<table>
<thead>
<tr>
<th>Version</th>
<th>Purpose of Document</th>
<th>Prepared by</th>
<th>Reviewed by</th>
<th>Review Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Draft Submissions Report</td>
<td>Lyndall Thornhill</td>
<td>Hugh Swinbourne</td>
<td>28/07/2015</td>
</tr>
<tr>
<td>2.0</td>
<td>Second draft Submissions Report</td>
<td>Lyndall Thornhill</td>
<td>Hugh Swinbourne</td>
<td>10/08/2015</td>
</tr>
<tr>
<td>3.0</td>
<td>Final draft Submissions Report</td>
<td>Lyndall Thornhill</td>
<td>Hugh Swinbourne</td>
<td>21/08/2015</td>
</tr>
<tr>
<td>4.0</td>
<td>Final Submissions Report</td>
<td>Lyndall Thornhill</td>
<td>Hugh Swinbourne</td>
<td>28/08/2015</td>
</tr>
<tr>
<td>5.0</td>
<td>Final Submissions Report – for publishing</td>
<td>Lyndall Thornhill</td>
<td>Hugh Swinbourne</td>
<td>15/09/2015</td>
</tr>
</tbody>
</table>
Executive summary

This Submissions Report is for the Starkey Street Pedestrian Bridge, Forestville Review of Environmental Factors (Roads and Maritime Services, June 2015) and should be read in conjunction with that document.

The Review of Environmental Factors was placed on Roads and Maritime’s project website on Friday 5 June, with the formal public display period between Wednesday 10 June and Friday 26 June 2015. During and following the display, 36 submissions from the community, one response from Warringah Council, one from Forest Coach Lines and nil responses from government agencies were received by Roads and Maritime Services (Roads and Maritime).

Of the 38 submissions received, 14 submissions stated their support for the Proposal, six submissions stated they objected to the Proposal and the remaining 18 submissions did not offer a direct position but raised matters or concerns about the Proposal.

The main matters raised by the community included:

- Requests for ramps to be included as part of the proposed bridge
- Concerns about the servicing and maintenance of lifts
- Concerns about the maintenance and impacts of the proposed eastbound bus stop and shelter location
- Concerns about the impacts to traffic flow on side streets and access to Warringah Road
- Concerns about the costs of the Proposal when compared to the benefits it would provide
- Comments about the visual appeal and design of the proposed bridge
- Comments about community safety
- Concerns about access to the adjacent ‘Northscape’ apartment building.

The main matters raised by Warringah Council included:

- Requesting ramps which are compliant with Australian Standards to be included in the proposed bridge design to allow continued access for those with mobility limitations even when the lift is out of service
- Requesting the design of the bridge to use Warringah Council corporate colours, or alternatively black and white, and that it should make provisions for council to erect advertising signage on the bridge in the future
- Requesting further/ongoing consultation regarding:
  - The location and design of the eastbound bus stop
  - The bicycle parking
  - The pedestrian access plan
  - The permanent loss of any parking in the local area as a result of the Proposal
  - Any changes to street lighting surrounding the Proposal
  - The use of an alternative compound site
  - Any landscaping plans for the area
  - The construction traffic management and detour plans
  - The construction management plan
The colours of the proposed pedestrian bridge.
Outlining support for bicycle ramp provisions on the stairwells
Minimising disruptions to parking within the adjacent council owned car park
Suggesting an alternative compound site could be established at the dog park on Currie Road, Forestville
Requesting repair and maintenance responsibilities of pedestrian fencing remain the responsibility of Roads and Maritime.

Also, Council has contractual arrangements with ADSHEL advertising on the westbound bus shelters and request it not be blocked by construction.

Review of the submissions has resulted in changes to the Proposal including:

- The removal of the pedestrian fencing on the south-western corner of the intersection, in order to maintain delivery and emergency access to the ‘Northscape’ apartment complex
- Relocation of the bus stop and shelter 10 metres to the west of the location shown in the Review of Environmental Factors
- Upgrades to the rear fencing and adjacent verge strip between the property at 610 Warringah Road and the proposed eastbound bus stop and shelter.

In addition, matters identified from the submissions have led to the addition or modification of several management measures. These are presented in Chapter 4 of this report.

Roads and Maritime will now proceed to the determination stage of the Review of Environmental Factors process, at which point it will be decided if the Proposal is to proceed.
Contents

Executive summary ............................................................................................................ i
1 Introduction and background ......................................................................................... 1
  1.1 Purpose ....................................................................................................................... 1
  1.2 The Proposal ............................................................................................................... 1
  1.3 Review of Environmental Factors display ............................................................... 5
2 Response to matters ...................................................................................................... 6
  2.1 Overview of matters raised ....................................................................................... 8
  2.2 Support for the Proposal ......................................................................................... 9
  2.3 Proposal need and justification ............................................................................. 10
  2.4 Alternatives and options ......................................................................................... 11
  2.5 Proposal description ............................................................................................. 17
  2.6 Funding .................................................................................................................... 18
  2.7 Operational maintenance ..................................................................................... 19
  2.8 Utilities ................................................................................................................... 20
  2.9 Consultation ........................................................................................................... 21
  2.10 Traffic and access ............................................................................................... 23
  2.11 Operational noise and vibration ......................................................................... 29
  2.12 Urban design and visual appeal ........................................................................... 31
  2.13 Socio-economic .................................................................................................. 34
  2.14 Air quality ........................................................................................................... 42
  2.15 Outside the scope of the Proposal ..................................................................... 43
3 Changes to the Proposal .............................................................................................. 44
  3.1 Removal of the pedestrian fencing at the south-western corner of the Proposal intersection .................................................................................................................. 44
  3.2 Relocation of the eastbound bus stop and shelter ................................................. 45
  3.3 Provision for fencing and screening behind the proposed eastbound bus stop and shelter ......................................................................................................................... 46
4 Environmental management ......................................................................................... 48
  4.1 Environmental management plans (or system) ..................................................... 48
  4.2 Summary of safeguards and management measures ............................................ 48
References ......................................................................................................................... 64

Appendices

Appendix A – Community Update June 2015.
Appendix B – Proposal Concept Design August 2015
1 Introduction and background

1.1 Purpose

This Submissions Report relates to the Review of Environmental Factors prepared for the Starkey Street Pedestrian Bridge, Forestville (Roads and Maritime, June 2015) and should be read in conjunction with that document.

The Review of Environmental Factors was placed on public display and submissions relating to the Proposal and the Review of Environmental Factors were received by Roads and Maritime. This Submissions Report summarises the matters raised and provides responses to each matter (Chapter 2), describes and assesses the environmental impact of changes to the Proposal (Chapter 3), and identifies new or revised environmental management measures (Chapter 4).

1.2 The Proposal

Roads and Maritime is proposing to construct a pedestrian bridge over Warringah Road near the Starkey Street and Ferguson Street intersection, Forestville to improve traffic flow along Warringah Road through Forestville, minimise delays, allow for more effective road-based public transport and improve road and pedestrian safety (the Proposal). The existing on road signalised pedestrian crossing across Warringah Road would be removed as part of the Proposal. The Proposal site is located within the Warringah Council Local Government Area.

The proposed pedestrian bridge as identified in the Review of Environmental Factors would include:

- A set of curved stairs and a lift on the southern side of Warringah Road to the east of Starkey Street. The stairwell and lift structure would be located within the road reserve of Warringah Road. In this location, the road reserve includes the adjacent public car park which is owned and managed by Warringah Council
- A set of curved stairs and a lift on the northern side of Warringah Road to the east of Ferguson Street. The majority of the stairwell and lift structure would be located within the existing Warringah Road corridor, with the remainder requiring partial acquisition of the adjacent premises (Forest Animal Hospital)
- A tied arch bridge deck spanning Warringah Road with overhead cover, safety fencing and throw screens
- Reinstating and providing pedestrian paths leading to and around the bridge access points and nearby bus stops
- Providing bicycle ramps within the stairs would be considered as part of the detailed design investigations and include a review of community access and safety guidelines and maintenance issues.

The Proposal would also include:

- Removing the on road signalised pedestrian crossing across Warringah Road on the western side of the intersection. (on road signalised pedestrian crossings at for the intersection would remain across Starkey Street and Ferguson Street)
- Relocating the eastbound bus stop and shelter on the northern side of Warringah Road. The bus stop and shelter is currently located on the western side of the intersection and would be relocated about 55 metres east of the intersection. A new bus stop and shelter would be built and the existing bus stop and shelter would be demolished. A new leaning rail would also be installed next to the new shelter

- Installing pedestrian safety fencing at:
  - The corner of Warringah Road and Starkey Street on the eastern and western side of the intersection
  - The corner of Warringah Road and Ferguson Street on the western side of the intersection
  - Along the concrete median on Warringah Road on the eastern side of the intersection (underneath the new pedestrian bridge)

- Altering the Starkey Street car park, including:
  - Removing three car parking spaces to accommodate the new stairwell and lift structure
  - Two additional parking spaces would be modified to allow cars to be parked under the stair structure (between two to five metres high from the ground level). The two modified parking spaces would include wheel stops and height restrictions
  - Installing a new kerb and guttering around the new stairwell and lift structure

- Retaining the existing community notice board within the Starkey Street car park adjacent to Starkey Street

- Provisions for cyclists, would include:
  - Installing about seven new bicycle parking facilities (up to 14 bicycle parking spaces) next to the new stairwell and lift structures
  - Providing access from Warringah Road to the bridge from the Ferguson Street pedestrian crossing
  - Providing access from Warringah Road to the bridge from the Starkey Street pedestrian crossing and the public car park

- Providing pram ramps at the Starkey Street and Ferguson Street pedestrian crossings with realignment of crossing markings

- Installing road signage

- Providing landscaping on the:
  - Garden area on the south-eastern corner of the intersection, within the car park
  - Road verge on the northern side of Warringah Road on both sides of Ferguson Street to compliment the new property boundary of the Forest Animal Hospital and modified paths and fencing on the western side
  - Road verge on the south-western side of Warringah Road around the modified paths

- Relocating above ground and below ground utilities

- Installing a temporary compound site within the public car park area next to the Proposal during construction.

Roads and Maritime intends to exercise its power under Section 72 of the Roads Act 1993, which authorises it to carry out roadwork on a public road that is not a classified road within the adjacent public car park.
Figure 1-1 The Proposal (Urban design impression)
Figure 1-2 Indicative style of the proposed pedestrian bridge (artists impression)
1.3 Review of Environmental Factors display

Roads and Maritime prepared a Review of Environmental Factors to assess the environmental impacts of the proposed works. The Review of Environmental Factors was placed on the Roads and Maritime project website on Friday 5 June, with the formal public display period between Wednesday 10 June and Friday 26 June 2015. The Review of Environmental Factors was placed on display at four locations as detailed in Table 1-1 and placed on the Roads and Maritime Services Internet website and made available for download.

The display locations and website link were advertised in:

- The community update for the Proposal that was distributed to around 5,500 residents and businesses
- Press advertisements that were placed in the Manly Daily during the weeks commencing 8 June and 15 June 2015.

Table 1-1 Display locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestville Library</td>
<td>6 Darley Street, Forestville</td>
</tr>
<tr>
<td>Belrose Library</td>
<td>Glenrose Place, Belrose</td>
</tr>
<tr>
<td>Warringah Council</td>
<td>725 Pittwater Road, Dee Why</td>
</tr>
<tr>
<td>Dee Why Library</td>
<td>75 Pittwater Road, Dee Why</td>
</tr>
</tbody>
</table>

Two community information sessions were held following the release of The Review of Environmental Factors as follows:

- Thursday 18 June, 12:30pm – 2:30pm
  Forestville Memorial Hall
- Saturday 20 June, 10am – 12pm
  Forestville Senior Citizens Centre.

In addition to the above public display, a Community Update (refer to Appendix A) was delivered to about 5,500 local properties providing information about the Proposal, the Review of Environmental Factors and inviting feedback on the Proposal. An invitation to comment and a copy of the Review of Environmental Factors was also sent directly to the following identified stakeholders:

- Warringah Council
- Local MPs including Jonathan O’Dea (Davidson) and Brad Hazzard (Wakehurst)
2 Response to matters

Rocks and Maritime received 38 submissions with submissions accepted up until 23 August 2015. Table 2-1 lists the respondents and each respondent’s allocated submission number. The table also indicates where the matters from each submission have been addressed in Chapter 2 of this report.

Table 2-1 Respondents

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Submission No.</th>
<th>Section number where matters are addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>1</td>
<td>2.4.2, 2.5.1</td>
</tr>
<tr>
<td>Individual</td>
<td>2</td>
<td>2.2, 2.4.2, 2.7.1, 2.9.1, 2.10.3</td>
</tr>
<tr>
<td>Individual</td>
<td>3</td>
<td>2.9.1</td>
</tr>
<tr>
<td>Individual</td>
<td>4</td>
<td>2.2, 2.4.1, 2.8.1, 2.12.2, 2.13.2</td>
</tr>
<tr>
<td>Individual</td>
<td>5</td>
<td>2.5.2, 2.6, 2.9.1</td>
</tr>
<tr>
<td>Individual</td>
<td>6</td>
<td>2.4.2, 2.4.3, 2.7.2, 2.10.1, 2.13.1</td>
</tr>
<tr>
<td>Individual</td>
<td>7</td>
<td>2.13.2, 2.13.3</td>
</tr>
<tr>
<td>Individual</td>
<td>8</td>
<td>2.2</td>
</tr>
<tr>
<td>Individual</td>
<td>9</td>
<td>2.3, 2.4.1, 2.10.3, 2.13.3</td>
</tr>
<tr>
<td>Individual</td>
<td>10</td>
<td>2.10.2</td>
</tr>
<tr>
<td>Individual</td>
<td>11</td>
<td>2.2</td>
</tr>
<tr>
<td>Individual</td>
<td>12</td>
<td>2.2, 2.10.1, 2.10.4</td>
</tr>
<tr>
<td>Individual</td>
<td>13</td>
<td>2.2, 2.4.1</td>
</tr>
<tr>
<td>Individual</td>
<td>14</td>
<td>2.10.3, 2.10.5</td>
</tr>
<tr>
<td>Individual</td>
<td>15</td>
<td>2.4.1</td>
</tr>
<tr>
<td>Individual</td>
<td>16</td>
<td>2.3, 2.4.1, 2.13.1, 2.13.2</td>
</tr>
<tr>
<td>Individual</td>
<td>17</td>
<td>2.7.2, 2.13.4</td>
</tr>
<tr>
<td>Individual</td>
<td>18</td>
<td>2.3, 2.4.1, 2.13.1, 2.13.4</td>
</tr>
<tr>
<td>Individual</td>
<td>19</td>
<td>2.2, 2.9.1, 2.13.4</td>
</tr>
<tr>
<td>Warringah Council</td>
<td>20</td>
<td>2.4.1, 2.5.2, 2.7.3, 2.9.2, 2.10.5, 2.10.6, 2.12.1, 2.12.2, 2.12.3, 2.12.4, 2.13.3, 2.13.4, 2.13.6, 2.13.7</td>
</tr>
<tr>
<td>Individual</td>
<td>21</td>
<td>2.10.4</td>
</tr>
<tr>
<td>Individual</td>
<td>22</td>
<td>2.4.1, 2.13.2</td>
</tr>
<tr>
<td>Respondent</td>
<td>Submission No.</td>
<td>Section number where matters are addressed</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Individual</td>
<td>23</td>
<td>2.4.4</td>
</tr>
<tr>
<td>Individual</td>
<td>24</td>
<td>2.10.2</td>
</tr>
<tr>
<td>Individual</td>
<td>25</td>
<td>2.4.1</td>
</tr>
<tr>
<td>Individual</td>
<td>26</td>
<td>2.5.1, 2.7.2, 2.12.1, 2.13.2</td>
</tr>
<tr>
<td>Individual</td>
<td>27</td>
<td>2.2</td>
</tr>
<tr>
<td>Individual</td>
<td>28</td>
<td>2.2, 2.12.3</td>
</tr>
<tr>
<td>Individual</td>
<td>29</td>
<td>2.15</td>
</tr>
<tr>
<td>Individual</td>
<td>30</td>
<td>2.2</td>
</tr>
<tr>
<td>Individual</td>
<td>31</td>
<td>2.4.1</td>
</tr>
<tr>
<td>Individual</td>
<td>32</td>
<td>2.10.1</td>
</tr>
<tr>
<td>Individual</td>
<td>33</td>
<td>2.2, 2.10.1</td>
</tr>
<tr>
<td>Individual</td>
<td>34</td>
<td>2.2, 2.12.1, 2.12.3, 2.13.2</td>
</tr>
<tr>
<td>Individual</td>
<td>35</td>
<td>2.4.1</td>
</tr>
<tr>
<td>Individual</td>
<td>36</td>
<td>2.7.1, 2.9.1, 2.11, 2.13.5, 2.14</td>
</tr>
<tr>
<td>Individual</td>
<td>37</td>
<td>2.5.2, 2.6,</td>
</tr>
<tr>
<td>Forest Coach Lines</td>
<td>38</td>
<td>2.15</td>
</tr>
</tbody>
</table>
2.1 Overview of matters raised

A total of 38 submissions were received in response to the Review of Environmental Factors comprising of one submission from Warringah Council, one from Forest Coach Lines and 36 submissions from the community.

Each submission has been examined individually to understand the matters being raised. The matters raised in each submission have been extracted and collated, and corresponding responses to the matters have been provided. Where similar matters have been raised in different submissions, only one response has been provided. The matters raised and Roads and Maritime’s response to these matters forms the basis of this chapter.

Of the submissions received, 38 per cent (14 submissions) stated that they were in favour of the Proposal, 16 per cent (6 submissions) stated that they were opposed to the Proposal. Of the remaining submissions 46 per cent (18 submissions) didn’t state either preference, but instead provided suggestions to improve the Proposal or asked questions to clarify the detail about the Proposal.

The matters raised by the community included:

- Requests for ramps to be included as part of the proposed bridge
- Concerns about the servicing and maintenance of lifts
- Concerns about the maintenance and impacts of the proposed eastbound bus stop and shelter location
- Concerns about the impacts to traffic flow on side streets and access to Warringah Road
- Concerns about the costs of the Proposal when compared to the benefits it would provide
- Comments about the visual appeal and design of the proposed bridge
- Comments about community safety
- Concerns about access to the adjacent ‘Northscape’ apartment building.

There were no form letters received during the submission period.

The matters raised by Warringah Council included:

- Requesting ramps which are compliant with Australian Standards to be included in the proposed bridge design to allow continued access for those with mobility limitations even when the lift is out of service
- Requesting the design of the bridge to use Warringah Council corporate colours, or alternatively black and white, and that it should make provisions for council to erect advertising signage on the bridge in the future
- Requesting further/ongoing consultation regarding:
  - The location and design of the eastbound bus stop
  - The bicycle parking
  - The pedestrian access plan
  - The permanent loss of any parking in the local area as a result of the Proposal
  - Any changes to street lighting surrounding the Proposal
  - The use of an alternative compound site
  - Any landscaping plans for the area
  - The construction traffic management and detour plans
The construction management plan
The colours of the proposed pedestrian bridge.

- Outlining support for bicycle ramp provisions on the stairwells
- Minimising disruptions to parking within the adjacent council owned car park
- Suggesting an alternative compound site could be established at the dog park on Currie Road, Forestville
- Requesting repair and maintenance responsibilities of pedestrian fencing remain the responsibility of Roads and Maritime.

Also, Council has contractual arrangements with ADSHEL advertising on the westbound bus shelters and request it not be blocked by construction.

The matters raised by Forest Coach Line included a request to provide a bus interchange facility at the Jamieson Square on Starkey Street to provide opportunity for buses to turn around in a terminus.

2.2 Support for the Proposal

Submission number(s)
2, 4, 8, 11, 12, 13, 19, 27, 28, 30, 33 and 34

Matter description

In total 14 submissions outlined their support for the Proposal. Some of the comments received in support of the Proposal included:

- I am in favour of the new pedestrian bridge
- The footbridge is a good idea
- A big thank you for the Proposal for a pedestrian bridge. We need more pedestrian bridges to improve traffic flow
- Agree and understand how removing the pedestrian crossing will improve traffic flow
- Support and congratulations on getting the Proposal to this point
- Great idea for the new bridge
- Support for the new pedestrian bridge. The intersection has become dangerous with pedestrians running to catch buses and a bridge is a welcome solution.
- The proposed pedestrian bridge is a great idea and no doubt will be welcomed by locals and visitors when the project is completed
- The proposed bridge along with changes to the footpaths will provide safety and traffic benefits.

Response

Roads and Maritime notes the support from the community for this Proposal.
2.3 Proposal need and justification

Submission number(s)
9, 16 and 18

Issue description
In summary, the respondent(s) raised the following matters:

- The costs of the Proposal would not be worth the benefits to traffic flow as pedestrians cross as part of the phasing of the Starkey Street intersection. The only benefit is to vehicles coming out of Starkey Street
- The respondent does not believe that the current pedestrian crossing contributes to traffic congestion.

Response
Section 2 of the Review of Environmental Factors outlines the strategic need for the Proposal. It identifies that Warringah Road is a major arterial road providing an important east-west connection from the Northern Beaches and North Shore suburbs to the M2 and Pacific Highway and into the city. Due to the high volume of traffic in the morning peak period, Warringah Road experiences extensive delays in the westbound direction. In the evening peak, Warringah Road experiences similar delays in the eastbound direction. Traffic is further constrained where side street traffic needs to join through traffic, at pedestrian crossings and at bus loading areas.

The Frenchs Forest area to the east of the Proposal currently experiences substantial levels of traffic congestion, particularly during peak periods. With the planned opening of the Northern Beaches Hospital in 2018 and the anticipated development of a specialised healthcare precinct in the surrounding areas, traffic demand is expected to increase.

Investigations have identified that localised constraints at the Starkey Street intersection are causing static queuing east of the intersection in the morning peak period. This static queuing can extend back past Forest Way over two kilometres away, and form rolling queues as far away as Allambie Road in Frenchs Forest. Surveys identified that about 100 pedestrians per hour, in the morning peak period, use the existing on road signalised pedestrian crossing of Warringah Road. Each time the pedestrian crossing point is activated, it holds traffic for 30 seconds (including inter-green time). This hold point is contributing substantially to static queuing and slowing the movement of through traffic along Warringah Road.

A number of options have been considered to increase green time for through traffic, which would improve traffic flow through the intersection. The preferred option, to provide a pedestrian bridge over Warringah Road and remove the on road signalised pedestrian crossing, would achieve a substantial improvement to traffic flow at this intersection. This is expected to have a cumulative benefit of reducing the static queuing further east of the intersection along Warringah Road.

The Proposal would improve the existing traffic flow through the intersection and would have flow-on effects in reducing delays along Warringah Road during peak periods. The Proposal would remove the pedestrian phasing of the signalised intersection, increasing green time at the intersection, allowing for signal phasing to be optimised (such as alternative timing and number of phases per cycle). This would provide more flexibility in the operation of the intersection and enable improvements to traffic flow. Traffic modelling has identified that the Proposal would see an improvement or reduction in traffic delays and queue lengths on Warringah Road through the intersection as a result of the Proposal. Refer to section 2.10 for further consideration of traffic impacts.
Roads and Maritime undertook an option assessment of four options (including the do-nothing option) and published an option assessment report (Roads and Maritime, 2014) in December 2014. Traffic modelling using VISSIM has been undertaken for the four options for the years 2021 and 2036 for both morning and evening peak periods and an economic assessment was carried out consistent with Principles and Guidelines of Economic Appraisals of Transport Investment and Initiatives (Transport for NSW, 2013). An analysis of the preliminary options including cost estimates and benefits such as traffic and safety improvements was undertaken and considered as part of the options assessment and eventual selection of the preferred option (Option 4). The modelled impacts of the improvement scenarios were compared to the forecast base case network to identify the network-wide implications of effects on queuing and related measureable parameters such as travel distance, travel time and number of stops. The economic analysis showed that all three build options (excluding the do-nothing option) are economically justifiable. However, Option 4 (the preferred option) has the highest benefit relative to cost by a considerable margin and is therefore the best from an investment perspective.

2.4 Alternatives and options

2.4.1 Ramps

A number of submissions identified that a ramp access arrangement would be preferred to the proposed lift and stairs arrangement.

Submission number(s)

4, 9, 13, 15, 16, 18, 20, 22, 25, 31 and 35

Issue description

In summary, the respondent(s) raised the following matters:

- Has a ramp been considered in place of steps?
- Please consider a ramp access, it would be preferred to a stair and lift arrangement
- A ramp option would provide better access for all user groups including those who prefer to walk but find steps difficult
- There is a high number of elderly people and mothers with prams in this area and a ramp is needed to provide for them as well as for bicycles and scooters when the lift is broken
- Warringah Council’s Community Services team request that Roads and Maritime install Australian Standards compliant ramps that will enable continued safe access to those with mobility limitations to be able to use the road crossing even when the lift is broken
- Ramps would also provide for increased exercise
- The Arthur Street pedestrian crossing with a ramp works well for children with bicycles, pedestrians, pram users and young and old. The idea of children with bikes waiting at two lifts to cross the road seems costly and impractical. The elderly could be injured when navigating alongside children
- A ramp works well for other pedestrian bridges on Warringah Road such as at Forestville and Frenchs Forest, these have low maintenance costs, do not allow for people to get trapped in lifts and are safer
- Lifts would be subject to vandalism and their availability would be limited during maintenance/breakdowns which would limit access for the elderly, disabled or those with prams etc
Maintenance and repair of lifts takes time and causes disruption despite the best maintenance plans and intentions

What alternative arrangements are there for those users when the lift breaks down?

It is fantastic there will be a lift however whenever the lift is broken there is no alternative to cross the road at that point other than causing people to have to walk to Darley Street

A ramp option would be cheaper when compared to a lift, taking into account the ongoing maintenance costs of lifts

Surely the costs of buying more land for a ramp would be outweighed by the benefits of ramps and outweigh the ongoing maintenance costs, health and safety risks and inconvenience from not having ramps in the current Proposal

A ramp would have lower costs to install and maintain and you would not need to spend time waiting for the lift.

Response

As outlined in section 2.8.3 of the Review of Environmental Factors, Roads and Maritime has considered providing ramp access in addition to or as an alternative to the proposed lift and stairs access arrangement.

The Proposal to provide a pedestrian bridge over Warringah Road at the Starkey Street intersection and remove the on road crossing was developed through considering four options to improve traffic flow, minimise delays and provide a safe crossing of Warringah Road in Forestville. The single pedestrian bridge at the Starkey Street intersection (Option 4) was selected during an options assessment which included a risk and value management workshop with stakeholders in attendance including Transport for NSW (bus representatives), Warringah Council, and utility providers. At that time, the provision of a ramp rather than a lift was investigated. A number of aspects were considered during this investigation including adjacent properties, visual amenity, loss of parking, features such as the Norfolk Island Pine tree, safety, accessibility design guidelines and Appendix D - Roads and Maritime Pedestrian Bridge Design Standard for Built Up Areas (Roads and Maritime – Centre for Urban Design, 2012). This investigation also included Roads and Maritime asset maintenance considerations.

To meet the Disability Discrimination Act 1992 (DDA) requirements, a ramp at this location would need to be a low grade (about seven to eight per cent on both sides) to accommodate those in wheelchairs, with mobility aids or with prams. To reach the 5.3 metre high bridge deck with clearance above the road for safety, the ramp would be a substantial size with three levels including level landings. Preliminary designs have identified that ramps would be a total of about 106 metres in length on the northern side of Warringah Road and about 77 metres on the southern side of Warringah Road. The ramp footprint would substantially increase the area of land acquisition required from a private property and business, would require the removal of the feature tree (Norfolk Island Pine) and would create an increased visual impact for neighbouring properties and the wider area. In addition the ramp would result in an increased permanent loss of parking from the Starkey Street carpark and potentially impact the westbound bus stop and shelter. Figure 2-1 shows the expected footprint of potential ramps at this location. On balance, with consideration of the potential impacts, ramps were not adopted for this location. The proposed bridge would use Roads and Maritime’s standard pedestrian bridge design for built up areas, which is a tied arch structure supported on both sides of the bridge by stairs and lift shafts which have a glazed front for security.
A number of submissions identified that pedestrians would not be willing to wait the time it takes for two lifts to provide access across Warringah Road. The Proposal does provide for stairs as an alternative option to access the pedestrian bridge. For those pedestrians unable to use the stairs, it has been estimated that the time it would take to walk a total of 183 metres of ramp would be similar to the time required to wait for the lift facilities. A wait for the lift is not expected to be excessive given that each lift only has two levels.

Throughout the operation of the bridge, when the lifts are temporarily 'out of order', there is the potential that elderly or less mobile pedestrians and pedestrians with prams, trolleys, bicycles or scooters would not be able to access the bridge to cross Warringah Road at this intersection. In the event that the lift is out of order, two on road signalised crossings are available in close proximity to the proposed bridge (300 metres east at the Currie Road/Brown Street intersection and 230 metres west at the intersection with Darley Road) which can be accessed via the pedestrian path on either side of Warringah Road. This would be a temporary alternative until the lift is operational again. No changes to these alternative intersections are proposed and accessing these alternatives may provide a more active route for customers wishing to ride or walk without using stairs or a lift to cross Warringah Road. While there may be some delays to crossing using a lift, this is considered comparable to waiting for the current crossing signals to turn green before crossing. Further consideration of pedestrian access arrangements are outlined in section 2.13.1.

A concern raised by the community included notification of when a lift on the opposite side of the bridge was out of order to address the risk of using the working lift, walking the bridge length and having to return. While the details of possible notification signs or similar are not known at this stage, Roads and Maritime have included this item for investigation during the detailed design phase. Existing lifts across the road network are regularly maintained by contract service providers (Stewardship Maintenance Contract) on behalf of Roads and Maritime. While the lift is out of order, upon attending, the Stewardship Maintenance Contractor would be required to place out of order signs at both ends of the bridge with contact details for any queries. These signs would remain in place until the lift is once again functional. Need for further provisions for alerting pedestrians on both sides of the road when a lift is out of order would be considered during detailed design. While the lift may be out of order at times, this would be for short periods only with the lift functioning normally for the majority of time.

A regular maintenance schedule would be implemented for the lift and other bridge structures. Operational maintenance of the lifts is further considered in section 2.7. A phone number would be displayed inside and outside of the lift for users to report any issues with the lift function and emergency 'help' communication facilities would be installed in line with applicable Australian Standards.

The safety of pedestrians using the bridge has been considered in the design of the bridge and is further considered in section 2.13.2 of this report.

Further information on the considerations, costs and benefits of the preliminary options assessed are outlined above in section 2.4 and in the published option assessment report (Roads and Maritime, December 2014).
Figure 2-1 Potential ramp footprint

2.4.2 Eastbound bus stop location

Submission number(s)
1, 2, and 6

Issue description
In summary, the respondent(s) raised the following matters:

- Why weren’t other options considered for the location of the eastbound bus stops?
- Why is it so far away from the Proposal intersection (ie 45 metres from the intersection but only 20 metres from the nearest driveway)?
- The verge in this area is steep and difficult to walk on therefore this would not be the best location for a bus stop
- Why not consider retaining the existing bus stop location which is not on the lawn of a private owner’s front verge?
- The proposed location of the eastbound bus stop would inhibit driveway access to the adjacent properties, by reducing line of sight and safety when reversing out of the driveway

Response
At the preliminary design stage, following identification of the preferred pedestrian bridge location, Roads and Maritime identified that the eastbound bus stop would not be retained in its existing location but would be relocated to the eastern side of the Warringah Road and Ferguson/Starkey Street intersection. This would result in the benefits of having both the westbound and eastbound bus stops located on the eastern side of the intersection, providing easier access for commuters using the pedestrian bridge to and from the bus stops, car park, shops and residential areas. This has been considered in section 2.8.2 of the Review of Environmental Factors.
Areas along the northern side of Warringah Road between Ferguson Street and about 200 metres east of Ferguson Street were considered for the new eastbound bus stop and shelter location. This took into consideration a number of factors including:

- The preferred location of the proposed pedestrian bridge
- Urban design
- Design guidelines including aspects such as sight lines, vehicle speed and stopping distance
- The location, ie sufficient area to accommodate the bus stop and up to two articulated buses
- Line of sight to and from the bus stops around the new pedestrian bridge for both bus driver and commuters to ‘flag down’ approaching buses.

The Austroads – Guide to Road Design Part 4 Intersection and Crossings, Section 6.3.4 Bus Stops outlines the distances required for bus stop arrangements in close proximity to intersections. It identifies that a minimum of 10 metres (with a desirable distance of 30 metres) should be provided from the corner on the departure side of the intersection and the start of the bus bay (zone). For this Proposal Roads and Maritime has provided a minimum of 20 metres from the corner on the departure side of the intersection and then provided 40 metres for the bus zone area (providing for two 19 metre articulated buses). As a result, the eastbound bus stop and shelter location was identified to be about 60 metres east of the intersection.

In response to the issues raised, Roads and Maritime would move the eastbound bus stop and shelter location 10 metres west. This would still provide for the minimum design distance of 10 metres from the corner on the departure side of the intersection while reducing property impacts (refer to section 3.2 for more detail about the relocation). The final location of the eastbound bus stop and shelter would be further considered as part of the detailed design for the Proposal and in consultation with council, bus operators and adjacent residents.

2.4.3 Bridge location

Submission number(s)
6

Issue description
In summary, the respondent(s) raised the following matters:

- A safer option would be to locate the bridge to the west of the intersection.

Response
Section 2.6 of the Review of Environmental Factors describes and considers the four options (including the do-nothing option) that were considered as part of the preliminary development process to identify the preferred option. Option 4, a single pedestrian bridge over Warringah Road and removal of the on road crossing at the Starkey Street intersection in Forestville was selected as the preferred option. This process is further detailed in the Starkey Street Pedestrian Bridge, Forestville Options Report (Roads and Maritime, December 2014) published for public information and available on the Roads and Maritime Project website.
In the preliminary stages of development, the Proposal considered placing the pedestrian bridge crossing on the western side of the intersection in order to maintain the crossing in its current location. Investigations identified a number of constraints to constructing a pedestrian bridge on the western side of this intersection and include:

- **Property impacts** – On the northern and southern side of Warringah Road, residential properties would be impacted due to the size of the bridge structure, with the potential for full acquisition of residential properties as opposed to partial acquisition of a commercial property.
- **Visual and privacy impacts** – Due to the height, proximity and community use of the bridge, views from adjacent properties would likely be either partially or completely obscured by the bridge structure. In addition, with the adjacent apartment complex being at a similar level as the bridge, there would also be an opportunity for views into private living areas.
- **Access impacts** – Currently the apartment complex to the south-west of the intersection uses the verge area facing Warringah Road for emergency vehicle access and delivery and service vehicle (garbage collection) access. This access would be obstructed by the bridge structure if located on the western side and would likely need to be relocated.

In addition, placing the pedestrian bridge on the western side of the intersection would not provide an improvement to the commuter connection between the bus stop and the crossing, or it would require the relocation of the westbound bus stop to the western side of the intersection. The relocation of the bus stop to the western side of the intersection has previously been considered and ruled out due to additional community and environment impacts, as outlined in section 2.10.4.

The option to place the pedestrian bridge on the western side of the intersection (without relocating the westbound bus stop) was also considered against the Proposal objectives (outlined in section 2.5 of the Review of Environmental Factors). The assessment of this option found that it did not meet the following objectives:

- **Minimise environmental and community impacts.** This option would require additional property acquisition of adjacent residential properties, would impact on the amenity and privacy of the apartment complex and would inhibit access to residential properties by emergency and service vehicles.
- **Optimise the urban design and landscape outcomes to complement the surrounding natural, built and community environment.** The additional impacts on the adjacent residential properties would not provide for good urban design and landscape outcomes.
- **Provide value for public money.** The extra costs associated with the additional partial or full property acquisition would impact on the value of the Proposal.

### 2.4.4 Traffic light sequence

#### Submission number(s)

23

#### Issue description

In summary, the respondent(s) raised the following matters:

- Is it an option to change the traffic light sequencing, so pedestrians only get to cross on every second cycle of the traffic light rotation? This would reduce the interruption to traffic without spending a fortune.
Response

Section 2.6 of the Review of Environmental Factors outlines and considers the various options that were analysed as part of the development of the preferred option for a pedestrian bridge crossing.

Changes to the traffic sequencing were considered in the early stages of the Proposal. It was identified, however, that changes to the signalised timing of the pedestrian crossing would only be effective if a pedestrian phase was removed from the intersection signalised cycle.

Currently the signalised pedestrian crossing of Warringah Road is only included in the signalised phase if it is triggered by a pedestrian wishing to cross Warringah Road pushing the button. However, in peak hours this is typically triggered as part of every cycle. Therefore if an alternative phasing was provided (such as only triggering every second cycle) it would:

- Minimise the improvements to traffic flow through the area during peak periods and the intersection would continue to experience delays and queuing along Warringah Road
- Encourage pedestrians to cross Warringah Road against the signalised pedestrian lights as a result of an increased wait time to cross the road. This would impact on safety of both pedestrians and road users at the intersection
- Reduce pedestrian amenity at the intersection.

As part of the Proposal, once the existing on-road pedestrian crossing has been removed, the signal phasing and timing of the intersection would be reviewed to optimise the functioning of the intersection and along the wider Warringah Road corridor.

2.5 Proposal description

2.5.1 Eastbound bus stop

Submission number(s)
1 and 26

Issue description

In summary, the respondent(s) raised the following matters:

- Will the eastbound bus stop be relocated to the eastern side of the Starkey Street and Warringah Road intersection?
- Will there be sufficient space to build an adequate bus shelter that is far enough back from the road at the proposed eastbound bus stop location to prevent passengers from being sprayed by passing vehicles in wet weather?

Response

The Review of Environmental Factors and section 1.2 of this Submissions Report identify that the Proposal would include relocating the eastbound bus stop and shelter on the northern side of Warringah Road. The bus stop and shelter is currently located on the western side of the intersection and would be relocated to the eastern side of the intersection in proximity to the pedestrian bridge. A new bus stop and shelter would be built and the existing bus stop and shelter would be demolished. A new leaning rail would also be installed next to the new shelter.
The design provides for the bus stop and shelter to be set back from the road in accordance with the Austroads Road Design Guidelines, which would provide a safe distance from the road traffic. Refer to Figure 1-1 for the proposed eastbound bus stop location.

2.5.2 Construction

Submission number(s)
5, 20 and 37

Issue description
In summary, the respondent(s) raised the following matters:

- When would construction works for the Proposal start?
- Warringah Council suggests an alternative compound site location at the dog park on Currie Road – Lot 7306/1146155 Currie Road, Forestville. This would require a more detailed submission by Roads and Maritime in relation to access, security, lighting, hours of use, number of vehicle movements, potential noise and disruption to adjacent landuse.

Response
Construction is expected to start in late 2016 and is expected to take about 12 months to complete (weather permitting).

Roads and Maritime acknowledges the recommendation by Warringah Council for an alternative compound site as a secondary storage facility to be established at the dog park on Currie Road, – Lot 7306/1146155 Currie Road Forestville. As a result, the following additional management measure for the Proposal has been identified:

- Alternative compound sites would be investigated during detailed design to minimise impacts on parking and the community. If it is identified that an alternative compound site is required, the dog park on Currie Road, Forestville would be considered. If this location is proposed to be used, detailed environmental assessment of use on the site would be undertaken in consultation with Warringah Council and the Roads and Maritime Environment Manager.

2.6 Funding

Submission number(s)
5 and 37

Issue description
In summary, the respondent(s) raised the following matters:

- How much would the Proposal cost and who is funding it?
- Who will be funding the costs of the proposed bridge?

Response
The Proposal is fully funded by the NSW State Government.

The estimated costs of the proposed pedestrian bridge have not been publicly released. As the construction of the Proposal would be tendered, it is not appropriate to identify the estimated construction costs in order to achieve the best value for money for tax payers.
2.7 Operational maintenance

2.7.1 Bus stop

**Submission number(s)**

2 and 36

**Issue description**

In summary, the respondent(s) raised the following matters:

- Who will be responsible for the maintenance of the eastbound bus stop? Would the adjacent property owner be required to mow the area? This would involve picking up the rubbish first.

**Response**

Maintenance would be the responsibility of Warringah Council and would be consistent with the maintenance of the current eastbound bus stop and shelter. In addition, the existing bus shelter also contains a rubbish bin which would be relocated to the new bus stop location. The adjacent residents would not be responsible for the ongoing maintenance of the bus stop and shelter. Responsibility for the maintenance of the nature strip outside residential properties would remain unchanged and consistent with existing council policy.

2.7.2 Lift maintenance

**Submission number(s)**

6, 17 and 26

**Issue description**

In summary, the respondent(s) raised the following matters:

- What maintenance strategies are being applied to minimise lift down time when out of order?
- How often will the lifts be cleaned?
- What arrangements are there when the lifts break down? How long would it take to repair?

**Response**

The maintenance of the lifts would be the responsibility of Roads and Maritime. At the completion of the construction the bridge would be handed over to the Roads and Maritime service provider (Stewardship Maintenance Contractor) for ongoing maintenance in accordance with Roads and Maritime M3 Maintenance specification, which includes pedestrian lift maintenance requirements. This includes use of specific teams for minor works like cleaning or graffiti removal and use of service providers for larger works including lift maintenance. Maintenance crews will attend for programmed works and upon being notified of a complaint. During this time the lifts would be sign-posted to alert users of alternative crossing arrangements.

Contact details would be displayed inside and outside of the lift for users to report any issues with the lift function and emergency ‘help’ communication facilities will be included during detailed design in line with applicable Australian Standards. Any down time as a result of breakdowns would be minimised as much as feasible.
2.7.3 Pedestrian fencing

*Submission number(s)*

20

*Issue description*

In summary, the respondent(s) raised the following matters:

- It is considered that all pedestrian fencing installed as part of this project should remain the responsibility of Roads and Maritime for repairs and maintenance.

*Response*

The maintenance of all pedestrian fencing within an arterial road under the care and control of the Roads and Maritime is undertaken by Roads and Maritime maintenance contractors. This would include maintenance of all pedestrian fencing erected as part of this Proposal.

2.8 Utilities

2.8.1 Overhead utilities

*Submission number(s)*

4

*Issue description*

In summary, the respondent(s) raised the following matters:

- The existing power and telecommunication lines at the Proposal intersection would be a safety issue to the construction and operation of the proposed pedestrian bridge
- Suggest that the power and telecommunication lines be relocated underground.

*Response*

As outlined in section 2.4 of the Review of Environmental Factors, Roads and Maritime has identified the presence of a number of utilities within the Proposal area including the overhead power and telecommunication lines. Section 3.5 of the Review of Environmental Factors identifies that measures for the adjustment and protection of utilities would be undertaken during detailed design. It is preferred that, where possible, utilities would remain in their current position. However, if required to ensure the safety of construction and operation of the pedestrian bridge, underground placement of utilities would be considered, in particular at the Proposal intersection.
2.9 Consultation

2.9.1 Community consultation

**Submission number(s)**

2, 3, 5, 19 and 36

**Issue description**

In summary, the respondent(s) raised the following matters:

- Have any residents provided feedback on the Proposal?
- Worried that this process is being railroaded so there is no recourse, except comment with no actual consultation
- Please arrange a time to discuss with me, my family and neighbours regarding our concerns
- Residents adjacent to the Proposal have not been consulted about the Proposal including about how it will affect enjoyment of the property and lifestyle. Residents feel ignored in the process
- Request to be added to the hospital project mailing list
- Thank you for running the info sessions. Great idea.

**Response**

Roads and Maritime started consultation on the Proposal in December 2014 and invited feedback as the Proposal developed towards the display of the Review of Environmental Factors. The purpose of the community consultation was to inform local residents and stakeholders of the Proposal and seek their feedback. Roads and Maritime distributed a four page A4 community update to 5,500 properties on 5 January 2015. People were encouraged to submit feedback at any time direct to Roads and Maritime’s project manager via email or telephone.

Roads and Maritime received feedback on the Proposal from about 40 community members or organisations. The feedback from the community for the Proposal was generally positive as many motorists regularly experience delays at the Starkey Street/Warringah Road intersection due to the high frequency of pedestrians activating the signalised crossing at this location, particularly during peak travel periods. Separating pedestrians from vehicle traffic by installing a pedestrian bridge was therefore considered an improvement both to traffic flow and pedestrian safety. However, there were some common matters from the community including the following, which were considered in the Review of Environmental Factors:

- Visual impacts of pedestrian fencing
- Property acquisition
- Location of the proposed bridge and new bus stops
- Improving traffic flow during peak travel periods
- Removing the signalised intersection on the eastern side of Starkey Street
- Disabled access, ramp and lift inclusions
- Reducing the number of car parking spaces in the car park.
The Review of Environmental Factors was finalised in June and was made available to the public for comment. As part of this display period, two community information sessions were held on Thursday 18 and Saturday 20 June 2015 and a six page A4 Community Update was distributed to about 5,500 households. People were encouraged to submit feedback to Roads and Maritime’s project manager via email or telephone by Friday 26 June 2015 and submissions were accepted up until 23 August 2015.

Roads and Maritime also carried out door knocking of residents located near the Proposal site during the week commencing 15 June 2015 to advise them of the Proposal and directly discuss any issues they may have about the Proposal. In response to the issues raised, further direct consultation was arranged and carried out with the residents in the immediate vicinity of the proposed bridge to discuss their issues with the Proposal including the location of the eastbound bus stop.

Roads and Maritime has received 36 submissions from the community and two from other stakeholders as part of the display period of the Review of Environmental Factors. All members of the community who have put in a submission will be added to the stakeholder list for this Proposal to be included on any future updates about the Proposal.

All submissions received have been individually examined and any matters raised have been fully considered as part of this Submissions Report. In response to some submissions received, a number of minor changes have been made to the Proposal (refer to section 3) and additional management measures have been identified (refer to Section 4). Roads and Maritime will consider all matters in determining whether to proceed with this Proposal.

2.9.2 Stakeholder consultation

Submission number(s)

20

Issue description

In summary, the respondent(s) raised the following matters:

- Warringah Council would like to be further consulted during detailed design regarding:
  - The location and design of the eastbound bus stop
  - The bicycle parking
  - The pedestrian access plan
  - The permanent loss of any parking in the local area as a result of the Proposal
  - Any changes to street lighting surrounding the Proposal
  - The use of an alternative compound site
  - Any landscaping plans for the area
  - The construction traffic management and detour plans
  - The construction management plan
  - The colours of the proposed pedestrian bridge.
Response

As outlined in section 7 of the Review of Environmental Factors, consultation with Warringah Council has been undertaken throughout the development of the Proposal. Consultation would continue during further design development and construction. In response to the matters raised by council Roads and Maritime has made amendments to the consultation management measure outlined in Table 7-1 of the Review of Environmental Factors. The management measure is outlined below with the changes shown in blue and removed text struck through:

- Warringah Council would be consulted on (but not limited to):
  - The proposed bus stop and shelter location and design
  - Construction methodology—management, pedestrian management and detour plans
  - Impacts to the Warringah Council owned car park during both construction and operation
  - Landscaping plans
  - Alterations to street lighting and lighting provided on the pedestrian bridge
  - The location and style of bicycle parking
  - Kept informed about the progress of the Proposal throughout the design process
- Warringah Council would be kept informed about the progress of the Proposal throughout the detailed design and construction period.

2.10 Traffic and access

2.10.1 Traffic flow

Submission number(s)

6, 12, 32 and 33

Issue description

In summary, the respondent(s) raised the following matters:

- I fail to see how the Proposal would improve traffic flow
- The Proposal appears to reduce the time permitted for vehicles turning east onto Warringah Road from Starkey Street (as this is done in conjunction with the pedestrian crossing). This movement is already congested and the Proposal would make the situation worse. How will this be overcome?
- Access to Warringah Road from Starkey Street and Ferguson Street is still required during both morning and evening peak hours
- Would the Proposal improve, worsen or maintain the access arrangements out of Ferguson Street, particularly during the morning peak congestion?
- Increasing the time permitted for vehicles turning left from Starkey Street in the morning peak will make a difference in clearing queuing vehicles
- In the evening peak, it is not the Proposal intersection causing traffic congestion, instead it is the Forest Way/Warringah Road intersection back to the Roseville Bridge, so the Proposal would not improve traffic flow
- Increases to the pedestrian crossing time due to having to use the bridge may lead to increased traffic congestion due to more people choosing to drive instead
- Will the phasing of the lights be changed to cater for the increased pedestrian use of the crossing on Ferguson Street and Starkey Street?
• Please create a bus bay at the new eastbound bus stop/shelter location to reduce traffic delays queuing behind stopped buses during the afternoon peak period.

Response

Section 6.1 of the Review of Environmental Factors considers the impacts of the Proposal on traffic flow throughout the local network. It identifies that the Proposal would improve the existing traffic flow through the intersection and would have flow-on effects in reducing delays along Warringah Road during peak periods.

The principal constraints to maximising the green time allocated to westbound traffic on Warringah Road at the Starkey/Ferguson Street and Brown Street/Currie Road intersections, and treatment considerations include:

• The frequency of call-ups of the pedestrian crossing phase and the time taken by pedestrians of all physical abilities to cross Warringah Road at a reasonable pace
• Given the number of vehicles turning out of side streets at various times throughout the day, the wait time required by motorists to turn is considered reasonable for the circumstances, with capacity on Warringah Road to accept them
• The total cycle time and co-ordination of traffic signal timing settings between the two intersections so that movements are synchronized.

Roads and Maritime has carried out an iterative process of option identification, traffic modelling analysis and impact assessment. This has identified that the combination of network-wide coordination of traffic signal off-sets (including of phasing and timing) and replacement of the pedestrian crossing at Starkey Street with a pedestrian bridge and adjustment of signal timing, gives the most cost-effective response to all-of-network operation.

The Proposal would improve the existing traffic flow through the intersection and would have flow-on effects in reducing delays along Warringah Road during peak periods. The Proposal would remove the pedestrian phasing of the signalised intersection, increasing green time at the intersection, allowing for signal phasing to be optimised (such as alternative timing and number of phases per cycle). This would provide more flexibility in the operation of the intersection to enable improvements to traffic flow. Traffic modelling has identified that the Proposal would see an improvement or reduction in traffic delays and queue lengths on Warringah Road through the intersection as a result of the Proposal.

For further analysis of the options considered and the impacts of each option on traffic flow please refer to the Starkey Street Pedestrian Bridge, Forestville Options Report (Roads and Maritime, 2014) which is available on the Roads and Maritime Project website.
The main objective of the Proposal is to improve traffic flow along Warringah Road. The Proposal would result in a change to the phasing of the traffic signals at the intersection. The new signalised phasing of the Proposal intersection would be identified during detailed design using the traffic modelling for the Proposal. This may result in a reduction in the length of ‘green light’ per cycle but an increase in the number of cycles in a given timeframe. In addition, traffic modelling for the Proposal predicts that there would be a reduction in queues and delays from both Starkey Street and Ferguson Street as well as along Warringah Road. In addition, the proposed works would complement a series of network improvements that are being undertaken throughout the local network that aim to improve traffic flow, maintain and improve road safety, improve amenity and safety for pedestrians, and improve public transport movements.

After the completion of the Proposal, the Transport Management Centre (TMC) would continually monitor the operation of the signalised intersection, and alter the sequencing of the traffic signals as required to ensure optimum efficiency at the intersection and throughout the network.

The signalised pedestrian crossing on Ferguson Street and Starkey Street is currently only triggered when the pedestrian crossing button is pushed. The sequencing of traffic signals at the intersection then incorporates this movement into the regular signalised phase. This operation would continue after the completion of the Proposal. No changes to pedestrian crossings of Starkey Street and Ferguson Street are proposed.

It is considered unlikely that the small increase in crossing time for pedestrians using the bridge at the intersection would result in people choosing to drive to a destination that is within walking distance. In addition, as outlined in section 6-1 of the Review of Environmental Factors, pedestrians may experience an improved crossing time as they can cross at any time without having to wait for the lights to cross Warringah Road.

A bus bay at the new Starkey Street eastbound bus stop and shelter location is not proposed as part of the Proposal. It is acknowledged that traffic caught queuing behind stationary buses at the bus stop can cause delays, however these delays are temporary and usually occur only for a short period of time. In addition, without an adjacent bus lane, bus services may become trapped in the bay finding it difficult to re-join the through traffic stream, leading to service delays. A bus bay in this location was considered as part of the Proposal, however was ruled out as it was not consistent with the objective to provide for efficient road-based public transport and due to an increase in acquisition of private property.

The Forest Way/Warringah Road intersection is outside of the scope of the Proposal area, however Roads and Maritime is planning to upgrade roads around the new Northern Beaches Hospital in Frenchs Forest to provide essential access to the hospital and to increase the capacity of the road network and reduce congestion.
2.10.2 Property access

**Submission number(s)**
10 and 24

**Issue description**
In summary, the respondent(s) raised the following matters in relation to the ‘Northscape’ apartment building:

- The Proposal would detrimentally impact the ‘Northscape’ residents due to the proposed landscaping and pedestrian fencing which appears to come down across the main access to the building.
- The pedestrian fencing in front of ‘Northscape’ would hinder access to the front of the building by emergency vehicles, service vehicles, and moving trucks causing a safety issue.

**Response**
As outlined in section 1 and Figure 1-3 of the Review of Environmental Factors, the Proposal provides for the erection of pedestrian fencing on the south-western corner of the Proposal intersection along Warringah Road outside of the ‘Northscape’ apartment building to prevent pedestrians crossing Warringah Road without crossing provisions. Submissions identified that trucks and emergency vehicles are not able to access the resident underground parking area due to height restrictions.

In response to this issue being raised, Roads and Maritime is proposing to alter the location of the pedestrian fencing on the south-western corner of the Warringah Road and Starkey Street intersection. This change is outlined further in section 3 of this report. The change will allow delivery and emergency vehicles to continue to access the ‘Northscape’ building as they do currently.

2.10.3 Eastbound bus stop location

**Submission number(s)**
2, 9 and 14

**Issue description**
In summary, the respondent(s) raised the following matters:

- The new bus stop and shelter location would only move the congestion from one point to another and not improve traffic flow. There would be little improvement to traffic flows particularly as it is proposed to increase buses at the new eastbound bus stop.
- Moving the bus stop location would prevent traffic turning right from Starkey Street from using all three traffic lanes to turn into Warringah Road.
- At the Starkey Street access leg of the intersection, please include road markings for the right turn lanes into Warringah Road to direct them to the inside and middle lanes to avoid conflicts with potential stationary buses at the new eastbound bus stop.

**Response**
The options analysis for the preferred location of the eastbound bus stop is provided in section 2.8.5 of the Review of Environmental Factors and a response to matters raised about the location of the eastbound bus stop and shelter is provided in Section 2.4.2 of this Submissions Report.
The location of the new eastbound bus stop and shelter location is not expected to affect traffic flow through the intersection. The objective of the Proposal is to improve traffic flow through the intersection by removing the pedestrian crossing from Warringah Road at the Proposal intersection. The purpose of relocating the eastbound bus bay as part of the Proposal to the eastern side of the intersection would be to provide easy and immediate access from the new pedestrian crossing to the bus stop and shelters located on both sides of Warringah Road. While the relocation of the eastbound bus stop is not expected to improve traffic flow along Warringah Road, it is also not expected to negatively impact on traffic flow either.

As outlined in section 2.4 of the Review of Environmental Factors, the existing traffic lane arrangement on Starkey Street at the intersection includes:

- One southbound lane
- Three lanes in the northbound direction. At the intersection, these three lanes provide for one dedicated left turn lane, a middle lane providing for both through traffic and traffic turning right, and one dedicated right turn lane.

The two right turning lanes from Starkey Street to head eastbound on Warringah Road currently provide for the inside turning lane to enter the inside through lane on Warringah Road and for the outside turning lane to enter either the middle or outside through lane on Warringah Road. This arrangement will generally remain unchanged as part of the Proposal. However, if there is a stationary bus at the proposed new eastbound bus stop and shelter, vehicles would have the ability to use the middle through lane to avoid conflicts with the bus. Roads and Maritime has identified that there is sufficient line of sight for vehicles turning right to see a stationary bus prior to the turn in order to safely turn avoiding a collision with the bus.

Aspects such as line marking would be considered as part of the design review during the detailed design phase.

2.10.4 Westbound bus stop location

*Submission number(s)*

12 and 21

*Issue description*

In summary, the respondent(s) raised the following matters:

- The westbound bus stop using the dedicated bus lane causes traffic delays with left turning vehicles having to wait behind stationary buses, or making the illegal move to go around the buses and turn left from the through lane in front of the buses. Suggest provide a second Chatswood only bus stop on the western side of the intersection. This issue should be addressed as part of the Proposal.

*Response*

The Proposal does not include any changes to the existing westbound bus stop on Warringah Road located east of the Starkey Street intersection.

The current bus stop using the left turn lane removes stationary buses from the through traffic on Warringah Road which helps maintain traffic flow through the local area. There are no current plans to relocate the existing westbound bus stop or to provide a dedicated bus bay in this location.
In the preliminary stages of development, consideration was given to placing the pedestrian bridge crossing on the western side of the intersection and relocating the westbound bus stop and shelter to the western side of the intersection. Section 2.4.3 of this Submissions Report considers the positioning of the pedestrian bridge on the western side. It was identified that when considered against the Proposal objectives, the option to relocate the westbound bus stop and shelter to the western side of the intersection would not perform well against the Proposal objectives, as outlined below:

- **Maximise the efficiency of westbound traffic in the morning peak period and eastbound traffic in the evening peak along Warringah Road** and **minimise delays on Warringah Road**. By relocating the westbound bus stop and shelter to the western side buses would be required to use a through lane of traffic to pick up and drop off commuters. This would hinder westbound traffic at all times of the day, in particular in the morning peak period.

- **Provide for efficient road-based public transport**. As outlined above relocating the westbound bus stop and shelter into the through lane would reduce the efficiency of the public transport system, would not provide an area for ticket sales etc and would potentially reduce safety of commuters and road users.

- **Minimise environmental and community impacts**. This option would require additional property acquisition of adjacent residential properties, would impact on the amenity and privacy of the apartment complex and would inhibit access to residential properties by emergency and service vehicles.

- **Optimise the urban design and landscape outcomes to complement the surrounding natural, built and community environment**. The additional impacts on the adjacent residential properties would not provide for good urban design and landscape outcomes.

- **Provide value for public money**. The extra costs associated with the additional partial or full property acquisition would impact on the value of the Proposal.

2.10.5 Starkey Street access

**Submission number(s)**

14 and 20

**Issue description**

In summary, the respondent(s) raised the following matters:

- At the Starkey Street access leg of the intersection, please consider moving the straight through lane to the left turn lane to provide for two dedicated right turn lanes to reduce delays and queuing on Starkey Street.

- It is noted by Warringah Council that the Roads and Maritime Proposal does not include any changes to the existing bus movements in Starkey Street.

**Response**

As outlined in section 2 and 3 of the Review of Environmental Factors, there are no proposed changes to the existing traffic lane arrangements on Starkey Street at the Proposal intersection. The arrangement comprises:

- One southbound lane

- Three lanes in the northbound direction. At the intersection, these three lanes provide for one dedicated left turn lane, a middle lane providing for both through traffic and traffic turning right, and one dedicated right turn lane.
The existing through lane from Starkey Street is aligned with the corresponding lane on the opposite side of the intersection. This arrangement helps to minimise confusion and reduce the risk of collisions from drivers entering the wrong lane. Currently the lane arrangement caters for two right turn lanes, therefore further changes to the intersection layout are not proposed.

Warringah Council’s comment in relation to bus movements is noted.

2.10.6 Construction traffic

Submission number(s)

20

Issue description

In summary, the respondent(s) raised the following matters:

- The detouring of vehicles during the closure of Warringah Road for the installation of the bridge deck needs to be carefully considered, as many of the potential detour routes around the site are unsuitable for heavy vehicles. This requires continued consultation with Warringah Council and minimisation of impacts.

Response

As identified in section 6.1 of the Review of Environmental Factors, the construction of the pedestrian bridge would require some lane closures throughout construction including one full road closure of Warringah Road, at the Proposal location, during placement of the bridge structure. This is expected to be completed in one night shift, with the prefabricated structure being lifted into place by a mobile crane. Detour plans for this road closure have not been identified at this stage of the Proposal development. However, detour plans would be developed prior to construction and would be developed in consultation with Warringah Council and the TMC. All lane closures would be undertaken outside of peak periods and in line with an approved Road Occupancy Licence (ROL). Management measures have been identified in Table 4-1 of this report to ensure that Warringah Council is consulted during the development of the detour plans for the Proposal.

2.11 Operational noise and vibration

Submission number(s)

36

Issue description

In summary, the respondent(s) raised the following matters:

- Buses, cars and people using the bus stops would increase noise at adjacent backyards
- The proposed lift would increase noise at adjacent properties
- Extra vibration will occur from buses and cars stopping and starting at the new bus stop
- The volume of people using the bus stop will dramatically increase the noise and physical presence of people at private property.
Response

As identified in section 6.2 of the Review of Environmental Factors noise and vibration impacts of the Proposal have been considered as part of the assessment.

The NSW Government’s Road Noise Policy (RNP) (DECCW, 2011) is used for assessing potential road traffic noise impacts from public roads. The RNP identifies strategies that address potential road traffic noise from existing roads, new road projects, road redevelopment projects and new traffic-generating developments. However, the RNP states that redevelopment does not cover minor road works designed to improve safety, such as straightening curves, installing traffic control devices or minor road realignment. The RNP describes a minor impact to be an increase of up to 2dBA, which is considered to be a barely perceptible change to the average person.

Warringah Road is classified as an existing arterial road. The Proposal is considered minor road works and would not result in a noticeable change to the operational noise of traffic as the Proposal does not increase traffic volumes and would not modify trafficable lanes nor move traffic closer to existing properties. The Review of Environmental Factors identified that there is a potential for a minor reduction in traffic noise due to improvements to traffic flow, however this reduction is likely to be minor and less then 2dBA and therefore imperceptible to human hearing.

The operation of the lifts is unlikely to be audible at adjacent properties due to the quiet nature of the operation of the lift mechanisms. The lift mechanisms would be enclosed in the lift shaft and generally located below ground. The existing background noise levels from the ongoing operation of the adjacent road network would be the dominant noise source and therefore any operational noise from the lift mechanisms is unlikely to be discernable. Noise produced from the lift operation would be orientated away from adjacent properties and shielded by the lift structure.

The relocation of the bus stop is unlikely to increase the existing operational noise levels of Warringah Road. While it is moving closer to a number of new properties, these properties are already exposed to existing traffic noise including the accelerating and breaking of buses using the Warringah Road and Starkey Street intersection. Therefore it is likely that any change in noise levels would not be noticeable at adjacent properties. In addition, the movement of buses through the area and any noise from the bus stop would be temporary and intermittent. It is expected that noise generated due to the operation of buses or other vehicles and the presence of commuters would be minor due to the existing background noise levels from adjacent traffic.

In response to the issues raised and additional management measure for the Proposal has been identified to require that during detailed design the type and style of lifts chosen would be selected for low noise qualities. The lifts would be kept in good working order during operation to avoid and minimise noise impacts on nearby residents.

There is unlikely to be any vibration impacts as a result of the Proposal. The operation of the pedestrian bridge would not cause any ongoing operational vibration impacts. The relocation of the bus stop would also not have any noticeable vibration impacts as properties adjacent to the bus stop are already exposed to existing vibration impacts of heavy vehicles, including buses, using the existing road alignment. The Proposal does not move traffic closer to properties and stationary buses are not expected to cause any further noticeable vibration impacts.
2.12 Urban design and visual appeal

2.12.1 Bridge design

*Submission number(s)*

20, 26 and 34

*Issue description*

In summary, the respondent(s) raised the following matters:

- Council would like to use their corporate colours in the bridge design. Alternatively they would like the bridge to be black and white.
- The proposed design looks over-engineered, not aesthetically appealing and would be an eyesore. Please take this opportunity to provide an artful structure and include gifted architects in the design team.
- Please improve the aesthetic appeal of the proposed pedestrian bridge. The current design is ordinary and unappealing; cannot a better design be found?
- Bridges can make or define a place and be a landmark such as ‘Crown on the Hill’ at Warringah Road, Forestville.

*Response*

The design of the proposed pedestrian bridge has been prepared by an experienced urban design company (Spackman Mossops Michaels (SMM)) and in accordance with Roads and Maritime Design Appendix D Standard for a Pedestrian Bridge in an Urban Area (Roads and Maritime – Centre for Urban Design, 2012).

SMM prepared an Urban Design Landscape Character and Visual Impact Assessment (June 2015) for the Proposal, which was included in Appendix C and outlined in section 6.3 of the Review of Environmental Factors. This assessment identified a number urban design principles and objectives which have been applied to the Proposal and a number of management measures to be considered as part of the detailed design of the Proposal. The assessment has considered the importance of the intersection as a landmark in the local community and provided for this in the design of the bridge and the associated landscaping and design around the bridge.

While design refinement would be undertaken during detailed design, the general appearance of the bridge would remain consistent with that proposed in the Review of Environmental Factors. The colours of the bridge would be identified during detailed design, however it is unlikely that the Proposal would adopt Warringah Council corporate colours or a black and white theme is unlikely to comply with Roads and Maritime Beyond the Pavement guidelines (Roads and Maritime – Centre for Urban Design, 2014) or the Appendix D Roads and Maritime Design Standard for a Pedestrian Bridge in an Urban Area (Roads and Maritime – Centre for Urban Design, 2012).

The Review of Environmental Factors provides for the following management measure regarding the design and colour of the proposed pedestrian bridge:

- Colour combinations and finishes would be investigated to ensure a visually pleasing outcome and a contemporary urban design/ architectural quality that is complimentary to this urban bushland setting.
The urban design assessment identified that the westbound bus stop, known as Jamieson Square, is a well known local landmark as it forms the gateway to Killarney Heights to the south and Forestville to the north and south, several signs reinforce this. One of the identified urban design and landscape objectives was to ‘Express the intersection as a gateway to the suburbs of Forestville and Killarney Heights’ and this has been considered as part of the assessment of and incorporated into the urban design of the Proposal.

2.12.2 Landscaping

**Submission number(s)**
4 and 20

**Issue description**
In summary, the respondent(s) raised the following matters:

- Could the median strip along Warringah Road be beautified with plantings to enhance the appearance of the Proposal?
- Warringah Council would like to ensure that all trees removed for the Proposal are replaced within the general locality. Council can arrange for the planting and establishment of these trees at the cost of Roads and Maritime.

**Response**
The median strip along Warringah Road through the Proposal area is currently a raised concrete median. The Proposal would include installing pedestrian fencing along the median of Warringah Road east of the Proposal intersection, underneath the proposed pedestrian bridge (refer to section 3 of the Review of Environmental Factors). The inclusion of planting within the median strip at this location is not considered feasible due to:

- The limited width of the median strip in this location
- The installation of the pedestrian fence
- Planting would impede the sight distance of motorists which may create a safety concern
- The maintenance of plantings within the median in this location would create a safety hazard for maintenance crews.

The Review of Environmental Factors requires that a landscape management plan be developed for the Proposal in consultation with council.

2.12.3 Advertising signage

**Submission number(s)**
20, 28 and 34

**Issue description**
In summary, the respondent(s) raised the following matters:

- Warringah Council acknowledges that Roads and Maritime has no plans to place advertising on the bridge. It would like the bridge to include provisions for council to put advertising or community information signage on the bridge structure at a later date
- Please let us enjoy the symmetry of the bridge without distracting advertising
- Do not include advertising signage on the new bridge.
Response

Roads and Maritime does not propose to include any community or advertising signage on the pedestrian bridge as part of the Proposal. No provisions would be made for the inclusion of future advertising signage on the pedestrian bridge. Submissions from the community are opposed to including advertising on the bridge and it has been identified that signage on the bridge would impact on the aesthetic appeal of the structure. Therefore advertising would not be permitted.

2.12.4 Other

Submission number(s)

20

Issue description

In summary, the respondent(s) raised the following matters:

- Warringah Council can provide the specifications of its steel/glass bus shelter design for Roads and Maritime to build and install
- Council notes that the installation of way finding signage is included in the project, along with the retention of the existing community sign
- Council re-iterates that energy efficient LED lighting should be used for the bridge and any alteration to the street lighting network must be energy efficient and be the subject of further council consultation.

Response

The style and design of the proposed bus stop and shelter would be further developed during the detailed design stage. Roads and Maritime notes that council has specifications for steel/glass bus shelters.

In response to the matters raised an additional management measure has been identified for the Proposal stating:

Warringah Council would be consulted regarding the design of the proposed eastbound bus stop and shelter.

As described in Table 7-1 of the Review of Environmental Factors, management measure number 40 identifies that ‘way finding signage directing cyclists and pedestrians to other crossing locations of Warringah Road’ would be included as part of the Proposal. This would be included as part of the detailed design of the Proposal. The existing community signage on the south-eastern corner of the intersection would also be retained or reinstated as part of the Proposal.

It is proposed that lighting on the pedestrian bridge would be installed in both the lift wells and on the stairs and crossing structure. In response to the matters raised the following additional management measures would be included as part of the Proposal:

- Lighting on the bridge would be reviewed as part of detailed design and would include:
  - A safety review to ensure sufficient lighting on the pedestrian bridge structure and the proposed eastbound bus stop and shelter
  - A review of energy efficient lighting to be included in the Proposal, including consideration of LED lighting
  - A review of design and style of lighting to ensure minimal spillage into neighbouring properties
2.13 Socio-economic

2.13.1 Pedestrians

Submission number(s)
6, 16 and 18

Issue description
In summary, the respondent(s) raised the following matters:

- When the lifts are broken it will be troublesome for the elderly and parents to negotiate the stairs, particularly in the rain
- Additional commute time would be required as a result of the Proposal, as pedestrians would need to cross the side streets on both sides of the intersection as well as wait for the lift, twice. This would impact on school kids, parents with strollers, scooters and commuters using the shops etc crossing the road
- Increases to the pedestrian crossing time of Warringah Road may cause people to take risks and cross against the lights, creating a safety risk
- Pedestrians coming up or going down Ferguson Street or adjacent streets would have to cross two sets of lights therefore increasing their risk of being involved in an accident
- There is a potential safety issue with vehicles turning left into Ferguson Street from Warringah Road, which may conflict with pedestrians crossing Ferguson Street.

Response
Section 6.1 and section 6.4 of the Review of Environmental Factors consider the impacts of the Proposal on pedestrian movements through the intersection. At the Proposal intersection, on road signalised pedestrian access is currently provided on three legs of the intersection, including:

- Across Warringah Road on the western side of the intersection
- Across Starkey Street
- Across Ferguson Street.

Concrete pedestrian paths are provided along both sides of the road on all three roads and at all four corners of the intersection. These pedestrian paths also provide access to the local bus stops, and lead to the community facilities adjacent to the Proposal area and the shopping centre located to the south on Starkey Street.

In addition to the Proposal intersection, there are three other pedestrian crossings on Warringah Road within 700 metres of the Proposal area. These include on road signalised pedestrian crossings at the Currie Road/Brown Street intersection (300 metres east) and Darley Street intersection (230 metres west) and a pedestrian bridge adjacent to the Forestville Avenue intersection (700 metres west). As part of the traffic analysis for the Proposal, pedestrian counts at these intersections were undertaken. The results of these surveys are provided in Table 2-2 to Table 2-5. The orange shading identifies where there are no formal crossing facilities on that leg of the intersection.
The figures provided in Table 2-2 to Table 2-5 demonstrate the majority of pedestrians in the local area use the Starkey Street intersection to cross Warringah Road, in particular during the morning peak period. This is likely due to residents on the northern side of Warringah Road accessing the (westbound) bus stops, shops and schools on the southern side of Warringah Road. The figures also show that occasionally pedestrians cross Warringah Road on the eastern side of the Starkey Street intersection, despite the absence of formal pedestrian crossing facilities.

**Table 2-2 Pedestrian use of intersection crossing points – Warringah Road / Starkey Street / Ferguson Street Intersection**

<table>
<thead>
<tr>
<th></th>
<th>AM peak period (8am – 9am)</th>
<th>PM peak period (5pm to 6pm)</th>
<th>Total pedestrian movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warringah Road (west side)</td>
<td>103</td>
<td>51</td>
<td>154</td>
</tr>
<tr>
<td>Warringah Road (east side)</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Starkey Street</td>
<td>45</td>
<td>13</td>
<td>58</td>
</tr>
<tr>
<td>Ferguson Street</td>
<td>32</td>
<td>16</td>
<td>48</td>
</tr>
</tbody>
</table>

**Table 2-3 Pedestrian use of intersection crossing points – Warringah Road / Arthur Street / Forestville Ave (700 metres west of Proposal area)**

<table>
<thead>
<tr>
<th></th>
<th>AM peak period (8am – 9am)</th>
<th>PM peak period (5pm to 6pm)</th>
<th>Total pedestrian movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warringah Road Pedestrian Bridge (west side)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Warringah Road (east side)</td>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Arthur Street</td>
<td>21</td>
<td>27</td>
<td>48</td>
</tr>
<tr>
<td>Forestville Ave</td>
<td>8</td>
<td>7</td>
<td>15</td>
</tr>
</tbody>
</table>

**Table 2-4 Pedestrian use of intersection crossing points – Warringah Road / Darley Street (230 metres west of Proposal area)**

<table>
<thead>
<tr>
<th></th>
<th>AM peak period (8am – 9am)</th>
<th>PM peak period (5pm to 6pm)</th>
<th>Total pedestrian movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warringah Road (west side)</td>
<td>10</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Warringah Road (east side)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Darley Street</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 2-5 Pedestrian use of intersection crossing points – Warringah Road / Brown Street / Currie Road (300 metres east of Proposal area)

<table>
<thead>
<tr>
<th></th>
<th>AM peak period (8am – 9am)</th>
<th>PM peak period (5pm to 6pm)</th>
<th>Total pedestrian movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warringah Road</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>(west side)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warringah Road</td>
<td>23</td>
<td>15</td>
<td>38</td>
</tr>
<tr>
<td>(east side)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown Street</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Currie Road</td>
<td>21</td>
<td>12</td>
<td>33</td>
</tr>
</tbody>
</table>

As a result of the Proposal the existing on road signalised pedestrian crossing across Warringah Road would be removed and a new pedestrian crossing via a pedestrian bridge would be provided east of the existing crossing. From the west, this would require walking an additional 15 metres to access the crossing, including crossing Starkey or Ferguson Street. This would increase the travel time required to access the pedestrian crossing from this direction. Given the small increase in distance this impact is expected to be minor. Pedestrians accessing the crossing from the east would have a shorter distance to access the crossing compared to the existing arrangement. This would have a minor positive impact by reducing the travel time required.

Pedestrians may experience an increase in the time required to cross Warringah Road with the need to climb the stairs or wait for the lift to access the bridge. However, this is offset by pedestrians not having to wait for the green sequencing of the on road signalised crossing and being able to cross Warringah Road at any time.

Throughout the operation of the bridge, if the lifts are temporarily ‘out of order’, there is the potential that elderly or less mobile pedestrians and pedestrians with prams, trolleys, scooters or bicycles would not be able to access the bridge to cross Warringah Road at this intersection. The closest on road signalised pedestrian crossing is located 280 metres east (at Currie Road/Brown Street) and 230 metres west (at Darley Street) via pedestrian paths on both sides of Warringah Road. This would be a temporary impact while the lift is out of order, this would be for short periods only with the lift functioning normally for the majority of time (refer to Section 2.4.1).

Pedestrian fencing has been included as part of the Proposal to discourage people from illegally crossing Warringah Road as opposed to using the pedestrian bridge provided. Lighting would be provided as part of the Proposal to promote safety for users of the bridge crossing at night. In addition, there are signalised pedestrian crossings on both of the side streets at the intersection providing for safe access across the roads.

The provision of ramps has been reviewed and considered in section 2.4.1 of this report.
2.13.2 Safety in design

Submission number(s)
4, 7, 16, 22, 26 and 34

Issue description
In summary, the respondent(s) raised the following matters:

- Concerned about safety of using the lift/stairs at night, particularly for single females
- The bridge would provide a location for consumption of alcohol and increase the risk of assaults
- Lifts would create security issues
- What safety measures for personal security will be in place in the lifts?
- What pedestrian night lighting will be provided on the bridge?

Response
Roads and Maritime has taken into consideration relevant design standards and ‘crime prevention through design’ policies (including the Crime Prevention Legislation Guidelines outlined in Section 79C of the EP&A Act) as part of the design of the Proposal. Appropriate security measures, such as throw screens and lighting have been included in the design to encourage safety of users at all times.

The bridge and associated works are in a highly visible location for motorists, and pedestrians. This natural surveillance is a key element of personal safety. One location where natural surveillance is limited is in the lifts and on the bridge itself. The lift and bridge structure would include emergency communication measures to help address safety of users. In general the design is open with good sight lines and no hidden corners where antisocial behaviour could be harboured.

The bridge structure is a tied arch structure supported by lift shafts which have a glazed front for security.

A safety review of the design would be undertaken during detailed design.

2.13.3 Parking

Submission number(s)
7, 9 and 20

Issue description
In summary, the respondent(s) raised the following matters:

- Any loss of parking in Jamieson Square, in particular for the disabled, would be a considerable loss as parking spaces within a reasonable distance of the shops are already scarce
- For any permanent loss of vehicular parking spaces as a result of the Proposal, Roads and Maritime shall demonstrate how this is dealt with in consultation with Council
- Submitter will most likely pick up daughter from the bus at Ferguson Street, rather than the Starkey Street car park because of concern about using the bridge at night. As others might do the same, parking on Ferguson Street may become difficult.
Response

A number of options were considered to minimise the impacts of the Proposal on the adjacent Starkey Street car park in Jamieson Square (refer to section 2.8 of the Review of Environmental Factors). Three options were considered for the location of the bridge on the eastern side of the Proposal intersection. In addition, to minimise the number of parking spaces that would be removed from the public car park, the location of the southern stairwell and lift structure was reviewed. It was decided to move the stairwell and lift structure as close to the Warringah Road alignment as possible, consequently utilising as much of the garden space and footpath as feasible. The ultimate location was limited by the following factors:

- A number of major underground utilities run through the Warringah Road corridor underneath the Proposal area. Some of these utilities are international alignments (providing telecommunication connections between Australia and other countries throughout the world) and cannot be moved without excessive costs and approvals. Clearance zones around these utilities are required for construction and maintenance
- Road safety clearances between Warringah Road and the lift structure and stairwell structure need to be achieved
- Road safety requirements for line of sight for road users along Warringah Road and from the Starkey Street leg of the intersection needed to be achieved
- Maintaining access to and retaining the location of the existing westbound bus stop shelters.

As a result of this review, the southern stairwell and lift structure was moved as far as possible north to minimise impacts on the public car park while allowing for adequate buffer zones for utilities, clearances and sight lines for road users. The refined location is the preferred option shown in Figure 1-1 of this document.

In addition to the stairwell location, the style of the stairwell was also considered on the southern side to further reduce the impacts on the public car park. Two alternative stairwell styles were considered for the southern alignment, including a curved style or a straight style (refer to Figure 2-2).

The curved stairwell alignment was chosen as the preferred option as it was aesthetically consistent with the northern side stair arrangement and had a reduced overall footprint. The straight stair alignment was reviewed to identify if it could reduce the impacts on the public car park without impacting the other constraints. It was identified that due to restrictions concerning the underground utilities, the impacts to the public car park would not be reduced further by developing the straight style of stairwell. This stair arrangement would be longer in length, which increased impacts to parking when located outside of the utility buffer. As a result this option was not considered further.

With the curved stairwell proposed, consideration was given to further reduction of the footprint to reduce impacts, particularly on car parking spaces. The curve of both the stairwells was inverted, so that they landed on the inside of the curve as opposed to the outside, as shown in Figure 2-2. This reduced the overall footprint of the bridge and impacts to parking as some spaces impacted could be modified to park under the landing rather than be removed. This option was adopted for the Proposal.
During operation it is expected the Proposal would result in impacts on up to five car parking spaces to accommodate the new stairwell and lift structure. This would comprise the permanent loss of three parking spaces with an additional two parking spaces requiring vehicles to park under the stair structure (between two and five metres high from ground level) and would include wheel-stops and height restrictions on these parking spaces. No impacts to the existing disabled car parking would occur.

The loss of three car parks and modification to two car parks is considered to be a minor impact. Given the minor loss of parking spaces, it is not proposed to provide additional street parking to compensate for the loss of parking, as street parking is already provided for in many of the local streets.

It is not expected that the loss of parking would require changes in short-term drop-off and pick-up arrangements for bus commuters. However, if commuters prefer to be collected from Ferguson Street, there is sufficient parking in the local streets on the northern side of Warringah Road to provide for short-term pick-up parking.

2.13.4 Equitable access

Submission number(s)

17, 18, 19 and 20

Issue description

In summary, the respondent(s) raised the following matters:

- What alternative access arrangements are in place for lift users when the lifts are not operational?
- Ramps or lifts are essential for those with limited mobility
- What arrangements are there to identify that the lifts are out of order prior to using them?
- Can the Proposal include provisions to inform people using the lift if the other lift is out of service to prevent them from getting to the top and not being able to get down at the other side
• The lift and bridge width must also be of an appropriate size to enable mobility scooters, wheelchairs and bicycles to use.

Response

The need for equitable access across Warringah Road has been considered throughout the development of the Proposal. The design of the bridge structure provides for the passing of two wheelchairs on the bridge deck and within the lifts. The Proposal provides access in accordance with the DDA through the provisions of a lift on both sides of Warringah Road. Section 6.1 of the Review of Environmental Factors considers and assesses the access of pedestrians using this intersection.

Throughout the operation of the bridge, if the lifts are temporarily ‘out of order’, there is the potential that elderly or less mobile pedestrians and pedestrians with wheelchairs, prams or trolleys would not be able to access the bridge to cross Warringah Road at this intersection. The closest on road signalised pedestrian crossings are located 280 metres east (at Currie Road/Brown Street) and 230 metres west (at Darley Street) via pedestrian paths on both sides of Warringah Road. This would be a temporary impact while the lift is out of order, this would be for short periods only with the lift functioning normally for the majority of time (refer to section 2.4.1).

2.13.5 Property impacts

Submission number(s)

36

Issue description

In summary, the respondent(s) raised the following matters:

• As evidenced at the existing bus stop, there would be risk of vandalism to the fence and nature strip of the properties adjacent to the bus stop, as well as increased litter left at the bus stop and footpath
• The Proposal would result in a loss of privacy and personal security at adjacent properties due to being visible by bridge users and would impact on lifestyle and general enjoyment of private property
• The bus stop would result in visual intrusion into adjacent homes and would be an eyesore on my nature strip
• Lighting of the Proposal would spill into adjacent properties and will cause sleep disturbance
• The bus stop would devalue my property
• Lawn mowing will be difficult around the shelter, fence and people using the bus stop

Response

Vandalism can be reported to Warringah Council, the NSW Police or Roads and Maritime for attention via the contact details provided inside and outside the lift. The design and lighting of the bridge and lift structure would be aimed to discourage vandalism of the area.
Screening has been identified for inclusion on the north facing aspects of the bridge deck, to maintain the privacy of adjacent properties. Lighting is an essential component of the Proposal and would be further investigated and minimised in detailed design in line with Australian Standards. Aspects such as light spill to adjacent properties would be considered during the design of lighting for the Proposal.

In addition, the existing bus shelter contains a rubbish bin which would be relocated to the new bus stop location and would continue to be maintained by Warringah Council.

Individual property impacts from aspects such as bus shelter locations have been discussed directly with the relevant property owners. The maintenance of the bus shelter would be the responsibility of council as considered in section 2.7.1. Roads and Maritime would provide an alternative finish to the nature strip surrounding the eastbound bus stop and shelter location (such as crushed granite or concrete or low maintenance vegetation) in discussion with the adjacent property owner and Warringah Council in order to reduce maintenance required by residents. In addition, Roads and Maritime would identify further mitigation such as altering the fencing or screening between the adjacent residential property and the eastbound bus stop and shelter as outlined in section 3.3 of this Submissions Report.

In response to the matters raised, consultation with adjacent property owners has been undertaken and would continue during detailed design, construction and commissioning of the Proposal. Concerns such as visual screening would be discussed directly with residents and mitigation provided where necessary as identified in section 3.3 of this Submissions Report.

Property acquisition would be undertaken in accordance with the Roads and Maritime Land Acquisition Guide (RTA, 2010) and the conditions outlined in the Roads Act 1993 and the Land Acquisition (Just Terms Compensation) Act 1991. These Acts do not make any provisions for compensation for any actual or perceived loss of property value as a result of the proposal. Therefore, Roads and Maritime is unable to offer any compensation.

2.13.6 Business impacts

Submission number(s) 20

Issue description

In summary, the respondent(s) raised the following matters:

- Warringah Council has contractual arrangements with ADSHEL and request that existing bus shelters adjacent to Starkey Street in Warringah Road not be blocked by construction activities. Council has concerns with this matter and would like to be consulted in the preparation and approval of the construction management plan.

Response

Section 5 of the Review of Environmental Factors acknowledges Council has an existing contractual arrangement with ADSHEL regarding the advertising on the westbound bus shelters. The impacts of the Proposal on the visibility of the bus shelters has been considered. Table 5-4 of the Review of Environmental Factors identifies that while construction is expected to last about 12 months, the bus stop would remain in operation throughout construction, therefore it is unlikely that there would be any impacts to visibility of advertising.
In response to the issue raised an additional management measures would be added to the Proposal as follows:

- The Construction Environment Management Plan (CEMP) would make provisions to ensure that construction work does not impact the visibility of the westbound bus stop shelters from traffic on Warringah Road wherever feasible
- Warringah Council would be consulted regarding the construction staging and any temporary impacts to the westbound bus stops and shelters.

2.13.7 Cyclists

Submission number(s)
20

Issue description
In summary, the respondent(s) raised the following matters:

- Warringah Council reiterates its support for the installation of bicycle wheeling ramps on the stairways for the purpose of encouraging bicycle users to make use of the footbridge.

Response
As outlined in section 3 of the Review of Environmental Factors, the inclusion of bicycle wheeling ramps on the stairways would be considered during the detailed design stage. The inclusion of these ramps would be dependent on a design and safety review of the proposed ramps.

2.14 Air quality

Submission number(s)
36

Issue description
In summary, the respondent(s) raised the following matters:

- The Proposal would increase pollution and impact air quality at local residents adjacent to the bus stop due to buses and cars stopping and starting.

Response
Section 6.7 of the Review of Environmental Factors considered air quality impacts of the Proposal. It identifies that no operational impacts to air quality are expected as a result of the Proposal. It is unlikely that the relocation of the bus stop would have any noticeable impacts to the local properties. This is due to the close proximity of the existing bus stop location and the new bus stop location. In addition, the properties along Warringah Road already experience high levels of traffic volumes along Warringah Road which contribute to the local air quality. All buses using the existing bus stop proceed past the location of the new bus stop location and temporary stationary buses are not expected to significantly change local air quality. The Proposal is not expected to increase traffic through the Proposal area and may have a minor improvement on air quality due to the improvement in traffic flow and reduction in queuing and delays.
2.15 Outside the scope of the Proposal

*Submission number(s)*

29 and 38

*Issue description*

In summary, the respondent(s) raised the following matters:

- Please include a right turn arrow at the intersection of Warringah Road and Forestville Avenue in order to reduce congestion
- Commuters are using all-day parking in Darley Street
- Forest Coach Lines requires provisions for buses to turn around in Starkey Street at the terminus of their bus service route 278 in order to continue operating. Request an interchange facility be provided as part of the Jamieson Square development.

*Response*

The Proposal is to replace the on road signalised pedestrian crossing with a pedestrian bridge across Warringah Road at the intersection of Warringah Road and Starkey Street and Ferguson Street. It does not include any upgrade to any roads or parking facilities within the adjacent road network. The parking matters that have been raised by the community will be forwarded to Warringah Council for consideration.

Roads and Maritime would not be undertaking any changes to the bus stop arrangements on Starkey Street as part of the Proposal. Starkey Street is under the care and control of Warringah Council and the issues identified will be referred to Warringah Council for consideration.
3 Changes to the Proposal

3.1 Removal of the pedestrian fencing at the south-western corner of the Proposal intersection

3.1.1 Description

As outlined in section 3 and Figure 1-3 of the Review of Environmental Factors, the Proposal provides the installation of pedestrian fencing as part of the Proposal at the below locations:

- The corner of Warringah Road and Starkey Street on the eastern and western side of the intersection
- The corner of Warringah Road and Ferguson Street on the western side of the intersection
- Along the concrete median on Warringah Road on the eastern side of the intersection (underneath the new pedestrian bridge).

As outlined in section 2.10.2 a number of submissions noted that by installing a pedestrian fence along the south-western corner of the intersection, it would prevent access to the ‘Northscape’ apartment building by delivery trucks and emergency vehicles. These vehicles cannot access the building via the underground car park due height restrictions.

As a result of the matters raised, Roads and Maritime has identified the pedestrian fencing would not be implemented at this corner of the intersection. Therefore pedestrian fencing (which has previously been assessed as part of the Review of Environmental Factors) would be provided at:

- The corner of Warringah Road and Starkey Street on the eastern side of the intersection
- The corner of Warringah Road and Ferguson Street on the western side of the intersection
- Along the concrete median on Warringah Road on the eastern side of the intersection (underneath the new pedestrian bridge).

3.1.2 Environmental assessment

The removal of this section of pedestrian fencing is not expected to have any additional impacts to the Proposal area or the surrounding environment.

Pedestrian fencing on the western side of the intersection would be provided on the corner of Warringah Road and Ferguson Street to prevent pedestrians illegally crossing the road in this area and improve pedestrian safety.

The removal of this section of pedestrian fencing would have some minor positive impacts on the surrounding environment including:

- Maintaining access for delivery vehicles and emergency vehicles to the ‘Northscape’ apartment building
- Removing the visual intrusion of the pedestrian fencing in this location.

The proposed change to remove the proposed pedestrian fencing from the south-western corner of the proposal intersection would not have any additional impacts on the proposal.
3.1.3 Revised management and mitigation measures

During detailed design, further investigation of pedestrian fencing would be undertaken to address pedestrian safety.

3.2 Relocation of the eastbound bus stop and shelter

3.2.1 Description

As outlined in section 3 and Figure 1-3 of the Review of Environmental Factors the Proposal provides for the relocation of the existing eastbound bus stop and shelter on the northern side of Warringah Road. The bus stop and shelter is currently located on the western side of the intersection and under the Proposal outlined in the Review of Environmental Factors would be relocated about 55 metres east of the intersection. A new bus stop and shelter would be built and the existing bus stop and shelter would be demolished. A new leaning rail would also be installed next to the new shelter.

As outlined in section 2.8.5 of the Review of Environmental Factors the preferred location of the eastbound bus stop and shelter on Warringah Road was identified as part of the urban design considerations for the Proposal. Areas along the northern side of Warringah Road between Ferguson Street and about 200 metres east of Ferguson Street were considered. The location took into consideration a number of factors including:

- The preferred location of the proposed pedestrian bridge
- Urban design
- Design guidelines including aspects such as sight lines and vehicle speed and stopping distance
- The location, ie sufficient area to accommodate the bus stop and up to two articulated buses
- Line of sight to and from the bus stops around the new pedestrian bridge for both bus driver and commuters to ‘flag down’ approaching buses.

In accordance with the Austroad – Guide to Road Design Part 4 Intersection and Crossings, Section 6.3.4- Bus Stops outlines the distances required for bus stop arrangements in close proximity to intersections. It identifies that a minimum of 10 metres (with a desirable distance of 30 metres) should be provided between the corner on the departure side of the intersection and the start of the bus bay (zone). For this Proposal Roads and Maritime has provided a minimum of 20 metres from the corner on the departure side of the intersection and then provided 40 metres for the bus zone area (providing for two 19 metre articulated buses) which provides for the bus stop and shelter location to be placed about 60 metres from the intersection.

3.2.2 Environmental assessment

Relocation of the eastbound bus stop and shelter a further 10 metres west of the location proposed in the Review of Environmental Factors would reduce the impacts of the proposal on the community and surrounding residents. It would provide a minor improvement to privacy and impacts to adjacent residential properties.

The proposed bus stop and shelter would still be located within the road reserve and would not require any additional property acquisition from the Forest Animal Hospital property. In addition, the relocation is unlikely to affect commuters. There would be no additional negative impacts as a result of the move.
3.2.3 Revised management and mitigation measures

The location of the eastbound bus stop and shelter would be further considered during detailed design to ensure safe access to adjacent properties and commuters.

The landscaping around the proposed eastbound bus stop and shelter would be developed in consultation with Warringah Council and adjacent property owners.

3.3 Provision for fencing and screening behind the proposed eastbound bus stop and shelter

3.3.1 Description

The property at 610 Warringah Road currently backs onto Warringah Road and is located immediately adjacent the proposed pedestrian bridge and the location of the eastbound bus stop and shelter. Currently the property has a lapped and capped timber fence at the rear of the property providing screening between the property and Warringah Road. The fence is currently 1.8 metres high. On the Warringah Road side of the fence there is a pedestrian path with a grassed verge on either side. Within the property at 610 Warringah Road, there are a number of trees providing screening from the adjacent road corridor.

In response to consultation regarding loss of privacy, increased noise and amenity impacts as a result of the proposal and the existing council requirement for residents to maintain the grassed verge which would now be in proximity to the proposed bus stop location, Roads and Maritime has decided to:

- Relocate the eastbound bus stop and shelter about 10 metres further west than the proposed location in the Review of Environmental Factors. Refer to section 3.2 above
- Provide mitigation such as an upgrade to the property fence at the rear of the property at 610 Warringah Road.
- Modify the grass verge against the rear fence of the property at 610 Warringah Road and replace it with an alternative finish to the nature strip surrounding the eastbound bus stop and shelter location with materials such as crushed granite or concrete or low maintenance vegetation, in discussion with the adjacent property owner and Warringah Council.

3.3.2 Environmental assessment

The proposal is being assessment under Part 5 of the EP&A Act as it is for the purposes of road infrastructure under Clause 94 of ISEPP. Therefore consent from Warringah Council is not required. The proposed changes to the proposal outlined above are proposed as an environmental management measure to minimise the impacts of a road project, therefore are being considered as part of the Part 5 assessment, and consent from Warringah Council is not required. However it is noted that under the Warringah Council Development Control Plan (DCP) 2011, clause D15, fencing at the rear and sides of properties are permitted to a maximum height of 1.8 metres. The purpose of upgrading the existing property fence is to provide addition screening and privacy to the property at 610 Warringah Road due to the impacts of the proposal. Therefore, the height of the fence may exceed this height as required in accordance with the management measures outlined in section 3.3.3 below.
The proposed alterations to the fencing or screening at the rear of the property at 610 Warringah Road would alter the existing visual amenity from the road towards the property and from the property towards the fence. Given that there is existing fencing in this location and the proposal would provide an upgrade to this fencing, this impact is expected to be minor. In addition, the proposed treatments would improve the privacy and amenity at the adjacent property once the pedestrian bridge is operational.

The provision of low maintenance treatments, such as low plantings or concrete, to the Warringah Road side of the fence would minimise the maintenance required by the adjacent property owner, which would be a positive impact when compared to the existing arrangements.

3.3.3 Revised management and mitigation measures

- The proposed type and style of fencing, screening and/or low maintenance treatments would be identified during detailed design and in consultation with the property owner. The treatments would aim to:
  - Provide additional screening to the property at 610 Warringah Road to minimise the impacts of the proposal on the amenity and privacy at the property
  - Minimise the maintenance of the verge required by the adjacent property owner
  - Reduce the potential for users of the bridge to be able to see into the property.
- The type, height and style of the fencing and screening would take into consideration the urban design objectives and principals identified for the proposal as outlined in section 6.3.1 of the Review of Environmental Factors.
### 4 Environmental management

The Review of Environmental Factors for the Starkey Street Pedestrian Bridge, Forestville identified the framework for environmental management, including management and mitigation measures that would be adopted to avoid or reduce environmental impacts (section 7 of the Review of Environmental Factors).

After consideration of the matters raised in the community submissions and changes to the Proposal, the safeguards and management and mitigation measures have been revised as identified in blue in Table 4-1 below. Generally changes to the management measures provide for:

- Consultation with Warringah Council on a number of specific issues throughout the life of the Proposal
- Additional review of the location of the eastbound bus stop and shelter location
- Upgrades to the rear fencing and adjacent verge strip between the property at 610 Warringah Road and the proposed eastbound bus stop and shelter.

Should the Proposal proceed, environmental management will 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) will be prepared to describe safeguards and management measures identified. These plans will provide a framework for establishing how these measures will be implemented and who would be responsible for their implementation.

The plans will be prepared prior to construction of the Proposal and must be reviewed and certified by environment staff, Sydney Region, prior to the commencement of any on-site works. The CEMP will be a working document, subject to ongoing change and updated as necessary to respond to specific requirements. The CEMP would be developed in accordance with the specifications set out in the QA Specification G36 – Environmental Protection (Management System), QA Specification G38 – Soil and Water Management (Soil and Water Plan) and the QA Specification G40 – Clearing and Grubbing.

#### 4.2 Summary of safeguards and management measures

Environmental safeguards and management measures outlined in this document would be incorporated into the detailed design phase of the Proposal and during construction and operation of the Proposal, should it proceed. These safeguards and management measures would minimise any potential adverse impacts arising from the proposed works on the surrounding environment. The safeguards and management measures are summarised in Table 4-1.
### Table 4-1 Summary of site specific environmental safeguards and management measures

<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
</table>
| 1   | General | • All environmental safeguards and management measures must be incorporated within the following documents:  
• Detailed design stage  
• Contract specifications for the Proposal  
• Contractor’s Environmental Management Plan | Project manager                       | Pre-construction                  |
| 2   | General | • A risk assessment must be carried out on the Proposal in accordance with the Roads and Maritime Services Audit Pack and OSD risk assessment procedures to determine an audit and inspection program for the works. The recommendations of the risk assessment are to be implemented  
• A review of the risk assessment must be undertaken after the initial audit or inspection to evaluate if the level of risk chosen for the project is appropriate  
• Any works resulting from the Proposal and as covered by the Review of Environmental Factors may be subject to environmental audit(s) and/or inspection(s) at any time during their duration. | Project manager and regional environmental staff | Pre-construction  | After first audit |
| 3   | General | • The environmental contract specification must be forwarded to the Roads and Maritime Services Environment Manager for review at least 10 working days prior to the tender stage  
• A contractual hold point must be maintained until the CEMP is reviewed by the Roads and Maritime Services Environment Manager. | Project manager                       | Pre-construction                  |
<p>| 4   | General | • The Roads and Maritime Services Project Manager must notify the Roads and Maritime Services Environmental Officer Sydney Region at least 5 days prior to work commencing. | Project manager                       | Pre-construction                  |
| 5   | General | • All businesses and residences likely to be affected by the proposed works must be notified at least 5 working days prior to the commencement of the proposed activities. | Project manager                       | Pre-construction                  |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>General</td>
<td>• Environmental awareness training must be provided, by the contractor, to all field personnel and subcontractors.</td>
<td>Contractor</td>
<td>Pre-construction and during construction as required.</td>
</tr>
</tbody>
</table>
|     | S1      | Proposal description  
• The final location of the eastbound bus stop and shelter would be further considered as part of the detailed design for the Proposal and in consultation with council, bus operators and adjacent residents.  
• The landscaping around the proposed eastbound bus stop and shelter would be developed in consultation with Warringah Council and adjacent property owners. | Roads and Maritime | Detailed design                                                                                 |
|     | S2      | Proposal description  
• Where possible the lifts chosen would be selected for low noise qualities. The lifts would be kept in good working order during operation to avoid and minimise noise impacts on nearby residents.          | Roads and Maritime | Detailed design and operation                                                                   |
|     | S3      | Proposal description  
• Alternative compound sites would be investigated during detailed design to minimise impacts on parking and the community. If it is identified that an alternative compound site is required, the dog park on Currie Road, Forestville would be considered. If this location were proposed to be used, detailed environmental assessment of use on the site would be undertaken in consultation with Warringah Council and the Roads and Maritime Environment Manager. | Roads and Maritime | Detailed design                                                                                 |
<p>| 7   | Traffic | • Where possible, current traffic movements would be maintained during construction. Any disturbance would be minimised to prevent unnecessary traffic delays.                                                                                  | Contractor     | Pre-construction &amp; construction                                                                |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Traffic</td>
<td>• A traffic control plan and detour plan would be prepared in accordance with Roads and Maritime Traffic Control and Worksites Manual Version 4 prior to construction. It would outline the construction methodology and include measures to minimise impacts on traffic and access throughout construction. The Transport Management Centre and Warringah Council would be consulted during the development of this plan.</td>
<td>Contractor</td>
<td>Pre-construction</td>
</tr>
<tr>
<td>9</td>
<td>Traffic</td>
<td>• Work that requires lane closures would be undertaken in accordance with the Proposal Road Occupancy Licence (ROL), at night and outside of peak periods.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>10</td>
<td>Traffic</td>
<td>• The local community, residents and property owners would be notified of the closure of Warringah Road and detours in accordance with the Roads and Maritime Community Involvement Practice Note and Resource Manual.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>11</td>
<td>Access</td>
<td>• Access to adjacent properties would be maintained at all times.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>12</td>
<td>Access</td>
<td>• The business owner at 681 Warringah Road would be notified of the change to the secondary access point a minimum of two weeks prior to the start of construction.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13</td>
<td>Access</td>
<td>• Negotiations would be undertaken with the Forest Animal Hospital property owner regarding the timing of construction works for the DA and the Proposal.</td>
<td>Roads and Maritime</td>
<td>Pre-construction</td>
</tr>
<tr>
<td>14</td>
<td>Access</td>
<td>• Access into the adjacent community facilities would be maintained at all times.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>15</td>
<td>Parking</td>
<td>• Where feasible, the size of the construction compound site would be minimised to reduce the number of parking spaces that would be occupied.</td>
<td>Contractor</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>16</td>
<td>Parking</td>
<td>• The construction area occupying car parking spaces would be minimised as much as feasible throughout construction and the area required would be reviewed periodically throughout the construction phase.</td>
<td>Contractor</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards and management measures</td>
<td>Responsibility</td>
<td>Timing</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>17</td>
<td>Parking</td>
<td>• Construction staff would be prohibited from using the parking spaces within the public car park adjacent to the Proposal area during the daytime, peak periods and events at the local facilities.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>18</td>
<td>Pedestrians</td>
<td>• A pedestrian management plan would be prepared prior to construction to outline construction methodology, signage and detours for pedestrians throughout all stages of construction. The plan would be prepared in consultation with Warringah Council.</td>
<td>Contractor</td>
<td>Pre- construction</td>
</tr>
<tr>
<td>19</td>
<td>Pedestrians</td>
<td>• The plan would be implemented and updated throughout construction as required.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>20</td>
<td>Bus stops</td>
<td>• Commuters and bus operators would be notified of any changes to or relocation of the bus stop and shelter in accordance with the Roads and Maritime Community Involvement Practice Note and Resource Manual.</td>
<td>Contractor/ Roads and Maritime</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>21</td>
<td>Construction noise</td>
<td>• Work to be carried out during normal work hours (i.e. 7am to 6pm Monday to Friday; 8am to 1pm Saturdays) where feasible.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>22</td>
<td>Construction noise</td>
<td>• Noise impacts are to be minimised in accordance with Practice Note 7 in the Roads and Maritime Environmental Noise Management Manual and Roads and Maritime Environmental fact sheet No. 2- Noise management and Night Works.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards and management measures</td>
<td>Responsibility</td>
<td>Timing</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>--------------</td>
</tr>
</tbody>
</table>
| 23  | Construction noise      | • A construction noise and vibration management plan (CNVMP) would be prepared and included in the CEMP in order to identify methods to minimise noise and vibration impacts on adjacent sensitive receivers. This would include:  
  • Identify nearby sensitive receivers  
  • Development noise management levels consistent with the ICNG  
  • Develop reactive and proactive strategies for noise complaints  
  • Identify site contact person  
  • Develop a noise monitoring program to identify performance against criteria  
  • Utilisation of portable temporary screens where feasible  
  • Orientation of equipment away from receivers  
  • Identification of equipment to be used, including power, noise emissions/alarms and maintenance  
  • Respite periods  
  • Increased separation distance between noise or vibration source and receiver where feasible  
  • Substitute methods of high vibration for low vibration  
  • Vibration trials prior to piling                                                                                                                                                  | Contractor      | Construction |
<p>| 24  | Construction noise      | • The selection of machinery used for the Proposal would include consideration to minimise noise impacts during night works.                                                                                                                                                             | Contractor      | Construction |
| 25  | Construction noise      | • Construction staff would be advised of the results of the construction noise assessment and advised of the need to minimise noise, particularly during night works. (Eg turning off machinery not in use, minimising loud talking and unnecessary use of radio's).                                             | Contractor      | Construction |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
</table>
| 26  | Construction vibration                      | - Where vibration intensive works are required within the safe working distances for structural damage:  
- Attended vibration monitoring would be undertaken to ensure that levels remain below the criterion  
- Building condition surveys would be undertaken both before and after the works at the potentially affected properties.  | Contractor   | Construction   |
<p>| 27  | Construction vibration                      | - Appropriate plant and equipment would be selected when operating in close proximity to sensitive receivers.                                                                                                                                   | Contractor   | Construction   |
| 28  | Landscape character and visual impact       | - The Urban Design and Landscaping principles and objectives outlined in Section 6.3.1 would be applied during detailed design.                                                                                                                       | Roads and Maritime | Detailed design |
| 29  | Landscape character and visual impact       | - Landmark tree Araucaria heterophylla (Norfolk Island Pine tree) would be retained where feasible.                                                                                                                                         | Roads and Maritime | Detailed design |
| 30  | Landscape character and visual impact       | - A landscaping plan would be developed to reinstate street tree plantings at the corner of Warringah Road and Starkey Street. A review of this landscape plan would be undertaken by a qualified urban designer and Warringah Council. | Roads and Maritime | Detailed design |
| 31  | Landscape character and visual impact       | - Consider landscape buffer screening for sensitive residential receptors.                                                                                                                                                                     | Roads and Maritime | Detailed design |
| 32  | Landscape character and visual impact       | - Pedestrian bridge design would be in accordance with Roads and Maritime guidelines.                                                                                                                                                         | Roads and Maritime | Detailed design |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>Landscape character and visual impact</td>
<td>• Install a screen panel on the northern stair landing (where a change in direction aligns views from the bridge towards the Forest Animal Hospital).</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>34</td>
<td>Landscape character and visual impact</td>
<td>• The secondary footpath around the existing eastbound bus stop would be simplified into one streamline footpath.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>35</td>
<td>Landscape character and visual impact</td>
<td>• Detailed design would consider widening of new footpaths to provide for cyclists in line with Warringah Councils regional bicycle network.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>36</td>
<td>Landscape character and visual impact</td>
<td>• Bicycle ramp provisions within the stairs would be considered as part of the detailed design investigations and include a review of community access and safety guidelines and maintenance issues.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>37</td>
<td>Landscape character and visual impact</td>
<td>• The location of fences and barriers would be determined based on functionality and safety and to complement the urban design principles and to maintain residential access.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>38</td>
<td>Landscape character and visual impact</td>
<td>• Transparent fences and barriers would be considered as part of detailed design, however any translucent material would include patternation or colouring to mitigate bird impacts.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>39</td>
<td>Landscape character and visual impact</td>
<td>• Screen panel design would utilise opaque or semi-opaque panels employing textured surface and colours appropriate to the bridge structure as well as the urban bushland setting and local context.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>40</td>
<td>Landscape character and visual impact</td>
<td>• Way finding signage directing cyclists and pedestrians to other crossing locations of Warringah Road.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards and management measures</td>
<td>Responsibility</td>
<td>Timing</td>
</tr>
<tr>
<td>-----</td>
<td>--------</td>
<td>--------------------------------------------------</td>
<td>----------------</td>
<td>--------</td>
</tr>
<tr>
<td>41</td>
<td>Landscape character and visual impact</td>
<td>- Colour combinations and finishes would be investigated to ensure a visually pleasing outcome and a contemporary urban design/architectural quality that is complimentary to this urban bushland setting.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>42</td>
<td>Landscape character and visual impact</td>
<td>- The construction area and compound site would be kept tidy and clear of rubbish and would include a mesh screen where feasible.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
</tbody>
</table>
| S4  | Proposal description | - Lighting on the bridge would be reviewed as part of detailed design and would include:  
  - A safety review to ensure sufficient lighting on the pedestrian bridge structure and the proposed eastbound bus stop and shelter  
  - A review of energy efficient lighting to be included in the Proposal, including consideration of LED lighting  
  - A review of design and style of lighting to ensure minimal spillage into neighbouring properties  
  - Consideration of replacement of any street lighting required as part of the utilities upgrade. | Roads and Maritime | Detailed design |
<p>| 43  | Socio-economic | - Access to the Forest Animal Hospital would be maintained at all times (noting that it is in operation 24 hour/7 days). | Contractor | Construction |
| 44  | Socio-economic | - Complaints received would be recorded and attended to promptly in accordance with the Roads and Maritime Community Involvement Practice Notes and Resource Manual. | Contractor | Construction |
| 45  | Socio-economic | - The compound site would be minimised as much as feasible to reduce the number of parking spaces occupied by the facility. | Contractor | Construction |
| 46  | Socio-economic | - Property acquisition would be carried out in accordance with the Land Acquisition (Just Terms Compensation) Act 1991 and Roads and Maritime guidelines. | Roads and Maritime | Pre-construction |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>47</td>
<td>Socio-economic</td>
<td>• Consultation and notification of works would be undertaken with the community and adjacent facilities in accordance with Roads and Maritime’s Community Involvement Practice Notes and Resource Manual.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>48</td>
<td>Socio-economic</td>
<td>• Road users would be notified about the construction activities and up-coming road closures via permanent electronic message signs or similar in accordance with Roads and Maritime Community Involvement Practice Notes and Resource Manual.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>S5</td>
<td>Socio-economic</td>
<td>• The Construction Environment Management Plan (CEMP) would make provisions to ensure that construction work does not impact the visibility of the westbound bus stop shelters from traffic on Warringah Road wherever feasible&lt;br&gt;• Warringah Council would be consulted regarding the construction staging and any temporary impacts to the westbound bus stops and shelters.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>S6</td>
<td>Socio-economic</td>
<td>• As part of the detailed design Roads and Maritime would undertake a safety audit which would include provisions required for the safety of pedestrians using the lift structure.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>S7</td>
<td>Socio-economic</td>
<td>• The proposed type and style of fencing, screening and low maintenance treatments would be determined during detailed design and in consultation with the property owner. The treatments would aim to:&lt;br&gt;• Provide additional screening to the property at 610 Warringah Road to minimise the impacts of the proposal on the amenity and privacy at the property&lt;br&gt;• Minimise the maintenance of the verge required by the adjacent property owner&lt;br&gt;• Reduce the potential for users of the bridge to be able to see into the property.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards and management measures</td>
<td>Responsibility</td>
<td>Timing</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------</td>
<td>-----------------</td>
</tr>
</tbody>
</table>
| S8  | Socio-economic | • Provide mitigation such as an upgrade to the property fence at the rear of the property at 610 Warringah Road. The type, height and style of the fencing and screening would take into consideration the urban design objectives and principles identified for the proposal as outlined in section 6.3.1 of the Review of Environmental Factors.  
  • Modify the grass verge against the rear fence of the property at 610 Warringah Road and replace it with an alternative finish to the nature strip surrounding the eastbound bus stop and shelter location with materials such as crushed granite or concrete or low maintenance vegetation, in discussion with the adjacent property owner and Warringah Council. | Roads and Maritime   | Detailed Design |
| 49  | Biodiversity   | • Where possible, the number of trees to be removed would be minimised. An arborist assessment would determine which trees need to be removed for the Proposal due to root zone impacts. | Roads and Maritime   | Detailed Design |
| 50  | Biodiversity   | • A qualified arborist would be on site during excavation works within the Tree Protection Zone of the Norfolk Island Pine tree.                                                                                                               | Contractor           | Construction    |
| 51  | Biodiversity   | • The crepe myrtle street trees would be reinstated prior to the completion of construction where space permits. This landscaping would be undertaken in consultation with Roads and Maritime Urban Design and Warringah Council.                                      | Contractor           | Construction    |
| 52  | Biodiversity   | • Only vegetation within the marked boundaries in Figure 6-16 would be removed. These boundaries would be clearly marked out onsite prior to any clearing. All staff would be made aware of boundaries and of the need to avoid vegetation impacts outside of this area. | Contractor           | Construction    |
| 53  | Biodiversity   | • Vegetation would be reinstated at the new property boundary with the Forest Animal Hospital.  
  • The type and species would be determined in negotiations with the property owner and consideration of bridge maintenance requirements.                                                | Contractor           | Construction    |
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td>Biodiversity</td>
<td>• A landscape plan would be prepared and implemented to reinstate the garden area adjacent to the public car park on the corner of Warringah Road and Starkey Street. This would include suitable native species and would be provided to council for review.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>55</td>
<td>Biodiversity</td>
<td>• Declared noxious weeds are to be managed according to requirements under the Noxious Weeds Act 1993 and Guide 6 (Weed Management) of the Roads and Maritime Biodiversity Guidelines 2011.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>56</td>
<td>Biodiversity</td>
<td>• If unexpected threatened fauna or flora species are discovered, stop works immediately, notify the Roads and Maritime project manager and follow the Roads and Maritime Unexpected Threatened Species Find Procedure in the Roads and Maritime Biodiversity Guidelines 2011 – Guide 1 (Pre-clearing process).</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>57</td>
<td>Soil and water quality</td>
<td>• A progressive soil and erosion sediment control plan is to be prepared prior to construction and included in the CEMP. A Roads and Maritime Environment Officer must approve the plan prior to construction works commencing.</td>
<td>Contractor</td>
<td>Pre-construction</td>
</tr>
</tbody>
</table>
| 58  | Soil and water quality | • Erosion and sediment control measures are to be implemented and maintained to:  
  • Prevent sediment moving off-site and sediment laden water entering any water course, drainage line, or drain inlets  
  • Reduce water velocity and capture sediment on site  
  • Minimise the amount of material transported from site to surrounding pavement surfaces  
  • Divert clean water around the site.  
  (in accordance with the Landcom/ Department of Housing – Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book)).                                                                                                                                 | Contractor              | Construction        |
<p>| 59  | Soil and water quality | • Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.                                                                                                                                                                                                 | Contractor              | Construction        |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>Soil and water quality</td>
<td>• Erosion and sediment control measures are not to be removed until the works are complete and areas are stabilised.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>61</td>
<td>Soil and water quality</td>
<td>• Work areas are to be stabilised progressively during the works.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>62</td>
<td>Soil and water quality</td>
<td>• The maintenance of established stockpile sites during construction is to be in accordance with the Roads and Maritime Stockpile Site Management Guideline, 2001.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>63</td>
<td>Soil and water quality</td>
<td>• There is to be no release of dirty water into drainage lines and/or waterways.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>64</td>
<td>Soil and water quality</td>
<td>• Water quality control measures are to be used to prevent any materials (eg concrete, grout, sediment etc) entering drain inlets or waterways.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>65</td>
<td>Soil and water quality</td>
<td>• An emergency spill kit is to be kept on site at all times. All staff are to be made aware of the location of the spill kit and trained in its use.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>66</td>
<td>Soils and contamination</td>
<td>• If an incident (eg spill) occurs, the Roads and Maritime Environmental Incident Classification and Management Procedure is to be followed and the Roads and Maritime Services Contract Manager notified immediately.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>67</td>
<td>Air quality</td>
<td>• Measures including watering or covering of exposed area would be used to minimise or prevent air pollution and dust emissions.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>68</td>
<td>Air quality</td>
<td>• Works would cease when winds reach a level where dust cannot be controlled.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>69</td>
<td>Air quality</td>
<td>• All vehicle loads would be covered.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>70</td>
<td>Air quality</td>
<td>• Vehicles would be turned off when not in use and would be maintained in accordance with user guidelines to ensure efficient operation.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards and management measures</td>
<td>Responsibility</td>
<td>Timing</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>--------------</td>
</tr>
<tr>
<td>71</td>
<td>Air quality</td>
<td>• Smoky emissions would be kept within the standards and regulations under the Protection of the Environment Operations Act 1997 and Protection of the Operations (Clean Air) Regulation 2010 that no vehicle shall have continuous smoky emissions for more than 10 seconds, after start up.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>72</td>
<td>Non-Aboriginal heritage</td>
<td>• All construction staff would be notified of the heritage item immediately adjacent to the Proposal site as part of the site induction. All staff would be notified of the need to avoid all impacts to the heritage item and the process if any impacts occur.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>73</td>
<td>Non-Aboriginal</td>
<td>• If any impacts occur to or within the heritage property boundary all works within the area would cease and the Sydney Region Environment Manager would be notified immediately. Works are not to re-commence in that area until approved by the Environment Manager.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>74</td>
<td>Non-Aboriginal heritage</td>
<td>• The CEMP would include a map outlining the boundary of the heritage property and it would be made available to staff.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>75</td>
<td>Non-Aboriginal heritage</td>
<td>• The compound site fencing would be erected away (a minimum of two metres) from this property boundary.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>76</td>
<td>Non-Aboriginal heritage</td>
<td>• If archaeological remains are uncovered during the works, all works must cease in the vicinity of the material/find and the Roads and Maritime Environment Manager contacted immediately.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>77</td>
<td>Non-Aboriginal heritage</td>
<td>• If any unexpected heritage finds or items defined as relics under the NSW Heritage Act 1977 are uncovered during the works, all works must cease in the vicinity of the find and Roads and Maritime Environment Manager contacted immediately and the Roads and Maritime Standard Procedure Unexpected Heritage Finds (2015) implemented.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>78</td>
<td>Aboriginal heritage</td>
<td>• If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the Roads and Maritime Sydney Region Aboriginal Cultural Heritage Officer and the Environment Manager contacted immediately and the Roads and Maritime Standard Procedure Unexpected Heritage Finds (2015) implemented.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards and management measures</td>
<td>Responsibility</td>
<td>Timing</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>79</td>
<td>Resource management</td>
<td>• Resource management hierarchy principles are to be followed:</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Avoid unnecessary resource consumption as a priority</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Disposal is undertaken as a last resort at a licensed waste facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(in accordance with the Waste Avoidance and Resource Recovery Act 2011).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Resource management</td>
<td>• Waste materials, other than vegetation and tree mulch, is not to be left on site once the works are complete.</td>
<td>Contractor</td>
<td>During construction</td>
</tr>
<tr>
<td>81</td>
<td>Resource management</td>
<td>• Working areas at to be maintained, kept free of rubbish and cleaned up at the end of each working day.</td>
<td>Contractor</td>
<td>During construction</td>
</tr>
<tr>
<td>82</td>
<td>Resource management</td>
<td>• Vegetation and other waste is not to be burnt on site.</td>
<td>Contractor</td>
<td>During construction</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards and management measures</td>
<td>Responsibility</td>
<td>Timing</td>
</tr>
<tr>
<td>-----</td>
<td>--------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>---------------------------------------------</td>
</tr>
</tbody>
</table>
| 83  | Consultation | • Warringah Council would be consulted on (but not limited to):  
  • The proposed bus stop and shelter location and design  
  • Construction methodology, management, pedestrian management and detour plans  
  • Impacts to the Warringah Council owned car park during both construction and operation  
  • Landscaping plans  
  • Alterations to street lighting and lighting provided on the pedestrian bridge  
  • The location and style of bicycle parking  
  • Kept informed about the progress of the Proposal throughout the design process  
  • Warringah Council would be kept informed about the progress of the Proposal throughout the detailed design and construction period.                                                                 | Contractor and Roads and Maritime | Detailed design and construction            |
| S9  | Consultation | • The adjacent property owners would continue to be kept informed about the proposal throughout detailed design and construction. Concerns such as visual screening would be discussed directly with residents and mitigation provided where necessary.                  | Roads and Maritime      | Detailed design and construction            |
References


Appendix A

Starkey Street Pedestrian Bridge, Forestville - Community Update

June 2015
Roads and Maritime Services is proposing to remove the pedestrian crossing at the traffic lights across Warringah Road at Starkey Street and install a new pedestrian bridge over Warringah Road east of Starkey Street. The proposed Starkey Street Pedestrian Bridge would increase transport efficiency on Warringah Road through Forestville, minimise delays, allow for more effective road-based public transport and improve road safety.

Roads and Maritime has prepared a Review of Environmental Factors to examine the potential impacts of the Starkey Street Pedestrian Bridge proposal and outline measures to reduce and manage the impacts. The Review of Environmental Factors is on display for community and stakeholder comment until Friday 26 June 2015.

**What are the key features?**

- Installing a new pedestrian bridge over Warringah Road east of Starkey Street
- Removing the existing pedestrian crossing at the traffic lights on the western side of the intersection of Warringah Road and Starkey Street
- Relocating the existing eastbound bus stop on the northern side of Warringah Road from west of Starkey Street to east of Starkey Street near the proposed pedestrian bridge entry
- Providing new pedestrian connections to the pedestrian bridge entry and bus stop
- Altering the Starkey Street car park to accommodate the proposed new pedestrian bridge
- Installing new pedestrian fencing in a number of locations
- Relocating utilities
- New landscaping and signage.
What are the benefits?
There is currently a very high demand for the pedestrian crossing at the traffic lights of Warringah Road at Starkey Street due to local buses, shops, community facilities and schools. More than 100 pedestrians per hour use the crossing in the morning peak period. The crossing is safe for pedestrians crossing is 30 seconds. The frequency and length of the pedestrian crossing is used causes traffic delays and congestion on Warringah Road during peak periods. The benefits of the proposed pedestrian bridge would include:

• Improving the efficiency of traffic flow along Warringah Road at Forestville, particularly for bus traffic during the morning peak and eastern traffic in the evening peak
• Removing traffic delays on Warringah Road in both the morning and evening peak
• Supporting improvements to road-based public transport on Warringah Road by improving traffic capacity
• Improving safety, by separating pedestrians from a busy main road
• Improving transport connectivity by aligning bus stops with the proposed pedestrian bridge
• Providing urban design improvements around the bridge.

What would the proposed pedestrian bridge include?
The proposed bridge would use Roads and Maritime’s standard pedestrian bridge design which is a leaf arch structure supported by lift shafts which have a glazed front for security. The leaf arch has been selected because it has a simple and elegant form, and reduces the height of the lifts and shafts. The lift shaft structure reduces the bridge footprint, capital cost and visual impact. The key features of the proposed pedestrian bridge would also include:

• Lifts that can accommodate up to 15 passengers, as well as scooters, bicycles and prams
• A roof over the bridge span to protect users from the elements
• Safety fencing and throw screens
• Open ends on the bridge deck to allow district views
• A set of curved stairs and lift on both sides
• Rearranging the pedestrian paths leading to and around the bridge access points and nearby bus stops
• Bicycle parking facilities.

Next steps
We will consider all comments in finalising the proposal and design and will continue to liaise with the community throughout the project. Following the display of the Review of Environmental Factors, Roads and Maritime will make a community consultation report to respond to the matters the community and stakeholders raise during the display.

Frequently asked questions
Q. What are the main impacts?
The main impacts of the proposed Starkey Street Pedestrian Bridge would include:

• Changes in visual amenity
• Some partial property acquisition to accommodate the bridge
• Reducing the number of car parking spaces in the car park, which services the Forestville Memorial Hall and Senior Citizens Centre.

Q. Why should the proposed pedestrian bridge be built over the bus stop and pedestrian crossing at Starkey Street car park?
The preliminary concept design identified the loss of up to seven car parking spaces to accommodate the pedestrian bridge and access. Since that time, as part of the design development for the bridge, measures to reduce this impact were investigated. The proposed pedestrian bridge has been refined to minimise the impacts on these parking spaces. The current proposal would impact up to five car parking spaces to accommodate the new stairwell and lift structure. This would include the loss of three parking spaces, and two additional parking spaces would be modified to allow cars to park under the stair structure. The two modified spaces would include wheel stops and height restrictions on the parking spaces. New kerbs and guttering would also be installed around the new stairwell and lift structure. Bicycle parking spaces would be installed and new pedestrian connections would also be provided to the pedestrian bridge entrance and bus stop.

Q. What other options were investigated?
Roads and Maritime developed and evaluated four options for improvements on Warringah Road at Forestville including:

1. Option 1 – Do nothing and maintain the existing road configuration along Warringah Road within Forestville and retain the existing pedestrian crossing across Warringah Road.
2. Option 2 – Install a pedestrian bridge over Warringah Road at Starkey Street.
3. Option 3 – Install pedestrian bridges over Warringah Road at Starkey Street and Brown Street.
4. Option 4 – Install a pedestrian bridge over Warringah Road at Starkey Street without widening Starkey Street.

Q. What other options were investigated?
Roads and Maritime prepared an options report for the Starkey Street Pedestrian Bridge proposal which outlined the four options that were developed and evaluated, and provided information on how the preferred option (Option 4) was chosen. The information is available on the project web page at www.rms.nsw.gov.au/projects/ sydney-north/index.html

Q. What landscaping are you proposing?
Roads and Maritime would landscape all four corners of the intersection and the car park garden bed on the southern side of Warringah Road.

Q. What other provisions are being made for pedestrians?
Roads and Maritime would install pedestrian safety fencing:
• On the corner of Warringah Road and Starkey Street on the western side of the intersection
• On the corner of Warringah Road and Ferguson Street on the western side of the intersection
• On the corner of Warringah Road and Starkey Street on the eastern side of the intersection

Q. Where can I get more details on these options?
**What are the benefits?**

There is currently a very high demand for the pedestrian crossing at the traffic lights of Warringah Road at Starkey Street due to local buses, shops, community facilities and schools. More than 100 pedestrians per hour use the crossing in the morning peak period and the pedestrian queue for pedestrians crossing is 30 seconds. The frequency and length of time the pedestrian crossing is used causes traffic delays and congestion on Warringah Road during peak periods. The benefits of the proposed pedestrian bridge would include:

- Improving the efficiency of traffic flow along Warringah Road at Forestville, particularly northbound traffic in the morning peak and eastbound traffic in the evening peak
- Reducing traffic delays on Warringah Road in both the morning and evening peak
- Supporting improvements to road-based public transport on Warringah Road by improving traffic capacity
- Improving safety, by separating pedestrians from a busy main road
- Improving transport access by aligning bus stops with the proposed pedestrian bridge
- Providing urban design improvements around the bridge.

**What would the proposed pedestrian bridge include?**

The proposed bridge would use roads and Maritime’s standard pedestrian bridge design which is a tied arch structure supported by lift shafts which have a glazed front for security. The lift arch has been selected because it has a simple and elegant form, and reduces the height of the lift and stairs. The tied-arch structure reduces the bridge footprint, capital cost and physical and visual impact. The key features of the proposed pedestrian bridge would also include:

- Lifts that can accommodate up to 15 passengers, pedestrian bridges would also include:
  - Reinstating the pedestrian paths leading to and around the bridge access points and nearby bus stops
  - Bicycle parking facilities.

**Next steps**

We will consider all comments in finalising the proposal and design and will continue to liaise with the community throughout the project. Following the display of the Review of Environmental Factors, Roads and Maritime will prepare a community consultation – Strategic design and options report.

**Frequently asked questions**

**Q. Where can I get more details on these options?**

Roads and Maritime prepared an options report for the Starkey Street Pedestrian Bridge proposal which outlined the four options that were developed and evaluated, and provided information on how the preferred option (Option 4) was chosen. The information is available on the project web page at www.rms.nsw.gov.au/projects/sydney-roadside-hubs.html.

**Q. What is the proposed pedestrian bridge with stairs and lift (no ramp)?**

The preliminary concept design identified the loss of up to seven car parking spaces to accommodate the pedestrian bridge and access. Since then, as part of the design development for the bridge, measures to reduce this impact were investigated. The proposed pedestrian bridge has been refined to minimise the impacts on those parking spaces. The current proposal would impact up to five car parking spaces to accommodate the new stairwell and lift structure. This would include the loss of three parking spaces, and two additional parking spaces would be modified to allow cars to park under the lift structure. The two modified spaces would include wheel-stops and height restrictions on the parking spaces. New kerb and guttering would also be installed around the new stairwell and lift structure. Bicycle parking spaces would be included and new pedestrian connections would also be provided to the pedestrian bridge entrance and bus stop.

**Q. What other options were investigated?**

Roads and Maritime developed and evaluated four options for the Starkey Street Pedestrian Bridge proposal which outlined the loss of a pedestrian crossing leg across Warringah Road at the intersection of Warringah Road and Senior Citizens Centre.

1. **Option 1** – No change to the existing pedestrian crossing leg across Warringah Road.
2. **Option 2** – Install a pedestrian bridge over Warringah Road at Starkey Street and widen Starkey Street.
3. **Option 3** – Install pedestrian bridges over Warringah Road at Starkey Street and Brown Street.
4. **Option 4** – Install pedestrian bridge across Warringah Road with retention of the pedestrian crossing leg across Warringah Road.

Option 4 was chosen as the preferred one and Roads and Maritime consulted with the community on this in December 2014 and published a report.

**Q. What other provisons are being made for pedestrians?**

Roads and Maritime would install pedestrian safety fencing:
- On the corner of Warringah Road and Starkey Street on the western side of the intersection
- On the corner of Warringah Road and Ferguson Street on the western side of the intersection
- On the corner of Warringah Road and Starkey Street on the eastern side of the intersection
- Along the median on Warringah Road on the eastern side of the intersection.

**Q. Will you keep the pedestrian crossings across Starkey and Ferguson streets?**

Yes. The pedestrian crossings for the intersection would remain across Starkey Street and Ferguson Street, but the proposal would remove the pedestrian crossing leg across Warringah Road on the western side of the intersection.

**Q. What will happen to the existing bus shelter on Warringah Road?**

The existing bus stop and shelter on the northern side of Warringah Road would be relocated from the western side of the intersection to the eastern side. A new bus stop and shelter with a leaning rail would be constructed and the existing bus shelter would be demolished.

**Q. Will the proposed pedestrian bridge cater for cyclists?**

Yes. Bicycle parking facilities would be provided on both sides near to the bridge landings. Roads and Maritime is still investigating the option to have bicycle access facilities built into the stairs. The lift will also accommodate bicycles.
Frequently asked questions

Q. What are the main impacts?
The main impacts of the proposed Starkey Street Pedestrian Bridge would include:
- Changes in visual amenity
- Some partial property acquisition to accommodate the bridge
- Reducing the number of car parking spaces in the car park, which services the Forestville Memorial Hall and Senior Citizens Centre.

Q. What changes will be made to the Starkey Street car park?
The preliminary concept design identified the loss of up to seven car parking spaces to accommodate the pedestrian bridge and access. Since that time, as part of the design development for the bridge, measures to reduce this impact were investigated. The proposed pedestrian bridge has been refined to minimise the impacts on these parking spaces. The current proposal would impact up to five car parking spaces to accommodate the new stairwell and lift structure. This would include the loss of three parking spaces, and two additional parking spaces would be modified to allow cars to park under the stair structure. The two modified spaces would include wheel-stops and height restrictions on the parking spaces. New kerb and guttering would also be installed around the new stairwell and lift structure. Bicycle parking spaces would be installed and new pedestrian connections would also be provided to the pedestrian bridge entry and bus stop.

Q. What other provisions are being made for pedestrians?
Roads and Maritime would install pedestrian safety fencing:
- On the corner of Warringah Road and Starkey Street on the western side of the intersection
- On the corner of Warringah Road and Ferguson Street on the western side of the intersection
- On the corner of Warringah Road and Starkey Street on the eastern side of the intersection
- Along the median on Warringah Road on the eastern side of the intersection
- Along the median on Warringah Road on the eastern side of the intersection

Q. What other options were investigated?
Roads and Maritime developed and evaluated four options for improvements on Warringah Road at Forestville including:
1. **Option 1** – Do nothing and maintain the existing road configuration along Warringah Road within Forestville and retain the existing pedestrian crossing across Warringah Road
2. **Option 2** – Install a pedestrian bridge over Warringah Road at Starkey Street and widen Starkey Street
3. **Option 3** – Install pedestrian bridges over Warringah Road at Starkey Street and Brown Street
4. **Option 4** – Install a pedestrian bridge over Warringah Road at Starkey Street without widening Starkey Street.

Option 4 was chosen as the preferred one and Roads and Maritime consulted with the community on this in December 2014 and published a report.

Q. Where can I get more details on these options?
Roads and Maritime prepared an options report for the Starkey Street Pedestrian Bridge proposal which outlined the four options that were developed and evaluated, and provided information on how the preferred option (Option 4) was chosen. The information is available on the project web page at [www.rms.nsw.gov.au/projects/sydney-north/index.html](http://www.rms.nsw.gov.au/projects/sydney-north/index.html)

Q. What landscaping are you proposing?
Roads and Maritime would landscape all four corners of the intersection and the car park garden bed on the southern side of Warringah Road.

Q. What other provisions are being made for cyclists?
Yes. Bicycle parking facilities would be provided on both sides near the bridge landings. Roads and Maritime are still investigating the option to have bicycle access facilities built into the stairs. The lifts will also accommodate bicycles.
Roads and Maritime Services Privacy: Roads and Maritime Services is subject to the Privacy and Personal Information Protection Act 1998 (NSW), which requires that we comply with the Information Privacy Principles set out in the Privacy and Personal Information Protection Act 1998 (NSW), which requires that we comply with the Information Privacy Principles set out in the Privacy and Personal Information Protection Act 1998 (NSW). If you have any queries in relation to the Privacy and Personal Information Protection Act 1998 (NSW), please contact us on 1300 367 459 or visit community.info@rms.nsw.gov.au.

Other road upgrades in Sydney’s northern suburbs

Wakehurst Parkway left-turn slip lane extension
Roads and Maritime is extending the southbound left-lane for Wakehurst Parkway into Freshwater Forest Road East to improve traffic flow and safety for all road users. This is currently being constructed and is due to be completed by the end of 2015.

Mona Vale Road East and West upgrade
Roads and Maritime is proposing to upgrade Mona Vale Road between Terrey Hills and Mona Vale to improve safety and traffic efficiency. The upgrade includes:

• Stage 1 – Improvement of Mona Vale Road intersection with Ponderosa Parade and Samuel Street, Mona Vale

• Stage 2 – Mona Vale Road East upgrade: Upgrade of 3.2 kilometres of Mona Vale Road from two lanes to four lanes between Manor Road and Powder Works Road, Ingleside.

• Stage 3 – Mona Vale Road West upgrade: Upgrade of 3.2 kilometres of Mona Vale Road from two lanes to four lanes between McCarrs Creek Road, Terrey Hills and Powder Works Road, Ingleside.

Roads and Maritime completed Stage 1 earlier this year and consulted on the proposed road upgrades in two stages. Stage 1 would improve pedestrian access to the Northern Beaches Hospital.

A separate EIS for the proposed Stage 2 road upgrades (Mona Vale Road East) is being prepared and will be placed on public display in mid-2015. For further information please contact the project team on 02 8849 2345 or starkeystreet@rms.nsw.gov.au or visit www.rms.nsw.gov.au/projects/sydney-north/starkey-street/index.html.

Northern Beaches Hospital road upgrades
The NSW Government is planning road upgrades around the new Northern Beaches Hospital with work scheduled to be completed in time for the hospital opening. Roads and Maritime is planning and delivering the road upgrades in two stages.

• Stage 1 – Improvement of Mona Vale Road east of Starkey Street near the proposed new pedestrian bridge entry and bus stop

• Stage 2 – Mona Vale Road East upgrade: Upgrade of 3.2 kilometres of Mona Vale Road from two lanes to four lanes between McCarrs Creek Road, Terrey Hills and Powder Works Road, Ingleside.

Roads and Maritime is proposing to upgrade Mona Vale Road East between Terrey Hills and Mona Vale to improve safety and traffic efficiency. The upgrade includes:

• Providing new pedestrian connections to local streets

• Installing new pedestrian fencing in a number of locations

• Altering the Starkey Street car park to accommodate bus services

• Providing new pedestrian access to the proposed new pedestrian bridge

• Removing the existing pedestrian crossing at the traffic lights on the western side of the intersection of Warringah Road and Starkey Street

• Installing a new pedestrian crossing at the traffic lights across Warringah Road at Starkey Street and install a new pedestrian bridge over Warringah Road east of Starkey Street.

The proposed Starkey Street Pedestrian Bridge would increase transport efficiency on Warringah Road through Forestville, minimise delays, allow for more effective road-based public transport and improve road safety.

Roads and Maritime has prepared a Review of Environmental Factors to examine the potential impacts of the Starkey Street Pedestrian Bridge proposal and outline measures to reduce and manage the impacts. The Review of Environmental Factors is on display for community and stakeholder comment until Friday 26 June 2015.

What are the key features?
• Installing a new pedestrian bridge over Warringah Road east of Starkey Street.
• Removing the existing pedestrian crossing at the traffic lights across Warringah Road on the western side of the intersection of Warringah Road and Starkey Street.
• Installing the new pedestrian bridge entry at the northern side of Warringah Road from Star of Salvation Street to east of Starkey Street near the proposed pedestrian bridge entry.
• Providing new pedestrian crossings to the pedestrian bridge entry and bus stop.
• Altering the Starkey Street car park to accommodate the proposed new pedestrian bridge.
• Installing new pedestrian fencing in a number of locations.
• Relocating utilities.
• New landscaping and signage.
Northern Beaches Hospital road upgrades

The NSW Government is planning road upgrades around the new Northern Beaches Hospital with work scheduled to be completed in time for the hospital opening. Roads and Maritime is planning and delivering the road upgrades in two stages. Stage 1 would provide essential access to the Northern Beaches Hospital. Stage 2 would help increase capacity of the road network and reduce congestion. Roads and Maritime exhibited the Environmental Impact Statement (EIS) for the Concept Proposal and Stage 1 in October 2014. Roads and Maritime has since prepared a submissions report and preferred infrastructure report and has submitted the reports to the Department of Planning and Environment. A separate EIS for the proposed Stage 2 road upgrades is being prepared and will be placed on public display in mid-2015. For further information please contact the project team on 1300 367 459 or nswroads@rms.nsw.gov.au or visit www.rms.nsw.gov.au/projects/sydney-north/northern-beaches-hospital/index.html

Community information sessions

Roads and Maritime recognises the importance of involving the community in the development of the Starkey Street Pedestrian Bridge. Roads and Maritime will host two community information sessions.

- Starkey Street Pedestrian Bridge public information sessions
  - Two community information sessions will be held on:
    - Thursday 18 June, 10am–2pm: Forestville Senior Citizens Centre
    - Friday 26 June, 10am–2pm: Forestville Library
  - The project team will be available to answer questions and receive feedback on the proposal. A formal presentation will not be given, so please feel free to drop in at any time during the information sessions.
  - Two community information sessions will be held:
    - Thursday 18 June, 12:30–2:30pm: Warringah Memorial Hall
    - Saturday 20 June, 11am–3pm: Mona Vale North Public School

What are the key features?

- Installing a new pedestrian bridge over Warringah Road east of Stanley Street
- Removing the existing pedestrian crossing at the traffic lights across Warringah Road east of Stanley Street. The proposed Starkey Street Pedestrian Bridge would increase transport efficiency on Warringah Road through Mona Vale, reduce delays, allow for more effective road-based public transport and improve road safety. Roads and Maritime has prepared a Review of Environmental Factors to examine the potential impacts of the Starkey Street Pedestrian Bridge proposal and outline measures to reduce and manage the impacts. The Review of Environmental Factors is on display for community and stakeholder comment until Friday 26 June 2015.

Other road upgrades in Sydney’s northern suburbs

Wakehurst Parkway left-turn slip lane extension

Roads and Maritime is extending the southbound left-turn lane for Wakehurst Parkway into Freshwater Forest Road to improve traffic flow and safety for all road users. This is currently being constructed and is due to be completed by the end of 2015.

Mona Vale Road East and West upgrade

Roads and Maritime is proposing to upgrade Mona Vale Road between Terrey Hills and Mona Vale to improve safety and traffic efficiency. The upgrade includes:
- Stage 1 – Improvement of Mona Vale Road intersection with Pindensora Parade and Samuel Street, Mona Vale
- Stage 2 – Mona Vale Road East upgrade: Upgrade of 3.2 kilometres of Mona Vale Road from two lanes to four lanes between Manor Road, Ingleside and Fray Street, Mona Vale
- Stage 3 – Mona Vale Road West upgrade: Upgrade of 3.2 kilometres of Mona Vale Road from two lanes to four lanes between McCarrs Creek Road, Terrey Hills and Powder Works Road, Ingleside.

Roads and Maritime completed Stage 1 earlier this year and consulted on the proposed road upgrades in two stages. Stage 1 would provide essential access to the Northern Beaches Hospital. Stage 2 would help increase capacity of the road network and reduce congestion. Roads and Maritime exhibited the Environmental Impact Statement (EIS) for the Concept Proposal and Stage 1 in October 2014. Roads and Maritime has since prepared a submissions report and preferred infrastructure report and has submitted the reports to the Department of Planning and Environment. A separate EIS for the proposed Stage 2 road upgrades is being prepared and will be placed on public display in mid-2015. For further information please contact the project team on 1300 367 459 or nswroads@rms.nsw.gov.au or visit www.rms.nsw.gov.au/projects/sydney-north/northern-beaches-hospital/index.html

Translating and Interpreting Service

If you need an interpreter, please call the Translating and Interpretative Services (TIS) on 131 450 and ask them to contact Roads and Maritime Services on 02 8849 2345. For more information about the project, please visit www.rms.nsw.gov.au/projects/sydney-north/mona-vale-road/index.html

Roads and Maritime Services Privacy

Roads and Maritime Services are subject to the Privacy and Personal Information Protection Act 1998 ( "PPA") which requires that we comply with the information Privacy Principles set out in the PPA. An information in consequence is collected for the sole purpose of assessing the assessment of this proposal. The information we receive may include addresses and other details of respondents, may be added to our database, may be disclosed to third parties, and may be used in any manner consistent with the PPA and for the purpose of assisting you to formulate your response. The information will be used as we believe it is required to assist you formulate your response. Roads and Maritime Services are subject to the Privacy and Personal Information Protection Act 1998 ("PPA"). We have the rights to access and collect the information if you believe that it is required.

Flinders

Community Update

JUNE 2015

Roads and Maritime Services Privacy: Roads and Maritime Services are subject to the Privacy and Personal Information Protection Act 1998 ("PPA") which requires that we comply with the information Privacy Principles set out in the PPA. An information in consequence is collected for the sole purpose of assessing the assessment of this proposal. The information we receive may include addresses and other details of respondents, may be added to our database, may be disclosed to third parties, and may be used in any manner consistent with the PPA and for the purpose of assisting you to formulate your response. The information will be used as we believe it is required to assist you formulate your response. Roads and Maritime Services are subject to the Privacy and Personal Information Protection Act 1998 ("PPA"). We have the rights to access and collect the information if you believe that it is required.

Flinders

Community Update

JUNE 2015

Roads and Maritime Services Privacy: Roads and Maritime Services are subject to the Privacy and Personal Information Protection Act 1998 ("PPA") which requires that we comply with the information Privacy Principles set out in the PPA. An information in consequence is collected for the sole purpose of assessing the assessment of this proposal. The information we receive may include addresses and other details of respondents, may be added to our database, may be disclosed to third parties, and may be used in any manner consistent with the PPA and for the purpose of assisting you to formulate your response. The information will be used as we believe it is required to assist you formulate your response. Roads and Maritime Services are subject to the Privacy and Personal Information Protection Act 1998 ("PPA"). We have the rights to access and collect the information if you believe that it is required.

Flinders

Community Update

JUNE 2015

Roads and Maritime Services Privacy: Roads and Maritime Services are subject to the Privacy and Personal Information Protection Act 1998 ("PPA") which requires that we comply with the information Privacy Principles set out in the PPA. An information in consequence is collected for the sole purpose of assessing the assessment of this proposal. The information we receive may include addresses and other details of respondents, may be added to our database, may be disclosed to third parties, and may be used in any manner consistent with the PPA and for the purpose of assisting you to formulate your response. The information will be used as we believe it is required to assist you formulate your response. Roads and Maritime Services are subject to the Privacy and Personal Information Protection Act 1998 ("PPA"). We have the rights to access and collect the information if you believe that it is required.
Appendix B

Starkey Street Pedestrian Bridge, Forestville – Concept Design

August 2015
EXISTING BUS STOP LOCATION TO BE RETAINED APPROX 30m.

NOTES

1. UTILITY INFORMATION SHOWN ON THE PLANS DOES NOT DEPICT ANY CONSTRUCT CONCRETE FOOTPATH TO SERVICE LIFT AND STAIRS.

2. AERIAL PHOTO SOURCED FROM NEARMAP.

3. PROVIDE BUS SHELTER FOR RELOCATED BUS STOP LOCATION.

4. ELECTRICAL LIGHT POLE OUTREACH AND RELOCATE UNDERGROUND.

5. PROVIDE WHEEL STOPS FOR 3x PARKING SPACES.

6. REMOVE ELECTRICAL POLE AND 30% OF OVERHEAD ELECTRICAL AND RELOCATE UNDERGROUND.

7. CONSTRUCT CONCRETE FOOTPATH TO SERVICE LIFT AND STAIRS.

8. CONSTRUCT LOW LEVEL KERB RETAINING WALL, FOOTING TO AVOID EXISTING SERVICES.

9. PROVIDE BUS STOP FOR RELocATED BUS STOP LOCATION.

10. Proposed bus stop location to connect to existing footpath and match levels.

11. NEW FOOTPATH TO CONNECT TO EXISTING FOOTPATH AND MATCH LEVELS.

12. MORE THAN THE PRESENCE OF A SERVICE, BASED ON AVAILABLE DOCUMENTARY EVIDENCE. THE PRESENCE OF A UTILITY SERVICE, ITS SIZE AND LOCATION SHOULD BE CONFIRMED BY FIELD INSPECTION, PRIOR TO THE COMMENCEMENT OF ROADWORKS AND THE RELEVANT UTILITY PLANS OBTAINED BY DIALLING PH 1100 OR FAX 1300 652 077 (DIAL BEFORE YOU DIG).

13. CAUTION SHOULD BE EXERCISED WHEN WORKING IN THE VICINITY OF ALL UTILITY SERVICES.
NOTES

1. "UTILITY INFORMATION SHOWN ON THE PLANS DOES NOT DEPICT ANY MORE THAN THE PRESENCE OF A SERVICE, BASED ON AVAILABLE DOCUMENTARY EVIDENCE. THE PRESENCE OF A UTILITY SERVICE, ITS SIZE AND LOCATION SHOULD BE CONFIRMED BY FIELD INSPECTION, PRIOR TO THE COMMENCEMENT OF ROADWORKS AND THE RELEVANT UTILITY PLANS OBTAINED BY DIALLING PH 1100 OR FAX 1300 652 077 (DIAL BEFORE YOU DIG). CAUTION SHOULD BE EXERCISED WHEN WORKING IN THE VICINITY OF ALL UTILITY SERVICES.

2. "AERIAL PHOTO SOURCED FROM NEARMAP LEGEND"