Oxley Highway upgrade at Spencers Cutting
Submissions report
December 2017
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Prepared by GHD Pty Ltd
Provide Roads and Maritime Services Publication Number

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**Approval and authorisation**

<table>
<thead>
<tr>
<th>Title</th>
<th>Oxley Highway upgrade at Spencers Cutting Submissions report</th>
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<tbody>
<tr>
<td>Accepted on behalf of</td>
<td>David Andrews</td>
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<td>Roads and Maritime NSW by</td>
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<td>Signed</td>
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Executive summary

Purpose of this report
This submissions report summarises and responds to the issues raised through public consultation on the review of environmental factors (REF) for the Oxley Highway upgrade at Spencers Cutting.

The proposal
Roads and Maritime Services proposes to realign a section of the Oxley Highway between the Pacific Highway and Wauchope, known as Spencers Cutting (the proposal). The proposal would include improving the vertical and horizontal alignments of Spencers Cutting, realigning the intersection with Rawdon Island Road, building an east bound overtaking lane (stage 1) and extending the westbound overtaking lane (stage 2).

The key features of the proposal include:
- upgrading about 2.3 kilometres of the Oxley Highway at Spencers Cutting
- widening the formation, road surface and seal to a width of 11 metres, comprising two 2.0 metre wide shoulders and two 3.5 metre wide lanes
- removing the horizontal reverse curves on the eastern and western sides of the Rawdon Island Road intersection
- relocating the Rawdon Island Road intersection to improve traffic safety
- horizontally and vertically realigning the highway to establish a road suitable for a 100 kilometres per hour posted speed limit
- building an eastbound overtaking lane starting west of the Rawdon Island Road intersection
- extending the existing westbound overtaking lane (stage 2).

A detailed description of the proposal is found in the Oxley Highway upgrade at Spencers Cutting REF.

REF public display
Roads and Maritime placed the REF on public display from 15 September to 13 October 2017 and invited submissions relating to the REF.

The REF was made available online and printed copies were displayed at 5 local venues (refer Table 1.1). The public display was advertised on the Roads and Maritime website and via letters issued to local residents in the Sancrox and King Creek areas.

The project team held two community information sessions that involved staffed displays of the REF on:
- Wednesday 20 September 2017, from 3pm to 7pm - Vickers Fudge Factory (in the carpark), corner of the Oxley Highway and King Creek Road, King Creek
- Thursday 21 September 2017, from 3pm to 7pm – Wauchope Senior Citizens Centre, 47-51 High Street, Wauchope.

The REF was also advertised in local newspapers.

Key issues raised in submissions on the REF
Roads and Maritime Services received 23 submissions in response to the REF. The general matters raised by individual respondents and the responses provided from Roads and Maritime included the following:
Can the westbound lane be widened to allow for turning across the highway?

Roads and Maritime has incorporated into the proposal the request to widen the southern side of the westbound lane in areas to allow vehicles to pull off and safely turn across the highway.

How will vehicles use the intersection of the Oxley Highway and Rawdon Island Road?

The Rawdon Island Road intersection was explained to the respondents during the public consultation. The proposal includes a west-bound right turn deceleration lane from the Oxley Highway into Rawdon Island Road and an east-bound left turn deceleration lane into Rawdon Island Road. An acceleration lane east from the Rawdon Island Road intersection was considered in the design process. Due to the current and predicted traffic volumes at this location, and the increased sight distances and improvements to the horizontal and vertical alignments, an acceleration lane is not being provided as part of the proposal.

Can the existing embankment that currently provides a visual screen on Rawdon Island Road be retained or replaced?

Roads and Maritime met onsite with the respondents and discussed options for mitigating visual impacts to the property, including the potential to steepen the cut batter on the northern side of the proposed alignment, or for an earthen bund to be reinstated to provide screening and/or the use of vegetative screen planting on top of the cut batter.

Can the posted speed limit on the Oxley Highway be kept at 80 km/h?

The new alignment has been designed to comply with the site distance requirements for a 100 km/h design speed. Roads and Maritime has taken into consideration safety requirements, traffic conditions, the new alignment and adjoining sections of highway and is proposing to establish a 90 km/h posted speed limit along the new location following the completion of construction.

The general matters raised by government agency respondents and the responses provided from Roads and Maritime included:

The proposed construction compounds should consider limiting all impacts on threatened species and ecological communities or their habitat?

Roads and Maritime has revised the potential locations of the construction compounds to limit all impacts on threatened species and ecological communities or their habitat.

Can the local populations of threatened hollow-dependent fauna, the number and size of hollows to be lost and retained and the presence of other hollow bearing trees in adjacent vegetation and their characteristics be provided?

Evidence about the local populations of threatened hollow-dependent fauna is provided in Appendix B of the Biodiversity Assessment. This includes information about their threat-listing status, their preferred habitat, hollow-dependence, including preference for particular hollow sizes, the number of previous records within 10 kilometres of the study area, and their likelihood of occurrence within the study area. A total of 50 hollow-bearing trees were identified during the initial fauna habitat survey carried out within the study area. The location of the proposal is within and immediately adjacent to the Cowarra State Forest, which covers an area of over 25 square kilometres and is connected to other large tracts of remnant vegetation within the Broken Bago State Forest and Burrawan State Forest. The loss of 15 hollow-bearing trees is not expected to result in a significant impact to the hollow-dependent fauna species identified within the study area.
Can the loss of 0.44 ha of Subtropical Floodplain Forest of the NSW North Coast Bioregion Endangered Ecological Community (EEC) be assessed against its impact on the viability of the local EEC occurrence?

Roads and Maritime has undertaken further analysis of the local occurrence of this EEC. A total of 856 ha of the corresponding vegetation class of Coastal Floodplain Wetland are mapped within 10 kilometres of the proposal. The loss of 0.44 ha of this vegetation type represents a loss of 16% of the 2.72 ha of the EEC identified within the study area and a loss of 0.05% of the 856 ha of the EEC identified within 10 kilometres of the proposal. Roads and Maritime considers that the proposal remains unlikely to result in a significant local impact to this EEC.

The issues raised and Roads and Maritime’s detailed response to these issues form the basis of Chapter 2 of this report.

**Environmental management measures**

After consideration of the issues raised in the public submissions, the proposal has been refined to take into consideration landowner discussions and the submissions received. These refinements include:

- providing areas on the southern side of the westbound lane to allow vehicles to pull off and safely turn across the highway
- providing additional options to assist in mitigating visual impacts to properties on Rawdon Island Road
- an alternative construction compound location that was assessed as part of the REF and is located within a previously cleared area that is mapped as exotic grassland.

The management and mitigation measures for the proposal remain the same as those outlined in the REF and, should the proposal proceed, environmental management would be guided by the framework and measures in that document.

**Next steps**

Roads and Maritime is the determining authority for the REF. Roads and Maritime will assess the proposal, including the submissions report, and make a determination.

Roads and Maritime will continue to communicate with community members, government agencies and other stakeholders during the construction phase of the proposal.
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A Community Update Letter
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1 Introduction and background

1.1 The proposal

Roads and Maritime Services propose to realign about 2.3 kilometres of the Oxley Highway between the Pacific Highway and Wauchope, known as Spencers Cutting (the proposal). The proposal would include improving the vertical and horizontal alignments of Spencers Cutting, realigning the intersection with Rawdon Island Road, building an east bound overtaking lane (stage 1) and an extension to the westbound overtaking lane (stage 2).

The key features of the proposal include:
- Upgrading about 2.3 kilometres of the Oxley Highway at Spencers Cutting
- Widening of the formation, road surface and seal to a width of 11 metres, comprised of two 2.0 metre wide shoulders and two 3.5 metre wide lanes
- Removing the horizontal reverse curves on the eastern and western sides of the Rawdon Island Road intersection
- Relocating the Rawdon Island Road intersection to improve traffic safety
- Horizontally and vertically realigning the highway to establish a road geometry suitable for a 100 kilometres per hour posted speed limit
- Building an eastbound overtaking lane commencing west of the Rawdon Island Road intersection
- Extending the existing westbound overtaking lane (stage 2).

A more detailed description of the proposal is found in the Oxley Highway upgrade at Spencers Cutting review of environmental factors (REF) prepared by GHD on behalf of Roads and Maritime in September 2017.

1.2 REF display

Roads and Maritime prepared a REF to assess the environmental impacts of the proposed works (GHD 2017). The REF was placed on public display for 29 days between 15 September and 13 October at five locations, as detailed in Table 1.1. The REF was placed on the Roads and Maritime project website and made available for download. The display locations and website link were advertised in the Wauchope Gazette and Port Macquarie News newspapers on 13 September 2017. A media release and three Facebook posts were issued prior to and during the public display period.

In addition to the above public display, an invitation to comment on the REF (Appendix A) was sent directly to several identified stakeholders. Letters with a copy of the REF document were sent to government agencies, the Local Aboriginal Land Council and landowners affected by the proposal.

The project team held two community information sessions that involved staffed displays of the REF on:
- Wednesday 20 September 2017, from 3 pm to 7 pm - Vickers Fudge Factory (in the carpark), corner of the Oxley Highway and King Creek Road, King Creek NSW
- Thursday 21 September 2017, from 3 pm to 7 pm – Wauchope Senior Citizens Centre, 47-51 High Street, Wauchope NSW.

Table 1.1: Display locations

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<tr>
<td>Port Macquarie-Hastings Council</td>
<td>49 High Street, Wauchope NSW</td>
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<tr>
<td>Location</td>
<td>Address</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Port Macquarie Library</td>
<td>Grant Street, Port Macquarie NSW</td>
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<tr>
<td>Wauchope Library</td>
<td>51 High Street, Wauchope NSW</td>
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<tr>
<td>Service NSW</td>
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### 1.3 Purpose of the report

This submissions report relates to the REF prepared for the Oxley Highway upgrade at Spencers Cutting, and should be read in conjunction with that document.

The REF was placed on public display and submissions relating to the proposal and the REF were received by Roads and Maritime. This submissions report summarises the issues raised and provides responses to each issue (Chapter 2) and details investigations carried out since finalisation of the REF (Chapter 3).

No project changes are proposed that would require the preparation of a preferred infrastructure report. No revisions have been made to the assessment or environmental management measures as described in the REF.
2 Response to issues

Roads and Maritime received 23 submissions, accepted up until the 13 October 2017. No formal submissions were received after this date. Table 2.1 lists the respondents and each respondent’s allocated submission number. The table also indicates where the issues from each submission have been addressed in Chapter 3 of this report.

Table 2.1: Respondents

<table>
<thead>
<tr>
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<td>2.3.5, 2.3.6, 2.9.1, 2.10.1</td>
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Respondent | Submission No. | Section number where issues are addressed
--- | --- | ---
Government Agency: Office of Environment and Heritage | 23 | 2.6.2, 2.6.3, 2.6.4, 2.6.5, 2.11.1

## 2.1 Overview of issues raised

A total of 23 submissions were received in response to the display of the REF. This included submissions from two government agencies and 21 from individuals within the community.

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

Each of the sixteen respondents that attended the public displays of the REF were generally in agreement with the proposal. The six written submissions did not offer a position on the proposal. None of the submissions objected to the proposal.

One of the government agency respondents was the Office of Environment and Heritage (OEH). The issues raised related to:
- Aboriginal cultural heritage consultation
- Biodiversity.

The other government agency respondent was the Department of Industry – Crown Lands and Water. The issues raised related to:
- Impending changes to legislation
- Access to State forest and Crown land
- The management of ongoing impacts from the proposal on Crown land.

The matters raised by individuals related to:
- Safety
- Access
- Design of the proposal
- Operation of the proposal
- Site compounds
- Biodiversity
- Visual amenity.

A total of six written submissions were received, which included two from government agencies and four from individuals. The remaining submissions were received during the public displays of the REF in Wauchope and King Creek.

Birpai Local Aboriginal Land Council responded and had no objections to the proposal.
2.2 Safety

2.2.1 King Creek Road intersection

Submission number(s)
1, 2, 3, 4, 5, 6, 7

Issue description
The issue related to safety concerns regarding the intersection of King Creek Road and the Oxley Highway. Is an update to the intersection of King Creek Road and the Oxley Highway in the Roads and Maritime program of works?

Response
The safety concerns regarding the intersection of King Creek Road and the Oxley Highway have been passed on to the Roads and Maritime Regional Maintenance Delivery team so that this intersection can be considered in future works programs.

2.3 Access

2.3.1 Private property access off the Oxley Highway

Submission number(s)
8, 13

Issue description
The respondents requested that widening on the southern side of the westbound lane be provided to enable a right turn into their property along the Oxley Highway.

Response
Roads and Maritime will include this request in the construction of the proposal.

2.3.2 Private property access off the Oxley Highway west of Zanardis Lane

Submission number(s)
12

Issue description
There is a concrete drain on the western side of Zanardis Lane that restricts access for westbound traffic turning into Zanardis Lane from the Oxley Highway. The respondent requested that Roads and Maritime resolve this issue.

Response
Works to the west of Zanardis Lane are not part of the proposal however, these concerns have been passed on to the Roads and Maritime Regional Maintenance Delivery team.

2.3.3 Private property access off Rawdon Island Road

Submission number(s)
10

Issue description
The respondents requested that Roads and Maritime consider the proposal's impacts on access to Lot 5 DP 805503 off Rawdon Island Road, where a new dwelling is planned to be constructed. A survey plan of the respondents' lot detailing the draft dwelling plans was provided to Roads and Maritime for consideration during the detailed design.
Response
Roads and Maritime has reviewed the design and confirmed that the access is compatible with the current dwelling and shed design. The respondents have been made aware of this outcome. The construction team has also been notified of the respondents’ intention to construct a dwelling at this location. The construction team will ensure access to the property is maintained at all times.

2.3.4 Use of private hardstand area

Submission number(s)
11

Issue description
The respondent requested that their hardstand area along King Creek Road, to the west of the proposal site, not be used by trucks as a turning area during construction, as there have been issues in the past with heavy vehicles generating dust and damaging the surface of the area.

Response
This information has been passed on to the Roads and Maritime construction team to ensure the hardstand area isn’t used during construction of the proposal, or appropriate arrangements are agreed with the respondent.

2.3.5 Access to Cowarra State Forest and Crown land

Submission number(s)
22

Issue description
The Department of Industry – Crown Lands and Water commented that Cowarra State Forest is not managed under the Crown Lands Act 1989, as stated in the REF. Roads and Maritime will need to contact NSW Forestry Corporation with respect to proposed works that impact Cowarra State Forest.

Consent for the acquisition of Crown land has been granted subject to conditions. One of the conditions states:

Until such time as the acquisition has been finalised entry upon or use of the Crown land for any purposes will require the written consent of the Department.

For accessing Crown land, Roads and Maritime will need to provide Department of Industry – Crown Lands and Water with the relevant exemptions under the Roads Act 1993 and a description of how these apply to this scenario. Alternatively, Roads and Maritime will need to apply for a short term licence over Crown land affected if the acquisition has not been finalised prior to commencement of works. Special conditions would be included in the licence to ensure the site is rehabilitated at completion of the proposal.

Roads and Maritime will also require written consent from Birpai Local Aboriginal Land Council as it has lodged claims over the Crown land over which a site compound may be established. The Crown land to be used for a possible site compound includes Lots 7039-7040 DP 1055573. The use of Lot 7040 DP 1055573 would also require consent or a licence from the Local Land Services. Department of Industry – Crown Lands and Water could potentially issue a licence over this land however consent from Local Land Services and Birpai Local Aboriginal Land Council would be required.
Response
Rocks and Maritime will continue to liaise with NSW Forestry Corporation during detailed design and construction of the proposal. Roads and Maritime will also continue to liaise with Department of Industry – Crown Lands and Water to provide relevant exemptions or apply for a short term licence over land affected by the proposal if the acquisition has not been finalised prior to commencement of construction of the proposal. If access is required to lots 7039 – 7040 DP 1055573 prior to the finalisation of acquisition, Roads and Maritime will also liaise with Birpai Local Aboriginal Land Council and Local Land Services to obtain the necessary consents.

2.3.6 Ongoing impacts to Crown land

Submission number(s)
22

Issue description
The Department of Industry – Crown Lands and Water require that no ongoing impacts to Crown land result from the proposal. Ongoing impacts could include the following:

- soil erosion due to excessive runoff
- weeds that may be brought to site that are not currently on site from machinery or stockpiles
- damage to trees and vegetation resulting in the Department of Industry – Crown Lands and Water having to take action at a later date.

Licence applications will include a review for consistency with the principles of Crown land management. Therefore, the detailed design should take into account these principles to ensure no lasting impact to Crown land and no detraction from the Crown land in respect to these principles. The principles are:

a) that environmental protection principles be observed in relation to the management and administration of Crown land, and
b) that the natural resources of Crown land (including water, soil, flora, fauna and scenic quality) be conserved wherever possible, and
c) that public use and enjoyment of appropriate Crown land be encouraged, and
d) that, where appropriate, multiple use of Crown land be encouraged, and
e) that, where appropriate, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuity, and
f) that Crown land be occupied, used, sold, leased, licenced or otherwise dealt with in the best interests of the State consistent with the above principles.

Response
The mitigation measures outlined in the REF will be transferred into the Construction Environmental Management Plan (CEMP) for implementation during construction of the proposal. These measures will ensure that there are no ongoing impacts on Crown land from the proposal.

2.4 Operation of the proposal

2.4.1 Turning movements into and out of Rawdon Island Road

Submission number(s)
8, 15, 18

Issue description
The respondents queried how vehicles will use the new Rawdon Island Road intersection as shown on the drawings at the staffed display of the REF.
Response
The operation of the Rawdon Island Road intersection was explained to each respondent during the public consultation. The proposal includes a west-bound right turn deceleration lane from the Oxley Highway into Rawdon Island Road and an east-bound left turn deceleration lane into Rawdon Island Road. The design has no provision for an acceleration lane left or right out of Rawdon Island Road. Refer to sections 2.8.2 and 2.8.3 for related submissions and responses about the intersection.

2.4.2 Posted speed limit on the Oxley Highway

Submission number(s)
19, 20

Issue description
The respondents requested that the posted speed limit on the Oxley Highway be kept at 80 km/h for safety reasons.

Response
The new alignment has been designed to comply with the site distance requirements for a 100 km/h design speed. Roads and Maritime has taken into consideration safety requirements, traffic conditions, the new alignment, and adjoining sections of highway and is proposing to establish a 90 km/h posted speed limit along the Oxley Highway at this location following the completion of construction.

2.5 Site compounds

2.5.1 Land ownership of potential site compound location

Submission number(s)
13

Issue description
The respondent informed Roads and Maritime that they have recently purchased one of the parcels of land which is identified in the REF as a potential site compound location (Lot 214 DP 1073738). The respondent would support any proposal to use their lot for a site compound during construction.

Response
The respondent’s comments are noted. The construction team will take this into account when assessing areas to use for a site compound.

2.6 Biodiversity

2.6.1 Offsets

Submission number(s)
13

Issue description
The respondent expressed an interest in entering into an agreement with Roads and Maritime to use his nearby property for biodiversity offsetting for the proposal.

Response
Roads and Maritime will continue to consult with the respondent regarding the possibility of reaching an agreement for offsetting the biodiversity impacts of the proposal.
### 2.6.2 Biodiversity offset strategy

**Submission number(s)**

23

**Issue description**

The OEH recommends that prior to determining the REF the Biodiversity Assessment should be revised to include a biodiversity offset strategy that accords with the OEH principles for biodiversity offsets in NSW and offsets all threatened species habitat and EECs impacted by the proposal.

**Response**

Where offsets are required, Roads and Maritime will prepare a biodiversity offset strategy that details how the required offsets will be achieved, or if supplementary measures are being proposed, including how the supplementary measures will be delivered. The biodiversity offset strategy will accord with the OEH principles for biodiversity offsets in NSW and is expected to be finalised prior to construction commencing.

### 2.6.3 Construction compound locations

**Submission number(s)**

23

**Issue description**

The OEH recommends that prior to determining the REF the final location (and design) of the proposed construction compound should consider limiting all impacts on threatened species and ecological communities or their habitat by the most appropriate site selection.

**Response**

Roads and Maritime has revised the potential locations of construction compounds to limit all impacts on threatened species and ecological communities or their habitat. The final location will be confirmed prior to construction commencing. Further details are presented in section 3.1.

### 2.6.4 Hollow-dependent fauna

**Submission number(s)**

23

**Issue description**

The OEH recommends that prior to determining the REF the Biodiversity Assessment should be revised to include evidence about the definition of the local populations of threatened hollow-dependent fauna in this area, the number and size of hollows to be lost and retained, the presence of other hollow bearing trees in adjacent vegetation and their characteristics, and if required, additional targeted survey for threatened hollow-dependent fauna.

Furthermore, the OEH recommends that prior to determining the REF the Biodiversity Assessment should be revised to include a revised Assessment of Significance using the information regarding the hollow-dependent fauna and hollow-bearing trees to appropriately answer the questions on threatened hollow-dependent fauna species.

**Response**

Evidence about the local populations of threatened hollow-dependent fauna is provided in Appendix B of the Biodiversity Assessment. This includes information about their threat-listing status under the Threatened Species Conservation Act 1995 (TSC Act) and Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), their preferred habitat, hollow-dependence, including preference for particular hollow sizes, the number of previous records within 10 kilometres of the study area, and their likelihood of occurrence within the study area.
For example, the Biodiversity Assessment identifies that the Glossy Black-Cockatoo (Calyptrornhchus lathami) nests in large (approximately 20 cm) hollows in trees, stumps or limbs, usually in Eucalypts (Higgins, 1999). The assessment states that there are 18 records of the species occurring within 10 kilometres of the proposal site and that the nearest record for this species occurs approximately 200 m south of the proposal site. The assessment also states that the species was not recorded during field surveys, but that suitable habitat was identified within the proposal site. The Biodiversity Assessment considers there to be a high likelihood of occurrence of this species within the proposal site.

Information regarding the number and size of hollows within the study area was obtained during the initial fauna habitat survey carried out in February 2017. A total of 50 hollow-bearing trees were identified within the study area. Amongst these trees, a total of 156 hollows were identified, which comprised 86 small (<5 cm), 68 medium (5-15 cm), and 12 large (>15 cm) diameter hollows. The removal of 15 hollow-bearing trees for the proposal would result in the loss of 29 small (<5 cm), 17 medium (5-15 cm), and 7 large (>15 cm) diameter hollows, which represents a loss of about 32% of the total number of hollows within the study area.

Given the location of the proposal within and immediately adjacent to the Cowarra State Forest, which covers an area of over 25 square kilometres and is connected to other large tracts of remnant vegetation within the Broken Bago State Forest and Burrawan State Forest, the loss of 15 hollow-bearing trees is not expected to result in a significant impact to the hollow-dependent fauna species identified within the study area. Consequently, Roads and Maritime does not consider it necessary to carry out additional targeted surveys for threatened hollow-dependent fauna within the study area.

Roads and Maritime does not consider it necessary to revise the assessment of significance for hollow-dependent fauna and hollow-bearing trees.

2.6.5 Impacts to the local viability of Endangered Ecological Communities

Submission number(s)

23

Issue description

The OEH recommends that prior to determining the REF the Biodiversity Assessment should be revised to include a revised Assessment of Significance that identifies the local occurrence of the Subtropical Floodplain Forest of the NSW North Coast Bioregion Endangered Ecological Community (EEC) in accordance with the gazetted Assessment of Significance guidelines and assesses the loss of 0.44 ha of this EEC against its impact on the viability of the local EEC occurrence.

Response

Appendix C of the Biodiversity Assessment includes an Assessment of Significance for each of the EECs identified within the study area. This includes the Subtropical Floodplain Forest of the New South Wales North Coast Bioregion EEC, of which 0.44 ha will be removed as a result of the proposal. The Assessment of Significance for this EEC includes the following details with regard to the proposal’s impact on the local occurrence and viability of the EEC:

c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
Construction of the proposal would require the clearing or modification of native vegetation within the proposal site, including the permanent removal of 0.44 ha of Subtropical Floodplain Forest of the New South Wales North Coast Bioregion. The removal of this vegetation would reduce the extent of the EEC in the locality, and potentially affect species interactions, dispersal ability or other components of the life cycles of component species of the EEC. A reduction of 0.44 ha would comprise a minor effect on the extent of the local population of the EEC, which is likely to occupy other areas outside the proposal site such as floodplain areas adjacent to Sarah’s Creek in the west and the Hastings River to the north. Habitat within the proposal site is partially degraded by edge effects and weed infestation associated with the existing Oxley Highway. Clearing for the proposal would occur predominantly along this already disturbed edge, with a section cutting through forest adjacent to the existing highway. In this context, the area of the EEC to be removed is likely to make a minor contribution to recruitment and maintenance of populations of component species. The proposal is unlikely to have adverse effects on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction.

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Construction of the proposal will remove a small number of individuals of native plant species. This small area is highly unlikely to contain an ecologically significant proportion of the local populations of any of the component species within the EEC. Overall, this would comprise a minor modification and a minor reduction in the overall number of species and individuals that contribute to the composition of the EEC within the locality. The majority of native fauna species within the EEC are likely to persist in the locality of the proposal site. The proposed activity is not likely to remove, modify or fragment a significant proportion of the habitat for this EEC in the locality such that any component species would become locally extinct. During the operational phase, the proposal may result in negative impacts on the EEC through increased edge effects, weed infestation or fauna mortalities. These effects would likely be equivalent to those associated with the existing Oxley Highway. Standard environmental management measures are likely to mitigate against any substantial effects on the EEC vegetation to be retained outside of the immediate proposal site.

Roads and Maritime has undertaken further analysis of the local occurrence of this EEC within a 10 kilometre radius of the proposal based on publicly available vegetation mapping. According to Keith (2004), a total of 856 ha of the Coastal Floodplain Wetland vegetation class is mapped within 10 kilometres of the proposal. This vegetation class corresponds with the Subtropical Floodplain Forest of the New South Wales North Coast Bioregion EEC.

Roads and Maritime considers that the proposal remains unlikely to result in a significant local impact to this EEC. This is based on the assertion that the loss of 0.44 ha represents a loss of 16% of the 2.72 ha of the EEC identified within the study area and a loss of 0.05% of the 856 ha of the EEC identified within 10 kilometres of the proposal.

2.7 Visual amenity

2.7.1 Realignment of the Oxley Highway and Rawdon Island Road intersection

Submission number(s)

14

Issue description

The respondents were concerned about visual impacts associated with the realignment of the Oxley Highway and the Rawdon Island Road intersection. In particular, the loss of the existing embankment at the front of their property on the opposite side of Rawdon Island Road that currently provides a visual screen to traffic on the Oxley Highway. The respondents requested that mitigation be considered including changing the design to provide a steeper cut embankment along the Oxley Highway which would provide space to construct an earthen embankment on top of the cut batter to act as a visual screen. The bund could also be planted with vegetation to provide further screening.
Response
Roads and Maritime met onsite on 21 September 2017 with the respondents to discuss the issues raised in the submission. Roads and Maritime will consider options for mitigating visual impacts to the property during detailed design of the proposal. Options considered will include the potential to steepen the cut batter on the northern side of the proposed Oxley Highway alignment to provide sufficient area for an earthen bund to be reinstated to provide screening and/or the use of vegetative screen planting on, or on top of the cut batter.

2.8 Design

2.8.1 Re-alignment of the Oxley Highway through Cowarra State Forest

Submission number(s)
16, 17

Issue description
The respondents queried whether an alternative alignment running east-west through the Cowarra State Forest had been considered during the design of the proposal, and if so, why it hadn't been adopted?

Response
An alternative alignment through the Cowarra State Forest was considered in the options assessment process. However, the alternative alignment was excluded due to cost and environmental constraints.

2.8.2 East-bound acceleration lane from Rawdon Island Road intersection

Submission number(s)
18, 19, 20

Issue description
The respondents queried whether Roads and Maritime had explored the option of including an acceleration lane east from the Rawdon Island Road intersection as vehicles will be entering a high speed road and will take some distance to reach travelling speed. This is particularly relevant for trucks and vehicles towing horse floats travelling from Rawdon Island Road east to Port Macquarie.

Response
The option of including an acceleration lane east from the Rawdon Island Road intersection was considered in the design process. Due to the current and predicted traffic volumes at this location, and the increased sight distances and improvements to the horizontal and vertical alignments, an acceleration lane is not being provided as part of this project.

2.8.3 Right and left turns out of Rawdon Island Road intersection

Submission number(s)
19

Issue description
The respondent questioned the basis for the design of the right and left turns out of Rawdon Island Road given the traffic growth expected from future development areas.
Response
The configuration of the Oxley Highway and Rawdon Island Road intersection has been designed to comply with the safety requirements for a 100 km/h design speed. The design has also taken into consideration the traffic growth expected in the area.

2.8.4 Design of the Oxley Highway

Submission number(s)
21

Issue description
The respondent expressed concern that the design of the proposal is not sufficient for the anticipated growth in the area. The respondent suggested that a dual carriageway or high standard rural road is required. The respondent also suggested that an alternative alignment through the Cowarra State Forest would be preferred as it would provide a safer alignment and allow for the future construction of a dual carriageway.

Response
A copy of the concept design drawing for the proposed Rawdon Island Road intersection realignment was provided to the respondent. An alternative alignment through the Cowarra State Forest was considered in the options assessment process. However, the alternative alignment was excluded due to cost and environmental constraints.

2.8.5 Pavement material

Submission number(s)
9

Issue description
The respondent requested that Asphaltic Concrete (AC) pavement be used for the proposal as it is smoother to drive on.

Response
This request will be considered during the detailed design of the proposal.

2.9 References to government agencies

2.9.1 Name change for Department of Industry – Lands and Forestry

Submission number(s)
22

Issue description
The Department of Industry – Lands and Water advised Roads and Maritime that a name change has recently occurred. Department of Industry – Lands and Forestry is now called Department of Industry – Crown Lands and Water.

Response
The Department’s comments are noted.
2.10 Legislation

2.10.1 Impending legislation changes

Submission number(s)
22

Issue description
The Department of Industry – Crown Lands and Water advised Roads and Maritime that the *Crown Lands Management 2016* (which will repeal the *Crown Lands Act 1989*) is expected to be in force sometime during 2018 and the REF may consider including some reference to this and any potential changes that may impact the proposal.

Response
The Department’s comments are noted. Roads and Maritime will undertake activities in accordance with the legislation that is in force at the time of the proposed activities.

2.11 Aboriginal cultural heritage

2.11.1 Consultation

Submission number(s)
23

Issue description
The OEH recommends that prior to determining the REF, the reference to the ‘Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010)’ within Section 5.2 of the REF, should be removed.

Response
Roads and Maritime has removed all reference to ‘Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010)’ from the REF.
3 Changes to the proposal

3.1 Change 1: Construction compound locations

3.1.1 Description
Roads and Maritime has revised the construction compound locations that were identified in the REF. The construction compound located within the former quarry on lots 7039 and 7040 of DP 1055573 has now been excluded as a viable option. This location has been excluded to limit impacts on threatened species and ecological communities or their habitat. An alternative to this location has been identified which involves extending the construction compound located on Lot 9 DP 1029887 further to the south, within the same lot. This location has been identified to avoid vegetation removal. The extended construction compound is located within a previously cleared area that is mapped as exotic grassland.

Figures showing the revised construction compound locations and proposal site boundary are contained in Appendix B.

3.1.2 Environmental assessment
No further assessment was required as the extended construction compound is located within the REF study area. The area is mapped as exotic grassland and no items of Aboriginal cultural heritage were identified at this location during the Aboriginal cultural heritage due diligence investigation completed for the REF.

3.1.3 Revised management and mitigation measures
The safeguards and management measures detailed in the REF remain appropriate for the proposal.
**4 Environmental management**

The REF for the Oxley Highway upgrade at Spencers Cutting identified the framework for environmental management, including the safeguards and management measures that would be adopted to avoid or reduce environmental impacts (Section 7.2 of the REF).

After consideration of the issues raised in the public submissions, the safeguard and management measures detailed in the REF remain appropriate for the proposal.

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

The PEMP and CEMP will be prepared prior to construction of the proposal and must be reviewed and certified by the Roads and Maritime Environment Officer, Northern 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 PEMP and 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**

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

After consideration of the issues raised in the public submissions, the environmental management measures for the project (refer to Chapter 7 of the REF) remain appropriate for the proposal. Should the proposal proceed, the environmental management measures in Table 4.1 will guide the subsequent phases of the Oxley Highway upgrade at Spencers Cutting.
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<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
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</table>
| 1   | General| All environmental safeguards must be incorporated within the following:  
• Project Environmental Management Plan (PEMP) (if required)  
• Detailed design stage  
• Contract specifications for the proposal  
• Construction Environmental Management Plan (CEMP). | Project manager | Pre-construction |
| 2   | General| • A risk assessment has been/ must be carried out on the proposal in accordance with the Roads and Maritime Project Pack and Project Management Systems (PMS) 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 carried out 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 REF 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 Environment Manager Northern Region 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 Environment Manager Northern Region. | Project manager | Pre-construction |
<p>| 4   | General| • The Roads and Maritime Project Manager must notify the Roads and Maritime Environment Officer Northern Region at least five working 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 five working days prior to the commencement of the proposed activities. | Project manager | Pre-construction |</p>
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<tr>
<td>7</td>
<td>Biodiversity</td>
<td>Measures to further avoid and minimise the construction footprint and native vegetation or habitat removal will be investigated during detailed design and implemented where practicable and feasible.</td>
<td>Detailed design</td>
<td>Construction contractor</td>
</tr>
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</table>
| 8   | Biodiversity            | The mitigation measures included in the CEMP and relevant sub-plans will be implemented during pre-construction and construction stages. Relevant sub plans will include the following:  
  - Vegetation Management Plan  
  - Fauna Management Plan  
  - Koala Management Plan. | Pre-construction       | Construction contractor |
| 9   | Biodiversity            | Development of a Fauna Connectivity Strategy in accordance with the *Wildlife Connectivity Guidelines for Road Projects* (Roads and Maritime in preparation).                                                                 | Pre-construction      | Roads and Maritime |
| 11  | Biodiversity            | Ensure all workers are provided with an environmental induction prior to starting construction activities on site. This will include but is not limited to information on the ecological values of the site and protection measures to be implemented to protect biodiversity during construction. | Pre-construction      | Construction contractor |
| 12  | Biodiversity/erosion and sediment  | Erosion and sediment control measures will be established prior to construction in accordance with the measures and recommendations provided. Furthermore, in general, sediment management measures should be in accordance with the principles and guidelines included in *Soils and Construction – Managing Urban Stormwater Volume 1* (Landcom, 2004) and *Volume 2D – Main Roads* (DECC, 2008). Controls will be managed and maintained in accordance with the CEMP to ensure their ongoing functionality. | Pre-construction      | Construction contractor |
| 13  | Biodiversity/dust       | Specific measures will be incorporated into the CEMP to minimise the generation of dust and associated impacts on natural environments adjacent and downstream of the site. These should include:  
  - Setting maximum speed limits for construction traffic within the site to limit dust generation  
  - Use of a water tanker or similar to spray unpaved roads during construction where | Pre-construction/ construction | Construction contractor |
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|     |                         | Application of dust suppressants or covers on soil stockpiles where required  
|     |                         | Removal off site of excavated fill materials not required for backfilling as soon as feasibly possible.                                                                                                                    |                                 |                         |
|     |                         | Disturbed areas are to be progressively stabilised to prevent erosion and weed establishment, in accordance with *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA 2011). |                                 |                         |
| 14  | Biodiversity/contaminants | Specific measures will be incorporated into the CEMP to minimise the potential for chemical spills and associated impacts on natural environments adjacent to and downstream of the site. These should include:  
|     |                         | - Storage of chemicals in clearly marked and bunded areas  
|     |                         | - Management of sewerage tanks, including regular emptying and disposal offsite  
|     |                         | - Regular inspection of vehicles and mechanical plant for leakage of fuel or oil  
|     |                         | - No refuelling of vehicles, vehicle maintenance or washing of vehicles within 20 metres of waterways.  
|     |                         | - An emergency plan for spills, to minimise the risk of impacts on retained vegetation and downstream habitats.                                                                                                       | Pre-construction/construction  | Construction contractor |
| 15  | Biodiversity/vegetation clearance and habitat loss | Disturbance and removal of some areas of native vegetation and habitat will be unavoidable during the construction phase. To reduce the potential for adverse impacts on ecologically sensitive areas the following measures will be implemented as part of the Flora and Fauna Management Plan:  
|     |                         | - Exclusion zones are to be identified and demarcated in accordance with the Roads and Maritime Biodiversity Guidelines (Guide 2: Exclusion zones) (RTA 2011).  
|     |                         | - Protocols for clearing of vegetation will be developed and implemented in accordance with the Roads and Maritime Biodiversity Guidelines (Guide 4: Clearing of vegetation and removal of bushrock) (RTA 2011).  
|     |                         | - Protocols for preventing the introduction and/or spread of disease causing agents  
|     |                         |                                                                                                                                                    | Pre-construction/construction  | Construction contractor, site ecologist/environmental officer |
such as bacteria and fungi will be developed and implemented in accordance with the Roads and Maritime Biodiversity Guidelines (Guide 7: Pathogen Management) (RTA 2011).
- Installation of nest boxes in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011). The majority of nest boxes should be installed about one month prior to construction to provide a safe location for relocation of fauna during clearing operations. The number of nest boxes installed will depend on the number of hollows likely to be removed and sizes of hollows to be removed.

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| 16  | Biodiversity/ pre-clearance surveys | Pre-clearance surveys will be carried out by a qualified ecologist and the required methodology will be developed for target species as part of the as part of the Flora and Fauna Management Plan. Surveys should include:
- A pre-clearance procedure will be developed and implemented in accordance with the Roads and Maritime Biodiversity Guidelines (Guide 1: Pre-clearing process) (RTA 2011) and include (but not be limited to) inspection of hollow trees prior to removal.
- Any unexpected threatened species finds will be managed in accordance with the Roads and Maritime Biodiversity Guidelines (RTA 2011).
- Fauna handling will be conducted in accordance with the Roads and Maritime Biodiversity Guidelines (Guide 9: Fauna handling) (RTA 2011). | Construction contractor, site ecologist/ environmental officer | Construction/ pre-construction |
<p>| 17  | Biodiversity/ weeds | Protocols for preventing or minimising the spread of noxious and environmental weeds will be developed and implemented in accordance with the Roads and Maritime Biodiversity Guidelines (Guide 6: Weed Management) (RTA 2011). | Construction contractor     | Construction/ pre-construction                                     |
| 18  | Biodiversity/ aquatic habitats | Protocols for minimising impacts on aquatic habitat will be developed and implemented in accordance with Roads and Maritime Biodiversity Guidelines (Guide 10: Aquatic habitats and riparian zones) (RTA 2011). This will also include relevant measures from the Office of Water Guidelines for Riparian Corridors on Waterfront Lands and Guidelines for Vegetation Management Plans. | Construction contractor     | Construction/ pre-construction                                     |</p>
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<tbody>
<tr>
<td>19</td>
<td>Biodiversity</td>
<td>Monitoring of nest boxes in accordance with <em>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</em> (RTA 2011).</td>
<td>Operation</td>
<td>Roads and Maritime</td>
</tr>
<tr>
<td>20</td>
<td>Aboriginal heritage</td>
<td>As part of the site induction, all workers will be advised of their obligations in relation to heritage under the <em>National Parks and Wildlife Act 1974</em> before construction begins and the guidelines to follow if unanticipated heritage items or deposits are located during construction.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>21</td>
<td>Aboriginal heritage</td>
<td>In the event of an unexpected find of an Aboriginal heritage item (or suspected item) work will cease in the affected area and the Roads and Maritime Environment Manager, Northern Region and the Roads and Maritime Aboriginal Cultural Heritage Officer, will be contacted for advice on how to proceed. The Roads and Maritime <em>Unexpected Archaeological Finds Procedure 2012</em> will be followed in the event a potential artefact is uncovered.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>22</td>
<td>Non-Aboriginal heritage</td>
<td>As part of the site induction, all workers will be advised of their obligations in relation to heritage before construction begins and the guidelines to follow if unanticipated heritage items or deposits are located during construction.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>23</td>
<td>Non-Aboriginal heritage</td>
<td>In the event of an unexpected find of an archaeological deposit (or suspected item) work will cease in the affected area and the Roads and Maritime Environment Officer will be contacted for advice on how to proceed. The Roads and Maritime <em>Unexpected Archaeological Finds Procedure 2012</em> will be followed in the event a potential artefact is uncovered.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>24</td>
<td>Noise and vibration</td>
<td>Development of a construction noise management sub-plan as part of the CEMP. The construction noise management plan will include the noise and vibration mitigation measures (i.e. environmental safeguards) outlined in this REF. It will also include the ‘additional noise mitigation measures’ outlined in Appendix E.</td>
<td>Contractor</td>
<td>Pre-construction</td>
</tr>
</tbody>
</table>
| 25  | Noise and vibration    | Site inductions - All employees, contractors and subcontractors are to receive an environmental induction. The induction must at least include:  
  - All project specific and relevant standard noise and vibration mitigation measures  
  - Relevant conditions of approval                                           | Contractor      | Construction  |
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<tr>
<td>26</td>
<td>Noise and vibration</td>
<td>Implement community consultation or notification measures - This may include notification detailing work activities, dates and hours, impacts and mitigation measures, indication of work schedule over the night time period, any operational noise benefits from the works (where applicable) and contact telephone number. Notification will be provided a minimum of seven calendar days prior to the start of the works.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>27</td>
<td>Noise and vibration</td>
<td>Verification - Noise monitoring is to be carried out in response to a noise complaint in accordance with the construction noise and vibration management plan and any approval conditions.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>28</td>
<td>Noise and vibration</td>
<td>Construction hours and scheduling - Where feasible and reasonable, construction should be carried out during the standard daytime working hours. Work generating high noise and/or vibration levels should be scheduled during less sensitive time periods.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
</tbody>
</table>
| 29  | Noise and vibration         | Construction respite period during normal hours and out-of-hours work. Depending on the timing, duration and intrusiveness of construction activities, one or a number of the following respite measures will be implemented:  
  - Respite Offers  
  - Respite Period 1  
  - Respite Period 2  
  - Duration Respite.  
  Refer to Appendix E for further details of the triggers and responses to be implemented for respite periods. | Contractor     | Construction |
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<tbody>
<tr>
<td>30</td>
<td>Noise and vibration</td>
<td>Equipment selection - Use quieter and less vibration emitting construction methods where feasible and reasonable. Ensure plant including the silencer is well maintained.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>31</td>
<td>Noise and vibration</td>
<td>Plan worksites and activities to minimise noise and vibration - Locate compounds away from sensitive receivers and discourage access from local roads.</td>
<td>Contractor</td>
<td>Construction</td>
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<td>Plan traffic flow, parking and loading areas to minimise reversing movements within the site.</td>
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<td></td>
<td>Where additional activities or plant may only result in a marginal noise increase and speed up works, consider limiting duration of impact by concentrating noise activities at one location and move to another as quickly as possible.</td>
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<td></td>
<td>Very noisy activities should be scheduled for normal working hours. If the work cannot be undertaken during the day, it should be completed before 11:00 pm. If programmed night work is postponed the work should be re-programmed following a similar approach.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Noise and vibration</td>
<td>Behavioural practices - No swearing or unnecessary shouting or loud stereos/radios on site.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No dropping of materials from height, throwing of metal items and slamming of doors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Noise and vibration</td>
<td>Plant noise levels - The noise levels of all plant and equipment (including rental equipment) must have operating sound power or sound pressure levels compliant with the criteria in Appendix F of the CNVG (Roads and Maritime 2016).</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Implement a noise monitoring audit program to ensure equipment remains within the more stringent of the manufacturer's specifications of Appendix H of the CNVG.</td>
<td></td>
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</tr>
<tr>
<td>34</td>
<td>Noise and vibration</td>
<td>Use and siting of plant - The offset distance between noisy plant and adjacent sensitive receivers is to be maximised where feasible. Plant used intermittently is to be throttled down or shut down.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
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<td>No.</td>
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<td>Environmental safeguards</td>
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<tr>
<td>35</td>
<td>Noise and vibration</td>
<td>35 Noise and vibration Non-tonal and ambient sensitive reversing alarms - Non-tonal reversing beepers must be fitted and used on all construction vehicles and mobile plant used on site and for any out of hours work. Consider the use of ambient sensitive alarms that adjust output relative to the ambient noise level.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>36</td>
<td>Noise and vibration</td>
<td>36 Noise and vibration Minimise disturbance arising from delivery goods to construction sites: • Loading and unloading of materials/deliveries will occur as far as possible from sensitive receivers • Site access points and roads will be selected as far as possible away from sensitive receivers • Dedicated loading/unloading areas to be shielded if close to sensitive receivers • Delivery vehicles to be fitted with straps rather than chains for unloading, wherever possible.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>37</td>
<td>Noise and vibration</td>
<td>37 Noise and vibration Shield stationary noise sources such as pumps, compressors, fans etc. - Stationary noise sources should be enclosed or shielded where feasible and reasonable whilst ensuring that the occupational health and safety of works is maintained.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>38</td>
<td>Noise and vibration</td>
<td>38 Noise and vibration Shield sensitive receivers from noise activities - Use structures to shield residential receivers from noise such as site shed placement, earth bunds, fencing and temporary noise screens.</td>
<td>Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>39</td>
<td>Traffic and access</td>
<td>39 Traffic and access Two lanes to be maintained on Oxley Highway as far as practicable during day works. Any day-time lane closures required should be limited to a maximum of 70 metres in length of single lane operation and should occur only outside peak periods (i.e. between 10:00 am and 3:00 pm).</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>40</td>
<td>Traffic and access</td>
<td>40 Traffic and access Construction vehicles including trucks not permitted to prop within traffic lane. Instead a</td>
<td>Construction</td>
<td>Construction</td>
</tr>
<tr>
<td>No.</td>
<td>Impact</td>
<td>Environmental safeguards</td>
<td>Responsibility</td>
<td>Timing</td>
</tr>
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<tr>
<td></td>
<td>access</td>
<td>U-turn or G-turn facility should be provided to allow turns into/out of construction sites.</td>
<td>contractor</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Traffic and access</td>
<td>Site accesses to be designed to comply with Roads and Maritime requirements and relevant Australian Standards including sight distance requirements.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>42</td>
<td>Hydrology and flooding</td>
<td>Flooding impacts will be reassessed following finalisation of construction and maintenance access requirements.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>43</td>
<td>Hydrology and flooding</td>
<td>Drainage systems will be designed to control outlet velocities. Scour protection devices will be incorporated at culvert outlets.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>44</td>
<td>Hydrology and flooding</td>
<td>Drainage systems will be designed to minimise velocities within drainage channels.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
</tr>
</tbody>
</table>
| 45  | Water quality                  | A soil and water management plan (SWMP) will be prepared as part of the CEMP in accordance with the requirements of Roads and Maritime contract specification G38 prior to the commencement of construction. The SWMP will address the following:  
  - Roads and Maritime Code of Practice for Water Management, the Roads and Maritime Erosion and Sedimentation Procedure  
<p>| 46  | Water quality                  | Erosion and sediment controls will be implemented before any construction starts and inspected regularly, particularly after a rainfall event. Maintenance work will be carried out as needed.                                      | Construction contractor | Construction                     |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
</table>
| 47  | Water quality           | The CEMP will include a contaminated land management sub-plan prepared in accordance with the *Contaminated Land Management Act 1997*, *Roads and Maritime Contaminated Land Management Guideline*, *Roads and Maritime Environmental Incident Classification and Reporting Procedure*, and EPA guidelines on contaminated land management. The contaminated land management sub-plan will provide for dealing with:  
  - Areas of potential contamination  
  - Unexpected contamination finds  
  - Any land contamination caused during construction.                                                                 | Construction contractor          | Pre-construction and construction |
<p>| 48  | Water quality           | In the event that indicators of contamination are encountered during construction (such as odours or visually contaminated materials), work in the area will cease until advice on the need for remediation or other action is obtained from the RMS Environment Officer. | Construction contractor          | Construction                  |
| 49  | Water quality           | Fully equipped emergency spill kits will be kept on-site at all times.                                                                                                                                                   | Construction contractor          | Construction                  |
| 50  | Groundwater             | Dewatering (groundwater and surface runoff collected within the works area) will be carried out in accordance with the <em>Roads and Maritime Technical Guideline for Dewatering</em>.                                                  | Construction contractor          | Construction                  |
| 51  | Groundwater             | In consultation with DPI water, a licence will be obtained if groundwater extraction of more than three mega litres per year (ML/yr) is required. Any requirement of this licence including monitoring will be completed.                             | Construction contractor          | Construction                  |
| 52  | Geology and Soils / acid sulfate soils | Should detailed design indicate that excavations may encounter ASS, further assessment will be carried out. This may include additional sampling and testing and if required and preparation of an ASS management plan. Any identified acid sulfate soils will be managed in accordance with the <em>Guidance for the Management of Acid Sulfate Materials</em> (RTA 2005). | Construction contractor / Roads and Maritime | Pre-construction              |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>Geology and soils / tannins</td>
<td>As part of the CEMP, measures for the management of mulch and tannin will be prepared in accordance with the Roads and Maritime Management of Tannins from Vegetation Mulch (2012).</td>
<td>Construction contractor / Roads and Maritime</td>
<td>Pre-construction</td>
</tr>
</tbody>
</table>
| 54  | Geology and soils        | Erosion and sediment control measures will be implemented and maintained in accordance with the Landcom Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book) to:  
- Prevent sediment moving off-site and sediment laden water entering any watercourse, drainage lines, 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.                                                                                     | Construction contractor       | Construction  |
<p>| 55  | Geology and soils        | Erosion and sediment controls will be implemented in accordance with the soil and water management plan before any construction starts and inspected regularly, particularly after a rainfall event. Maintenance work will be carried out as needed. | Construction contractor       | Construction  |
| 56  | Geology and soils        | Site stabilisation of disturbed areas will be undertaken progressively as stages are completed. Controls will not be removed until areas are stabilised.                                                                             | Construction contractor       | Construction  |
| 57  | Geology and soils        | All stockpiles will be designed, established, operated and decommissioned in accordance with Roads and Maritime Stockpile Site Management Guideline (Roads and Maritime, 2015). Controls will be implemented at exit points to minimise the tracking of soil and particulates onto pavement surfaces. Any material transported onto pavement surfaces will be swept and removed at the end of each working day. | Construction contractor       | Construction  |
| 58  | Geology and soils        | Mobile brush down/wash-down facilities will be used for vehicles and equipment, where required, to prevent soil tracking onto roads.                                                                                                           | Construction contractor       | Construction  |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>59</td>
<td>Geology and soils</td>
<td>Excess spoil not required or able to be used for backfilling will be stockpiled in a suitable locational before being reused or removed from the site, and disposed of appropriately in accordance with the NSW EPA Waste Classification Guidelines (2014).</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
</tbody>
</table>
| 60  | Geology and soils | The CEMP is to include contaminated land management procedures, which must comply with the CLM Act, Roads and Maritime Contaminated Land Management Guideline (2011), Roads and Maritime Environmental Incident Classification and Reporting Procedure, and relevant EPA guidelines on contaminated land management. The procedures will provide for dealing with:  
- Areas of known contamination (if any)  
- Unexpected contamination finds  
- Any land contamination caused during construction. | Construction contractor / Roads and Maritime | Pre-construction |
| 61  | Geology and soils | In the event that indicators of contamination are encountered during construction (such as odours or visually contaminated materials), work in the area will cease until advice on the need for remediation or other action is obtained from the Roads and Maritime Environment Officer. | Construction contractor | Construction |
| 62  | Landscape character and visual amenity | A limited range of materials, colours and textures will be developed for all built elements to achieve a simply uncluttered design. | Roads and Maritime | Detailed design |
| 63  | Landscape character and visual amenity | A detailed landscape plan will be prepared and implemented in accordance with the Roads and Maritime Landscape Guideline (RTA 2008). The plan will consider the following:  
- Planting either side of the proposal to screen built form and reduce the scale of the infrastructure  
- Planting fill embankments with low groundcovers/native grasses and groups of trees. Planting of pioneer species should be supplemented with locally endemic secondary and tertiary species to ensure long-term integration with the surrounding landscape.  
- Providing sufficient space and growth substrate along the tops of new cuttings to ensure the successful installation of screening planting. | Roads and Maritime | Detailed design |
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
</table>
|     |        | - Reinforcing the local rural landscape character through the use of appropriate vegetation  
|     |        | - Restoring areas disturbed by construction to match existing condition as far as possible  
|     |        | - Protecting and retaining riparian vegetation as far as possible  
|     |        | - Integrating road embankments with the adjacent landscape by grading out tops, bottoms and ends of cuttings  
|     |        | - Avoiding linear strip planting of trees and shrubs which will accentuate rather than integrate the proposal  
<p>|     |        | - Restoring a native vegetative cover over sections of the existing highway and intersection that will become redundant following the opening of the new highway alignment. | Construction contractor | Construction |
| 64  | Landscape character and visual amenity | Existing vegetation will be maintained and protected wherever possible. Trimming of trees rather than clearing will be carried out where possible. | Construction contractor | Construction |
| 65  | Landscape character and visual amenity | Compounds, storage areas, stockpiles and associated works areas will be located in cleared or disturbed areas as far as possible. The construction site will be kept tidy and rubbish free. Work areas will be restored progressively and maintained until established. The site will be rehabilitated and landscaped in accordance with an approved landscape plan. | Construction contractor | Construction |
| 66  | Landscape character and visual amenity | Temporary lighting for construction will be sited and designed to minimise light spill into residential properties and identified sensitive receptors. | Construction contractor | Construction |
| 67  | Socio-economic | Roads and Maritime will provide emergency access at all times along the roads and properties impacted by the construction of the proposal. | Roads and Maritime | Construction |
| 68  | Socio-economic | Roads and Maritime will provide safe pedestrian and vehicle access at all times along roads and properties affected by construction of the proposal. | Roads and Maritime | Construction |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>Socio-economic</td>
<td>Roads and Maritime will undertake regular and ongoing engagement with the property owners affected by property acquisition. All property acquisition will be carried out in accordance with the <em>Land Acquisition Information Guide</em> (Roads and Maritime, 2013) and the <em>Land Acquisition (Just Terms Compensation) Act 1991</em>.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>70</td>
<td>Socio-economic</td>
<td>Complaints received will be recorded and attended to promptly in accordance with the Community Involvement Practice Notes and Resource Manual. A complaints handling register will be included in the CEMP.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>71</td>
<td>Property and land use</td>
<td>Roads and Maritime will consult with potentially affected landholders before and during construction to minimise the potential for impacts on land use.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>72</td>
<td>Property and land use</td>
<td>Roads and Maritime will undertake regular and ongoing engagement with the property owners affected by property acquisition and severance and, alternative access arrangements will be provided where required to parts of land not required for construction activities.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>73</td>
<td>Property and land use</td>
<td>Roads and Maritime will maintain safe access to impacted properties along the Oxley Highway and Rawdon Island Road during construction. Any disruption to access and properties will be minimised and will only be carried out following consultation with individual property owners affected by the works.</td>
<td>Roads and Maritime</td>
<td>Construction</td>
</tr>
<tr>
<td>74</td>
<td>Property and land use</td>
<td>Roads and Maritime will consult with relevant service providers during detailed design to identify possible interactions and develop procedures to be implemented to minimise the potential for service interruptions which have the potential to impact on existing land use. Additional environmental approvals will be required for utility adjustments inconsistent with this REF.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
<tr>
<td>75</td>
<td>Property and land use</td>
<td>Roads and Maritime will consult with relevant reserve managers during detailed design to identify possible interactions and develop procedures to be implemented to minimise the potential for service interruptions which have the potential to impact on existing land use.</td>
<td>Roads and Maritime</td>
<td>Detailed design</td>
</tr>
</tbody>
</table>
### 4.3 Licensing and approvals

Table 4.2 summarises notifications, licences and approvals required for the proposal.

**Table 4.2: Summary of licensing and approval required**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Requirement</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads Act 1993</td>
<td>Road occupancy licence</td>
<td>Prior to commencement of construction</td>
</tr>
<tr>
<td>Water Management Act 2000</td>
<td>In consultation with DPI Water, a licence will be obtained if groundwater extraction of more than three megalitres per year (ML/yr) is required. Any requirement for this licence including monitoring will be completed.</td>
<td>During construction</td>
</tr>
<tr>
<td>Protection of the Environment Operations Act 1997</td>
<td>In consultation with NSW EPA, an Environment Protection Licence will be obtained if earthworks are expected to exceed 30,000 tonnes per annum. Any requirement of this licence, including monitoring, will be completed.</td>
<td>Prior to commencement of construction</td>
</tr>
<tr>
<td>Crown Lands Act 1989 or Crown Lands Management Act 2016</td>
<td>As a section of the proposed works is being carried out on Crown land. If the acquisition of this land is not finalised prior to the commencement of construction, Roads and Maritime may require a licence under the <em>Crown Lands Act 1989</em> or <em>Crown Lands Management Act 2016</em> (depending on timing). Consultation would be carried out with the Department of Industry – Crown Lands and Water to determine if a licence is required for the proposal.</td>
<td>Prior to commencement of construction</td>
</tr>
</tbody>
</table>
5 Next steps

Roads and Maritime is the determining authority for the REF.

Roads and Maritime will assess the proposal, including the submissions report, and make a determination.

Roads and Maritime will continue to communicate with community members, government agencies and other stakeholders during the construction phase of the proposal.
6 References


Appendix A

Community update letter
A review of environmental factors (REF) has been prepared to determine the environmental impact of the proposed improvements on the Oxley Highway. The findings of the REF will be used to inform the project’s detailed design and construction.

**Plants and animals**

The REF identifies potential impacts from the project to plants and animals. A number of measures are being developed to minimise these impacts, including:

- a connectivity strategy to minimise impacts to animal movements
- exploring the possibility of a revegetation program for feed tree species and species that would be used as habitat
- exploring the possibility of reusing some of the larger trees cleared for the project as habitat logs across the old road.

**Noise**

The findings of the noise modelling indicate the highway improvements will not result in increased noise levels once the new road is open to traffic, compared to what is already being experienced.

Noise levels during construction are expected to increase when carrying out various activities. The REF outlines a number of safeguards and management measures to limit noise where possible during construction.

**Construction**

During construction a range of measures will be in place to reduce the impact on the local community and the environment, particularly with working under traffic. These measures will be further developed during the detailed design stage.

---

**Oxley Highway improvements at Spencers Cutting**

Review of environmental factors – findings

---

**Spencers Cutting concept design**

The proposed improvements would result in a number of benefits, including:

- reduced maintenance costs
- improved transport efficiency
- increased road safety for all road users
- improved sight lines for traffic turning onto the highway.

The REF provides information drawn from a range of environmental and technical assessments completed this year.
The NSW Government is planning to improve the Oxley Highway between the Pacific Highway and Wauchope at Spencers Cutting. The community is invited to comment on the review of environmental factors and concept design by Friday 13 October 2017.

**Background**

The improvements on the Oxley Highway were identified as part of the Oxley Highway corridor strategy. The strategy recognised the worst section of the highway is located between the Pacific Highway and Wauchope. The project would improve safety by realigning the intersection with Rawdon Island Road and the creation of an east bound overtaking lane to address existing congestion along the corridor between Wauchope and Port Macquarie.

**Concept design**

The benefits of the project which assist in developing the concept design are:

- reduce maintenance costs
- improve transport efficiency
- increase road safety for all road users
- improve sight lines for traffic turning onto the highway.

The project team has been working closely with Port Macquarie Hastings Council during this process. We will continue to liaise with key stakeholders and the community as we refine the detailed design.

**Review of environmental factors**

A review of environmental factors (REF) has been prepared to determine the environmental impacts of the project. The findings of the REF will be used to inform the projects detailed design and construction.

**Next steps**

Feedback on the REF and concept design will be considered and a submissions report published. Once the project is approved Roads and Maritime will complete detailed design and prepare for construction.

**Community drop in sessions**

The project team will be available at two staffed ‘drop-in’ sessions to answer questions and receive feedback on the REF and concept design. There will be no formal presentations given so community members can visit at any time during the session.

**When:** 20 September 2017, between 3pm and 7pm and 21 September 2017, between 3pm and 7pm.

**Where:** Vickers Fudge Factory (in the carpark), Kings Creek Road, Sancrox and Senior Citizens Centre, main street, Wauchope.

**Have your say**

For more information or to provide feedback on the REF and concept design, please contact the project team by:

- 02 6640 1300
- oxleyhighway@rms.nsw.gov.au
- Oxley Highway, Spencers Cutting project team
- Roads and Maritime Services
- PO Box 576, Grafton, NSW 2460
12 September 2017

Address

Dear XX,

**Oxley Highway improvements at Spencers Cutting**

**Review of environmental factors (REF) and concept design**

**OWNER OF: Lot X DPXX, address**

Roads and Maritime Services is developing plans to improve safety on the Oxley Highway at Spencers Cutting.

The project will involve:
- building an eastbound overtaking lane between Spencers Cutting and to the west of Rawdon Island Road
- realigning the intersection with Rawdon Island Road
- widening the highway where necessary to provide 3.5 metre lanes and two metre shoulders.

**Display of the REF and concept design**

The REF and concept design for the project is now on display for public comment. The REF can be viewed on the Roads and Maritime website at rms.nsw.gov.au/spencerscutting or in person at the following locations:
- Port Macquarie-Hastings Council, 17 Burrawan Street, Port Macquarie
- Port Macquarie-Hastings Council, 49 High Street, Wauchope
- Port Macquarie Library, Grant Street
- Wauchope Library, 51 High Street, Wauchope
- Service NSW, 21/23 Central Road, Port Macquarie.
Project staff will also be available to discuss the project at:

- Vickers Fudge Factory (in the carpark area), Kings Creek Road, Sancrox between 3pm to 7pm on Wednesday, 20 September
- Senior Citizens Centre, main street, Wauchope between 3pm to 7pm on Thursday, 21 September

The REF and concept design will be on display for public comment until Friday, 13 October 2017.

**How can I make a submission?**

For more information or to provide feedback on the REF and concept design, please contact the project team by:

**P:** 02 6640 1300

**E:** oxleyhighway@rms.nsw.gov.au

**W:** www.rms.nsw.gov.au/spencerscutting

**Write to:**

Oxley Highway, Spencers Cutting project team
Roads and Maritime Services
PO Box 576
GRAFTON NSW 2460

**Submissions close on Friday 13 October 2017.**

**What happens next?**

Feedback on the REF and concept design will be considered and a submissions report published. Once the project is approved, Roads and Maritime will complete detailed design and prepare for construction.

If you would like to talk to the project team please contact 6640 1300 or email OxleyHighway@rms.nsw.gov.au.

Yours sincerely

Monica Sirol
A/Director, Northern Region
12 September 2017

Dear Sir / Madam

**Oxley Highway improvements at Spencers Cutting**

**Review of environmental factors (REF) and concept design**

Roads and Maritime Services is developing plans to improve safety on the Oxley Highway at Spencers Cutting.

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**P:** 02 6640 1300

**E:** oxleyhighway@rms.nsw.gov.au

**W:** www.rms.nsw.gov.au/spencercutting

**Write to:** Oxley Highway, Spencers Cutting project team

Roads and Maritime Services

PO Box 576

GRAFTON NSW 2460

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If you would like to talk to the project team please contact 6640 1300 or email OxleyHighway@rms.nsw.gov.au.

Yours sincerely

---

Monica Sirol
A/Director, Northern Region
Oxley Highway, Spencers Cutting

The review of environmental factors for the proposed improvements on the Oxley Highway at Spencers Cutting is now available on our website at rms.nsw.gov.au/projects (search Oxley Highway).

We encourage you to come to a staffed display to find out more about the project:

**Where:** Vickers Fudge Factory (in the carpark area), Kings Creek Road, Sancrox
**When:** 20 September 2017, 3pm to 7pm

**Where:** Senior Citizens Centre, main street, Wauchope
**When:** 21 September 2017, 3pm to 7pm

Our project team will be able to explain the review of environmental factors and the concept design, answer any questions and record your input.

There will be no formal presentation, please drop in at any time.

Please provide feedback by **13 October 2017**.

For more information contact 02 6640 1300, email oxleyhighway@rms.nsw.gov.au or visit the website http://www.rms.nsw.gov.au/projects (search Oxley Highway, Spencers Cutting)
Appendix B

Revised proposal site and construction compounds
Figure 3-1

Revised proposal site and construction compounds

LEGEND

Proposal site
Concept design - Stage 1 scope
Concept design - Stage 2 scope
Potential construction compound location
Cadastre

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