Environmental Factors

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		uniform traffic control devices).			
48	Land transport and parking	The traffic control plan would be developed in consultation with City of Parramatta Council.	Contractor	Pre-construction / construction	Rydalmere Wharf Upgrade Review of Environmental Factors
49	Land and water transport	Transport of equipment and materials to site via boat and barge would be utilised over land transport to limit impacts to the local road network.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
50	Water transport	A maritime navigation exclusion zone would be established during construction to prevent unauthorised vessels entering the area.	Contractor	Pre-construction / construction	Rydalmere Wharf Upgrade Review of Environmental Factors
51	Water transport	<p>A Maritime Traffic Management Plan would be prepared and implemented during the water based construction work. The Maritime Traffic Management Plan would be prepared consultation with NSW Maritime and approved by the Harbourmaster.</p> <p>In addition, the proposal would:</p> <ul style="list-style-type: none"> <li>• Fit all buoys with lights;</li> <li>• Prepare Response Plans for emergencies and spills for all construction vessels;</li> <li>• Fit at least one vessel with an Automatic Identification System (AIS);</li> <li>• Retrieve any material associated with the construction of the development that enters the water to prevent the obstruction of vessel movements; and</li> <li>• Prepare a Communications Plan for implementation during the work which must include 24/7 contact details, protocols for enquiries, complaints and emergencies.</li> </ul> <p>Any variation to the above would be agreed in advance with the Harbourmaster.</p>	Contractor	Pre-construction / construction	Rydalmere Wharf Upgrade Review of Environmental Factors

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
52	Land transport	Vehicle access to the wharf interchange and parking would be maintained during construction, excluding the turning circle area.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
53	Land transport	Pedestrian and cyclist access along the Parramatta Valley Cycleway would be maintained, with potential for paths to be temporarily diverted around the site during land based construction.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
54	Land transport	A minimum of 40 car spaces in the commuter carpark would remain available throughout construction for members of the general public to access Eric Primrose Reserve.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
55	Non-Aboriginal heritage	<ul style="list-style-type: none"> <li>The Standard Management Procedure - Unexpected Heritage Items (Roads and Maritime, 2015) would be followed in the event that any unexpected heritage items, archaeological remains or potential relics of Non-Aboriginal origin are encountered; and</li> <li>Work would only re-commence once the requirements of the Procedure have been satisfied.</li> </ul>	Contractor	Detailed design/pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
56	Non-Aboriginal heritage	Heritage items in the vicinity of the wharf, including the 'Wetlands' (Parramatta LEP item no. I1), would be communicated as a 'no-go zone' during construction to avoid any potential impacts.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
57	Non-Aboriginal heritage	Sandstone blocks to be removed as part of modification to the seawall would be salvaged and reused in the new development where possible.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
58	Unexpected heritage finds	The Standard Management Procedure – Unexpected Heritage Items (Roads and Maritime, 2015) would be followed in the event that (an) unknown or potential Aboriginal object(s), including skeletal remains, is/are found during construction. This applies where Roads and Maritime does	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
		not have approval to disturb the object(s) or where a specific safeguard for managing the disturbance (apart from the procedure) is not in place. Work would only restart once the requirements of that procedure have been satisfied.			
59	Aboriginal art installation	Existing Aboriginal art installation adjacent to the wharf would be communicated as a 'no-go zone' and avoided.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
60	Waste	Waste management, littering and general tidiness would be monitored during routine site inspections.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
61	Waste	Appropriate measures to avoid and minimise waste associated with the project should be investigated and implemented where possible	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
62	Waste	Waste would be classified before being disposed of and sent to an appropriately licenced facility in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (DECCW 2014). Where necessary, this would include sampling and analysis.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
63	Resource minimisation	Recycled, durable, and low embodied energy products would be considered to reduce primary resource demand in instances where the materials are cost and performance competitive and comparable in environmental performance (eg where quality control specifications allow).	Contractor	Design	Rydalmere Wharf Upgrade Review of Environmental Factors
64	Hazards and risks	Marine spill kits would be kept within the construction area.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
65	Hazards and risks	Appropriate emergency equipment such as flotation devices and first aid kits would be kept within the construction area.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
66	Hazards and risks	All utilities within and adjacent to the proposal footprint would be located prior to the start of the works.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
67	Hazards and risks	Safe work method statements or similar would be implemented to manage health and safety risks for the works.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
68	Hazard and risks	Weather forecasts and flood warnings would be monitored during construction. In the event of a major flood event, equipment and materials would be temporarily removed from the site, where possible.	Contractor	Construction	Rydalmere Wharf Upgrade Review of Environmental Factors
69	Air quality	Air quality during construction would be considered and addressed within the CEMP and would include methods to manage work during strong winds or other adverse weather conditions as required.	Contractor	Detailed design/ pre-construction	Rydalmere Wharf Upgrade Review of Environmental Factors
70	Cumulative construction impacts	<ul style="list-style-type: none"> <li>• Consultation would include notification prior to the start of the works; and</li> <li>• Updates on any delays or changes to the construction period would also be communicated.</li> </ul>	Roads and Maritime	Pre-construction / construction	Rydalmere Wharf Upgrade Review of Environmental Factors
71	Cumulative construction impacts	<ul style="list-style-type: none"> <li>• Prior to the commencement of construction, consultation shall occur with the Clyde barging facility; and</li> <li>• Consultation would include coordinating noisy activities to avoid cumulative impacts</li> </ul>	Roads and Maritime	Pre-construction / Construction	Rydalmere Wharf Upgrade Review of Environmental Factors

## 4.3 Licensing and approvals

A summary of licenses and approvals required (or to be obtained) is provided in Table 5-2.

Table 4-2: Summary of licensing and approval required

Instrument	Requirement	Timing
Approval from the Deputy Harbour Master	Approval from the Deputy Harbour Master for any work that disturbs the seafloor.	Prior to the commencement of any works that disturb the seafloor.
Licence/ short term lease	Licence/short term lease would be required from City of Parramatta Council for the location of the temporary compound	Prior to the start of construction work

## 5. References

Review of Environmental Factors, Rydalmere Wharf Upgrade, April 2018