



Transport
for NSW

New Intercity Fleet Maintenance Facility Project

Submissions Report



Artist's impression of the new maintenance facility subject to detailed design.

Table of contents

Abbreviations.....	4
Executive summary	5
1 Introduction.....	7
1.1 New Intercity Fleet Maintenance Facility Project	7
1.2 EPBC Controlled Action.....	8
1.3 Purpose of this report.....	8
2 Community and stakeholder consultation.....	9
2.1 Documentation on public display	9
2.2 Public display locations	9
2.3 Project website and email address	9
2.4 Advertisements	10
2.5 Project information newsletter.....	10
2.6 Project information telephone line.....	10
2.7 Written submissions.....	10
3 Overview of submissions.....	11
3.1 Submission analysis process.....	11
3.2 Summary of issues	12
4 Response to community and stakeholder submissions.....	14
4.1 Biodiversity.....	14
4.2 Justification and need	31
4.3 Options development and site selection	33
4.4 Project description and design.....	38
4.5 Project construction	44
4.6 Planning and statutory requirements	45
4.7 Consultation and stakeholder engagement	47
4.8 Noise and vibration	51
4.9 Landscape and visual	64
4.10 Traffic, transport and access.....	67
4.11 Socio-economic	69
4.12 Hydrology, drainage and flooding	70
4.13 Groundwater	74
4.14 Land use and property	75
4.15 Air quality	77
4.16 Bushfire.....	79
4.17 Hazards and risks	80
4.18 Utilities and services	84
4.19 Out of scope issues	84
5 Response to Government agencies and representative submissions.....	86
5.1 Central Coast Council	86
5.2 State Member of Parliament for The Entrance	88
6 Conclusion.....	91
7 References	92
Appendix A Key issue and sub-issue categories.....	93
Appendix B Maintenance facility operational noise results.....	96

List of figures

Figure 4.1 Areas of vegetation proposed to be retained	23
--	----

List of tables

Table 3.1 Summary of sub-issues from top four key issues.....	13
Table 4.1 Summary of proposed vegetation to be retained as part of the Project	22
Table 4.2 Items raised regarding the Species Impact Statement methodology	26
Table 4.3 Estimated earthwork quantities	39
Table 4.4 Summary of sub-issues from the topics three key issues in community submissions.....	52
Table 5.1 Comments raised by Central Coast Council.....	86
Table 5.2 Comments raised by the State Member of Parliament for The Entrance	88

Abbreviations

Term	Meaning
AEP	Annual exceedance probability
BASL	Biophysical Strategic Agricultural Land
CEMP	Construction environmental management plan
CTMP	Construction traffic management plan
Central Coast Council	Central Coast Council refers to the newly created Council consisting of the former Gosford and Wyong Shire Councils following commencement of the NSW Council amalgamations on 12 May 2016
CNS	<i>Construction Noise Strategy</i> (Transport for NSW, 2016)
CNVMP	Construction noise and vibration management plan
DoEE	Department of the Environment and Energy (Commonwealth)
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EPA	(NSW) Environment Protection Authority
EP&A Act	(NSW) <i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	(Commonwealth) <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environmental Protection Licence
ESCP	Erosion and sediment control plan
Infrastructure SEPP	(NSW) <i>State Environmental Planning Policy (Infrastructure) 2007</i>
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MCA	Multi criteria analysis
MNES	Matter of National Environmental Significance
NIF	The New Intercity Fleet (NIF) is a new fleet of modern trains set to replace the existing intercity fleet and is intended to service the Central Coast and Newcastle, the Blue Mountains and the South Coast Lines
OEH	(NSW) Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
REF	Review of Environmental Factors
RMS	Roads and Maritime Services
SIS	Species Impact Statement
TSC Act	(NSW) <i>Threatened Species Conservation Act 1995</i>

Executive summary

New Intercity Fleet Maintenance Facility Project

The NSW Government is delivering a New Intercity Fleet to replace the trains carrying customers from Sydney to the Central Coast, Newcastle, the Blue Mountains and the South Coast. Subject to planning approval, a new purpose-built train maintenance facility will be built at Kangy Angy on the Central Coast to service and maintain the new fleet. A contract for the supply and maintenance of the new trains has been awarded, with delivery of the first train expected in 2019.

A referral was submitted to the Commonwealth Department of the Environment and Energy (DoEE) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) due to potential significant impacts to Matters of National Environmental Significance (MNES).

Following review of the referral, DoEE advised Transport for NSW that it considers the proposed project at Kangy Angy to be a 'controlled action' due to the potential impacts to the Critically Endangered Regent Honeyeater and Swift Parrot listed under the EPBC Act.

DoEE has advised Transport for NSW that the proposed action is to be assessed by the 'preliminary documentation' method. As part of this process, a number of EPBC assessment documents have been prepared and were placed on public display between 21 October 2016 and 21 November 2016.

Overview of submissions

Transport for NSW received a total of 62 submissions during the public display of the EPBC documentation. Of these submissions, two were received from Government agencies/representatives and three were provided on behalf of community groups. The remaining submissions were received from individual members of the community and/or businesses.

The top three issues raised in the submissions were:

1. options development and site selection
2. biodiversity
3. hydrology, drainage and flooding.

Purpose of this report

This EPBC Submissions Report has been prepared in accordance with Section 95B of the EPBC Act to address the submissions received as part of the public display of the EPBC documentation. This report:

- summarises comments and issues raised in the submissions; and
- provides a response as to how these issues have been addressed.

Conclusion

Transport for NSW received a total of 62 submissions during the public display of the EPBC documentation.

This EPBC Submissions Report has documented the issues identified in these submissions and outlines Transport for NSW's responses to the issues. A substantial proportion of submissions were concerned about options development and site selection, biodiversity, hydrology drainage and flooding and noise and vibration.

This report has been issued to DoEE for their consideration in providing their decision on the Project, under the requirements of the EPBC Act.

1 Introduction

This chapter describes the background and key features of the New Intercity Fleet Maintenance Facility Project and an overview of the approvals process.

1.1 New Intercity Fleet Maintenance Facility Project

The NSW Government is delivering a New Intercity Fleet to replace the trains carrying customers from Sydney to the Central Coast, Newcastle, the Blue Mountains and the South Coast. Subject to planning approval, a new purpose-built train maintenance facility will be built at Kangy Angy on the Central Coast to service and maintain the new fleet. A contract for the supply and maintenance of the new trains has been awarded, with delivery of the first train expected in 2019.

The proposed New Intercity Fleet Maintenance Facility would include about six kilometres of electrified railway (in total), would be seven tracks wide at its widest point, would cover an area of approximately 500,000 square metres and would be bounded by a perimeter fence. The key features of the proposed maintenance facility would comprise:

- maintenance facility elements:
 - fleet maintenance building
 - four enclosed maintenance roads (tracks for undertaking maintenance on the train sets) and three external standing roads (tracks for holding trains within the maintenance facility) to accommodate the new trains within the site
 - auxiliary workshops
 - electronic clean room (to undertake testing and cleaning of electronic train components)
 - material storage, including flammable liquid storage
 - wheel lathe
 - automatic train wash
 - site access roads
- miscellaneous buildings:
 - administration (including training rooms)
 - facilities for presentation and train maintenance staff
 - signalling building
 - security
 - mobile train simulator
 - substation building
 - power supply (traction power, bulk power, signalling power supply and backup generators)
- other infrastructure including:
 - new railway track infrastructure on the western side of the existing rail corridor to allow trains to enter and exit the maintenance facility site from the Main North Line

- a new rail bridge (consisting of two separate structures) over Chittaway Creek and Turpentine Road
- a new access roadway and bridge to the maintenance facility site off Enterprise Drive
- a new flood access road between Orchard Road and the proposed new access roadway
- a series of drainage detention basins
- staff car park
- relocation of the existing high voltage power transmission line and combined services route.

1.2 EPBC Controlled Action

A referral was also submitted to the Commonwealth Department of the Environment and Energy (DoEE) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) due to potential significant impacts to Matters of National Environmental Significance (MNES).

Following review of the referral, DoEE has advised Transport for NSW that it considers the proposed facility at Kangy Angy to be a 'controlled action' due to the potential impacts to the Critically Endangered Regent Honeyeater and Swift Parrot listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). As such, approval is required from the Federal Minister for the Environment and Energy under the EPBC Act, in addition to the project approval required under Part 5 of the EP&A Act.

DoEE has advised Transport for NSW that the proposed action is to be assessed by the 'preliminary documentation' method.

1.3 Purpose of this report

This EPBC Submissions Report has been prepared in accordance with section 95B of the EPBC Act to address the submissions received as part of the public display of the EPBC documentation. This report:

- Summarises comments and issues raised in the submissions; and
- Provides a response as to how these issues have been addressed.

2 Community and stakeholder consultation

This chapter outlines the community and stakeholder consultation undertaken during the EPBC public display period.

2.1 Documentation on public display

DoEE requested the following 'preliminary documentation' be placed on public display (for no less than 15 business days) for the EPBC controlled action assessment:

- New Intercity Fleet Maintenance Facility EPBC Act Referral
- Transport for NSW Additional Information Response
- New Intercity Fleet Maintenance Facility Species Impact Statement
- New Intercity Fleet Maintenance Facility SIS and REF Addendum.

The EPBC documentation listed above was placed on public display between 21 October 2016 and 21 November 2016. More information on the display locations and website details are provided below.

2.2 Public display locations

Hard copies of EPBC documentation were made available during the public display period at the following locations:

- NSW Office of Environment and Heritage – Level 14, 59 Goulburn Street, Sydney
- Transport for NSW – Level 5, Tower A, Zenith Centre, 821 Pacific Highway, Chatswood
- NSW Department of Planning and Environment – Level 22, 320 Pitt Street, Sydney
- Central Coast Council – 49 Mann Street, Gosford
- Central Coast Council – 2 Hely Street, Wyong
- Tuggerah Library and Council Services – 50 Wyong Road, Tuggerah
- Nature Conservation Council – Level 14, 338 Pitt Street, Sydney
- Total Environment Centre – Level 1, 99 Devonshire Street, Surry Hills.

2.3 Project website and email address

Project information, including the EPBC documentation, was also made available through the [Transport for NSW website](http://www.transport.nsw.gov.au/projects)¹. Enquiries and requests were made and responded to via the [Transport for NSW email address](mailto:projects@transport.nsw.gov.au)², and the Project Infoline 1800 684 490.

¹ www.transport.nsw.gov.au/projects

² projects@transport.nsw.gov.au

2.4 Advertisements

Advertisements were placed in the following newspapers to notify the community of details of the public display of the EPBC documentation, including the display locations to view the documentation and the duration of the public display:

- Central Coast Express Advocate – 19 October 2016
- Sydney Morning Herald – 19 October 2016
- Daily Telegraph – 19 October 2016.

2.5 Project information newsletter

On 20 October 2016 a community notification was distributed to approximately 2,100 residents, businesses and stakeholders, in the area surrounding the proposed maintenance facility. The community notification provided the following information:

- details of the proposed New Intercity Fleet Maintenance Facility Project and an overview of the EPBC public display process
- the locations where hard copies of the EPBC documentation were displayed
- next steps following the public display period
- contact details for further information.

The community notification was also available on the Transport for NSW website.

2.6 Project information telephone line

The Project Infoline (1800 684 490) was available for enquiries on the Project throughout the display period. The public were able to make enquiries, speak with the project team directly, request further information and/or provide feedback on any issues relating to the Project.

2.7 Written submissions

Written submissions on the EPBC documentation were encouraged throughout the display period. All submissions received during the display period up to 21 November 2016 were considered as formal submissions and have been responded to in this EPBC Submissions Report.

Where contact information was provided, all submissions received were acknowledged by an email.

3 Overview of submissions

This chapter provides an overview of the process that was used to analyse the issues raised in the submissions to the public display of EPBC documentation.

3.1 Submission analysis process

3.1.1 Receipt of submissions

EPBC submissions were received via mail and the [Project email address](mailto:projects@transport.nsw.gov.au)³. Of the 62 submissions received, two were received from Government agencies/representatives, three were provided on behalf of community groups. The remaining submissions were from individual members of the community and/or businesses.

3.1.2 Handling of submissions

Community submissions were considered separately to submissions received from Government agencies and representatives.

The content of each submission was reviewed and categorised according to their key issues (e.g. biodiversity) and sub-issues raised (e.g. assessment methodology – general survey undertaken). A summary of the key issues raised in the submissions is provided in Appendix A.

3.1.3 Response to submissions

Issues raised in the submissions were grouped together based on their assigned key and sub-issue categories. Each issue is presented as a summary of the specific issues raised by the individual submission meaning that, while the exact wording of a particularly submission may not be presented in the summary of the issues the intent of each individual issue raised has been captured.

Each submission received has been allocated an identification (ID) number (e.g. 133) and the submitter will be provided with their unique ID number when this EPBC Submissions Report is published.

It should be noted that the REF (and other supporting technical reports) were previously placed on public display from 6 June 2016 to 4 July 2016 and the SIS from 7 June to 8 July 2016. 132 submissions were received during that time and are being addressed as part of a separate Submissions Report being prepared by Transport for NSW.

The submissions received during the public display period of EPBC documentation from 21 October 2016 to 21 November 2016 have therefore been assigned ID numbers from 133 to 194 and are the subject of this report.

³ projects@transport.nsw.gov.au

3.2 Summary of issues

A total of 19 key issues were identified by respondents:

- biodiversity
- justification and need
- options development and site selection
- Project description and design
- Project construction
- planning and statutory requirements
- consultation and stakeholder engagement
- noise and vibration
- landscape and visual
- traffic, transport and access
- socio-economic
- hydrology, drainage and flooding
- groundwater
- land use and property
- air quality
- bushfire
- hazards and risks
- utilities and services
- issues out of scope (i.e. issues not related to the project).

The top three issues raised in submissions were:

- options development and site selection
- biodiversity
- hydrology, drainage and flooding.

Each of these issues were classified into a series of sub-issues to further identify the specific concerns raised (refer Table 3.1). Within the submissions received, a total of 89 separate sub-issue categories were identified by respondents.

Table 3.1 Summary of sub-issues from the top four key issues

Key issue category	Breakdown of sub-issues	No. of submissions raising sub-issue
Options development and site selection (49 submissions)	• Opposition to preferred site	28
	• Community preference for Warnervale	15
	• Community preference for Bushells Ridge	3
	• Site selection options process	32
	• Site relocation recommendation	7
	• Support for the Project	1
Biodiversity (47 submissions)	• Assessment methodology – Orchid study surveys	2
	• Assessment methodology – General survey undertaken	8
	• Adequacy of assessment	4
	• Classification of vegetation	4
	• Consistency between assessments	4
	• Impacts to biodiversity – general	27
	• Impact to newly described frog	24
	• Impacts to threatened species	45
	• Impact to wildlife corridor	4
	• Vegetation clearance	9
	• Offset provisions	4
	• Cumulative biodiversity impacts	4
	• Subject site definitions for the SIS	3
	• Assessment methodology for the SIS	4
• Adequacy of assessment for the SIS	13	
Hydrology, drainage and flooding (38 submissions)	• Adequacy of hydrology, drainage and flooding assessment	11
	• Change to flooding flow regime	17
	• Site flooding impacts	17
	• Flood modelling	5
	• Water quality and pollution to local waterways	16
	• Management and mitigation measures	3

4 Response to community and stakeholder submissions

This chapter details the issues raised in the community and stakeholder submissions received during the public display of the EPBC documentation, along with submissions made by Government agencies and representatives.

The structure of this chapter has been ordered so that biodiversity issues are addressed first, followed by a range of other issues which are presented in the same order as was documented in the REF.

For each issue (or sub-issue) raised, a summary of the issue is presented, followed by a list of the relevant submission numbers and Transport for NSW's response. It should be noted that some respondents re-submitted the same or similar submissions to those provided during the public display of the REF and so raise issues not solely addressed in the EPBC documentation. Transport for NSW is also in the process of preparing a separate Submissions Report to address all of the issues raised during public display period for the REF and display periods for the SIS. This report would be made publically available following determination of the project, which is expected in early 2017.

4.1 Biodiversity

4.1.1 Assessment methodology – Orchid study surveys

Summary of issues raised

The respondents questioned why the Australian Government draft guidelines for threatened orchid species had not been conducted.

Submission number(s)

162, 183

Response

Surveys for threatened flora species including orchids have been conducted in accordance with the recent NSW Guide to Surveying Threatened Plants (Office of Environment and Heritage 2016). These methods included targeted Random Meanders, in accordance with Cropper (1993), which is a variation of the Transect survey. One species of orchid, *Calandenia tesalata* listed in the Australian Government Draft Guidelines for threatened orchids was considered to have low likelihood of occurring within the site, however was included within the subject species for targeted surveys. Surveys were conducted generally in accordance with the methods, approach and timing for this species, as recommend within the Australian Government Draft Guidelines.

4.1.2 Assessment methodology – General survey undertaken

Summary of issues raised

Submissions raised objection to the adequacy of the general survey effort undertaken as part of the *Biodiversity Assessment Report* (Appendix A of the REF). The submissions noted that the period of time over which the survey for the flora and fauna species completed was not long enough (therefore missing some potential species that were not present during the survey period) and did not meet required

guidelines and standard survey methods. Specific species which were highlighted in the submissions included the Regent Honeyeater, Swift Parrot, Green-thighed Frog and Golden Bell Frog.

Submission number(s)

150, 160, 162, 169, 173, 181D, 183, 193

Response

The SIS has been prepared in consultation with OEH, including suitable survey methods and expert reports in accordance with guidelines for all subject species. Assessments of significance for all affected species have been undertaken in accordance with Section 5A of the EP&A Act. The SIS was completed by experienced professionals with ecological expertise in accordance with all relevant environmental, legislation and, in particular, the Chief Executive Requirements which were prepared by the NSW OEH, identifying all information requirements that the SIS were required to meet.

During field surveys, no sampling technique can totally eliminate the possibility that a species is present within a particular site. For example, some fauna species use habitats on a sporadic or seasonal basis and may not be present on site during the time in which field surveys are undertaken. The conclusions in the REF and biodiversity assessment are based on data acquired from the site and field surveys and are therefore indicative of the environmental condition of the site at the time of preparing the report. This includes the presence of species. A precautionary approach was taken in completing the biodiversity assessment and it was assumed that the species was present if suitable habitat was observed.

Furthermore, where potential habitat for a threatened species is observed within a project area and the species is not recorded during field surveys, the threatened species is assumed to be present based on the availability of habitat.

Targeted seasonal surveys were completed for blossom nomad bird species, including Swift Parrot, Regent Honeyeater and Little Lorikeet on 20 May 2016; targeting patches of Swamp Mahogany blossom. Whilst not detailed in the *Biodiversity Assessment Report*, targeted blossom nomad surveys were completed as part of the SIS process.

Although, the Swift Parrot and Regent Honeyeater were not recorded in the study area during targeted searches, these species were considered 'affected species' under the SIS, due to the presence of potential habitat. Accordingly, the Swift Parrot and Regent Honeyeater were assessed against project related impacts based on their potential presence within the Project study area.

Additionally, targeted surveys for the blossom nomads (including the Regent Honeyeater and Swift Parrot) were undertaken in accordance with the National Regent Honeyeater and Swift Parrot annual census, and more specifically when the potential feed resources for these species, Swamp Mahogany were in flower on the site.

The SIS acknowledges that surveys were outside of optimal conditions for the Green Thighed frog and as such engaged one of NSW's leading amphibian experts, Dr Arthur White (Biosphere Environmental Consultants) to prepare an expert report on the likelihood of the species (and the Green and Golden Bell frog) being present within the study area. This was undertaken in consultation with OEH and the approved methodology for expert reports for the SIS and NSW Biobanking Methodology.

The expert report identified potential habitat for the Green Thighed frog in a small area along the Chittaway creek, however goes on to state “The Green-Thighed frog habitat at Kangy Angy is of low quality. Its quality is diminished because of the removal of so much vegetation away from the riparian edges.” The expert report further concludes “that the likelihood of Green-Thighed frogs being present in the project area is low.” Based on the small area, poor condition and low likelihood of occurrence provided by the expert, this species was not considered further as an affected species.

The expert report also stated that the only Green and Golden Bell frog habitat found on site consisted of a small depression that could act as a breeding site under optimal conditions. Additionally the report noted that given the scarcity of habitat and that potential breeding site is surrounded by unfavourable habitat there is “little likelihood that the Green and Golden Bell frogs are present in the project area”.

4.1.3 Adequacy of assessment

Summary of issues raised

Submissions expressed concern that the *Biodiversity Assessment Report* (Appendix A of the REF) did not adequately assess the impacts associated with the Project. Specifically, the submissions noted that the assessment did not identify certain species and did not assess the impacts of the Project on areas of retained vegetation adjacent to the Project site.

Some submissions also stated that the *Biodiversity Assessment Report* did not assess the significance of the Project with respect to threatened species and EECs in accordance with relevant legislative requirements and guidelines including:

- Section 5A of the EP&A Act
- Office of Environment and Heritage's (OEH) *Threatened Species Assessment Guidelines* and *NSW Wetlands Policy*
- *Significant Impact Guidelines for Matters of National Environmental Significance* as required under the EPBC Act.

Submission number(s)

160, 162, 169, 173

Response

Detailed impact assessments addressing Section 5A of the EP&A Act and OEH guidelines were completed for the Project. These were included in Chapter 8 of the SIS which accompanied the preparation and display of the REF from 6 June to 4 July, 2016 and again as part of the public display of EPBC documentation from 21 October to 21 November 2016.

With respect to the Matters of National Environmental Significance (MNES) under the EPBC Act, a referral of the Project was submitted to the Department of the Environment and Energy (DoEE) for the Minister's consideration in March 2016. DoEE has since determined that the Project is to be considered as a controlled action. Transport for NSW has prepared a number of documents to support the assessment of the Project under the EPBC Act which were placed on public display from 21 October 2016 to 21 November 2016.

4.1.4 Classification of vegetation

Summary of issues raised

Submissions questioned the classification of two vegetation types identified in the biodiversity assessments prepared as part of the environmental documentation. These included the following:

- the Jackwood-Lilly Pilly Sassafras Rainforest Community identified within the site is considered by the respondent to be commensurate with the River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions
- the Blackbutt-Turpentine-Sydney Blue Gum mesic Tall Open forest vegetation community is described as containing species characteristic of the Swamp Sclerophyll Forest on Coastal Floodplain EEC. Intergrade areas containing these species should be included and assessed for impacts as areas of Swamp Sclerophyll Forest on Coastal Floodplain.

Submission number(s)

160, 162, 169, 173

Response

The Jackwood-Lilly Pilly Sassafras Rainforest community is associated with the standardised NSW Vegetation Class – Northern Warm Temperate Rainforests and is aligned to the Rainforest vegetation formation. In contrast, River-flat Eucalypt Forest is typically of open forest structure with a mixed eucalypt canopy and generally forms part of the Forested Wetlands vegetation class. Detailed threatened ecological community analysis was provided for the Jackwood-Lilly Pilly Sassafras Rainforest community in Section 4.1.2 of the *Biodiversity Assessment Report* (Appendix A of the REF) and Table 6.1 of the SIS. Based on this analysis, this community is not considered to be commensurate with the final determination listing for River-flat Eucalypt Forest.

The Blackbutt-Turpentine-Sydney Blue Gum mesic Tall Open forest vegetation community occurs on slightly higher elevations to Swamp Sclerophyll Forest and is a commonly observed vegetation assemblage that intergrades with lower lying coastal floodplain vegetation throughout the locality. *Eucalyptus pilularis* (Blackbutt) is the dominant tree species and is not a recognised Swamp Sclerophyll Forest diagnostic species. Further detailed analysis of this vegetation community, including its conservation significance, was provided in Section 3.2.3 of the *Biodiversity Assessment Report* (Appendix A of the REF) and Section 4.3.1.1 of the SIS. Based on this analysis, this community was not considered to be consistent with the final determination listing for Swamp Sclerophyll Forest.

4.1.5 Consistency between assessments

Summary of issues raised

Submissions raised concern about perceived inconsistencies between the REF and the SIS in relation to the plans, study area, subject site and impacted area.

Submission number(s)

160, 162, 169, 173

Response

Figure 1.1 of the *Biodiversity Assessment Report* (Appendix A of the REF), Figure 2.2 of the SIS and Figure 7.3 of the REF all consistently depict the vegetation removal and retention within the Project study area. Both the *Biodiversity Assessment Report* and the SIS are considered to provide an accurate and consistent assessment of the Project's impact on biodiversity across all of the environmental assessment documentation prepared.

4.1.6 Impacts to biodiversity – General

Summary of issues raised

A number of submissions identified concern regarding the general impacts that the Project would have on the ecological nature of the site and the potential impacts that this would have on surrounding areas.

Submission number(s)

138, 139, 140, 141, 142, 144A, 147, 148, 151, 153, 155, 156, 157, 162, 163, 164, 166, 167, 172, 177, 179, 186, 187, 188, 191, 193, 194

Response

Transport for NSW is committed to minimising biodiversity impacts as part of the delivery of the Project.

It is acknowledged that the Project would result in some impacts to biodiversity, in particular during the construction phase. In order to identify and assess the potential impact of the Project on existing biodiversity, a *Biodiversity Assessment Report* and a SIS were prepared. These reports provided information about the existing ecological nature of the site and identified the potential impacts that the Project would have on these areas.

Additionally, as part of these reports, a series of management and mitigation measures were identified which would be implemented during the detailed design, construction and operational phases of the Project in order to minimise impacts. These measures include requirements to minimise overall areas of impact during detailed design, development of a vegetation management plan, pre-clearing and construction protocols for the relocation of fauna during construction and a range of other mitigation measures.

In addition, a detailed Biodiversity Offset Strategy for the Project is proposed to be prepared which will be fully developed in accordance with the *NSW Biodiversity Offset Policy* and delivered using the BioBanking assessment methodology as part of the detailed design of the Project.

4.1.7 Impact to newly described frog

Summary of issues raised

Submissions expressed concern regarding the potential impacts that the Project would have on the newly described frog which had been recorded as part of the field investigations undertaken. A number of the submissions stated that due to the identification of the newly described frog, the REF and SIS could not have fully determined the impacts of the Project and whether the activity will have a significant

impact on the species, therefore potentially requiring an EIS. The submissions also noted that additional time should be allocated to allow for a full assessment of the frog species (including an assessment by the NSW Scientific Committee) to be undertaken prior to making a determination regarding the Project.

Submission number(s)

143, 144A, 144B, 146, 150, 153, 155, 158, 159, 162, 165, 167, 169, 172, 177, 179, 181D, 183, 186, 188, 191, 193

Response

On 4 November 2016, a scientific paper was published which provided a taxonomic name and classification of the previously unidentified frog species recorded in the SIS. This frog has been classified as *Uperoleia mahonyi* (or Mahony's Toadlet). At the time of preparing this report, this species has not been provisionally listed with a threatened status under the *Threatened Species Conservation Act 1995* (TSC Act).

Biodiversity assessments are variously guided (dependent on the project status) by local, State and Federal environmental legislative requirements. A consequence of this is that impact assessment of certain species is subject to consideration of project related impacts to species that are listed under the TSC Act and/or the EPBC Act at the time that a project is submitted for approval (such as the 7-part test of significance under the EP&A Act of the consideration of the Significant Impact Guidelines 1.1 under and the EPBC Act). This includes those species that are listed under preliminary or provisional determinations for listing as a threatened species.

The assessment of the species identified as potentially being impacted by the Project, was based on the relevant species identified by current State and Federal legislative requirements. Therefore, it is considered that the REF and SIS have adequately considered all Project related impacts to threatened species listed under NSW and Commonwealth legislation at the time of preparation of these documents.

With respect to the need for additional assessment by the NSW Scientific Committee, Transport for NSW is not in a position to comment on the requirement for full assessment of the Mahony's Toadlet, inclusive of the potential for it to be assessed as a threatened species by this committee.

4.1.8 Impact to threatened species

Summary of issues raised

A number of submissions expressed concern regarding the potential for the Project to impact on threatened and endangered species (including both flora and fauna species) which have been recorded or are considered to potentially be located within the Project site and the removal of their habitat.

Specific species identified in submissions included Swamp Mahogany – Cabbage Palm Swamp Forest, *Melaleuca biconvexa*, the Regent Honeyeater, the Swift Parrot, the Wyong Sun Orchid, the Powerful Owl and the Wallum Froglet.

Submission number(s)

134, 137, 139, 140, 141, 142, 143, 144B, 146, 147, 148, 150, 153, 154, 155, 156, 157, 159, 160, 163, 164, 165, 166, 167, 168, 169, 170, 172, 173, 175, 177, 178, 179, 183, 186, 188, 191, 193, 194

Response

As part of preliminary ecological investigations it was identified that the Project was likely to lead to a significant impact on the threatened flora species *Melaleuca biconvexa* and the threatened ecological community listed as Swamp Sclerophyll Forest on Coastal Floodplain. Given this, a detailed SIS was prepared for the Project.

The SIS was prepared in accordance with the OEH Chief Executive Requirements and included consideration of all potential threatened species that were assessed as likely to utilise the study area. The SIS included the preparation of assessments of significance for 13 different flora and fauna species listed under the TSC Act, including for the Regent Honey-eater, Swift Parrot and Powerful Owl (the Wyong Sun Orchid and Wallum Froglet did not require such assessments as they were considered to have a low/moderate likelihood of occurrence).

With the exception of the potential impacts to Swamp Sclerophyll Forest, these assessments concluded that, with the implementation of the various management and mitigation measures proposed, the impact of the Project on threatened species would be unlikely to result in a significant impact to the identified threatened species or ecological communities.

With respect to the Swamp Sclerophyll Forest impacts, in order to minimise these potential impacts, the Project is committed to the delivery of a comprehensive biodiversity offset package that will include in perpetuity conservation and management of Swamp Sclerophyll Forest, with the objective of having these offsets being sourced from the local occurrence (refer to Section 4.1.10 of this Submissions Report for further details).

Notwithstanding the conclusions of the assessments and proposed biodiversity offsets for the impacts to Swamp Sclerophyll Forest, ongoing detailed design of the Project would seek to further refine the Project design and overall footprint in order to reduce the overall potential for impacts to threatened species within the Project site.

4.1.9 Impact to wildlife corridor

Summary of issues raised

Submissions raised concern about the potential impacts on the existing 'wildlife corridor' which crosses the Project site.

Submission number(s)

141, 146, 156, 188

Response

As described in the *Biodiversity Assessment Report* and the SIS, the Project would occur within a discontinuous regional wildlife corridor. As much of the study area and associated lands is characterised by floodplain topography perched above Bangalow Creek and Ourimbah Creek, land immediately adjacent is currently already fragmented due to historical clearing for rural residential land holdings. This has created a mosaic of smaller, fragmented patches of habitat on flat alluvial valleys leading to forested foothills and ranges.

Although the Project site is surrounded by cleared and managed rural residential tenures, construction and operation of the Project was noted as resulting in adding incrementally to the fragmentation of habitat in an approximate north–south alignment from the coastal range south of the existing rail corridor to riparian habitat associated with Ourimbah Creek in the north. The assessment also noted that the existing rail corridor may already act as a barrier in the landscape to less mobile species of

animals, in which case the Project would only add incrementally to the width of an existing barrier.

Additionally, while the removal of the proposed areas of vegetation was noted as increasing some fragmentation in the local area, it was also assessed to be unlikely to exacerbate fragmentation at the regional scale.

4.1.10 Vegetation clearance

Summary of issues raised

Submissions raised concern regarding the overall amount of vegetation required to be removed to allow for the development of the Project. In particular, concern was expressed for the removal of large areas of *Melaleuca Biconvexa* trees and sections of Swamp Sclerophyll Forest.

Submission number(s)

140, 142, 143, 144B, 146, 160, 163, 182

Response

As part of preliminary ecological investigations it was identified that the Project was likely to lead to a significant impact on the threatened flora species *Melaleuca biconvexa* and the threatened ecological community listed as Swamp Sclerophyll Forest on Coastal Floodplain. However, the Project is committed to minimising the potential impacts of the Project on vegetation during detailed design. As noted in management and mitigation measure A.1 in the REF, opportunities to further reduce the clearing of native vegetation would be investigated during detailed design.

This would include options such as:

- potential reduction of the construction impact footprint through refinement of the construction methodology
- potential relocation of Project elements away from substantial vegetation patches
- identification of alternative construction methodologies which do not require the removal of vegetation.

As described in Section 4.1.11, the Project is committed to the delivery of a comprehensive biodiversity offset package that will include, in perpetuity conservation and management, in excess of 50,000 *Melaleuca biconvexa* species credits and 170 hectares of Swamp Sclerophyll Forest habitat, with the objective of having these offsets sourced from the local population.

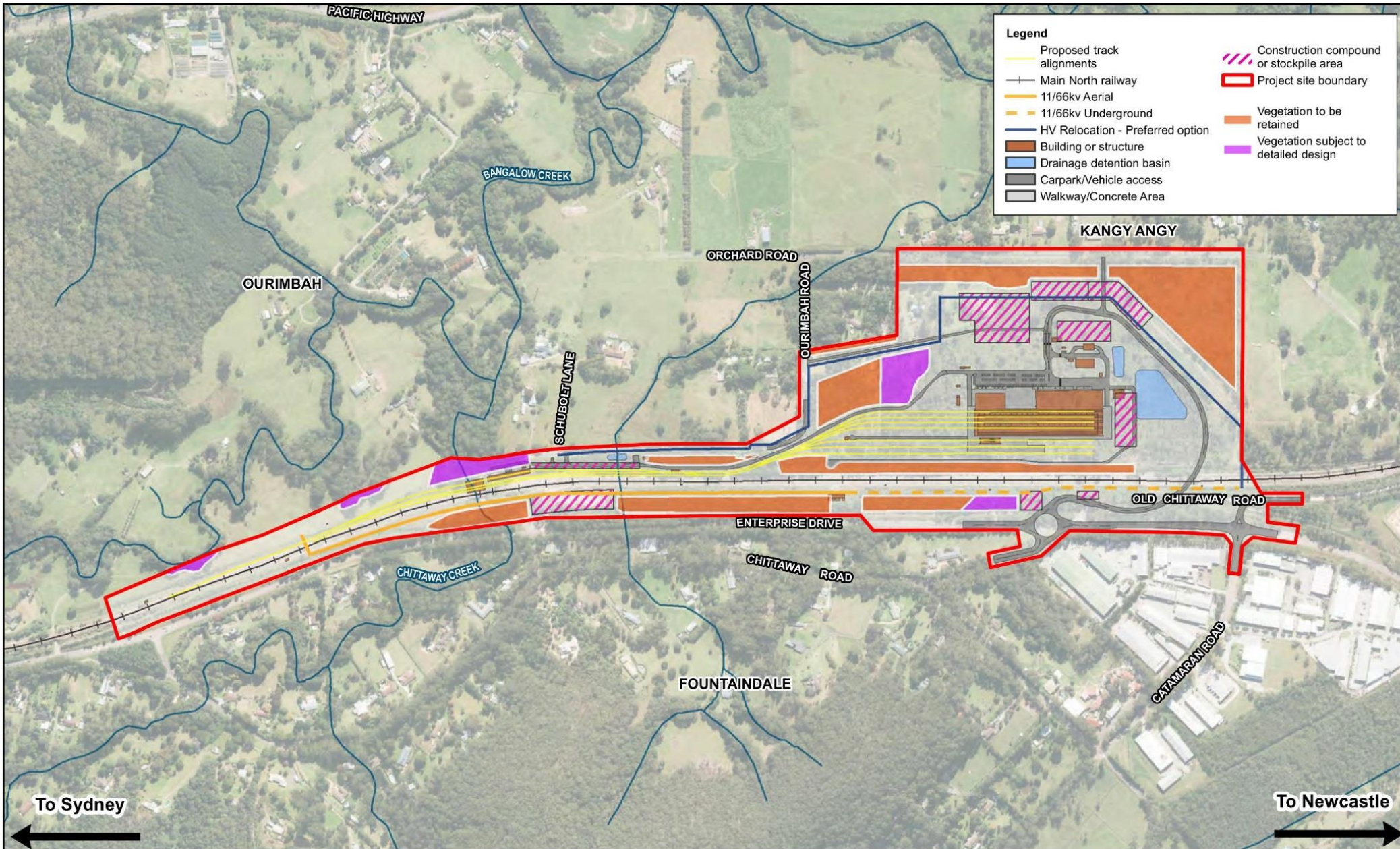
In addition, following the display of the REF, further refinement of the vegetation proposed to be retained has been undertaken to identify additional areas of vegetation which is not required to be removed as part of the Project.

The revised areas of vegetation to be retained are shown in Figure 4.1 and the change in area is summarised in Table 4.1.

Table 4.1 Summary of proposed vegetation to be retained as part of the Project

	Area identified for vegetation retention (approx.)	Additional area identified for vegetation retention (subject to detailed design) (approx.)	Total
Vegetation to be retained (as per REF)	8.84 hectares	1.49 hectares	10.33 hectares
Vegetation to be retained (current)	9.25 hectares	1.79 hectares	11.04 hectares

As can be seen from Table 4.1, refinement of the Project following public display of the REF has identified an additional 0.71 hectares of vegetation which is proposed to be retained (subject to detailed design of the Maintenance Facility) across the Project site. Ongoing detailed design of the Project would also seek to further refine the Project design and overall footprint in order to reduce the overall potential for impacts to vegetation within the Project site.



Legend

- Proposed track alignments
- Main North railway
- 11/66kv Aerial
- - - 11/66kv Underground
- HV Relocation - Preferred option
- Building or structure
- Drainage detention basin
- Carpark/Vehicle access
- Walkway/Concrete Area
- Construction compound or stockpile area
- Project site boundary
- Vegetation to be retained
- Vegetation subject to detailed design

Map: 2202522A_GIS_F086_A4
 Date: 3/08/2016
 Author: BorgM
 Approved by: JB

1:9,500
 Coordinate system: GDA 1994 MGA Zone 56
 Scale ratio correct when printed at A4

Note: Design is indicative only.
 Subject to detailed design

New Intercity Fleet Maintenance Facility Project
Figure 4.1
 Areas of vegetation proposed to be retained

© Parsons Brinckerhoff Australia Pty Ltd ("PB") Copyright in the drawings, information and data recorded ("the Information") is the property of PB. This document and the information are solely for the use of the authorized recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that which it was supplied by PB. PB makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information. NCSI Certified Quality System to ISO 9001. © APPROVED FOR AND ON BEHALF OF Parsons Brinckerhoff Australia Pty Ltd.

4.1.11 Offset provisions

Summary of issues raised

Submissions questioned the offset measures identified as part of the overall suite of management and mitigation measures for the Project. Some submissions noted that the publically available documentation did not demonstrate that the offset requirements could be achieved within the region and that these potential offset sites should be made publically available.

Submission number(s)

144B, 160, 183

Response

The accepted approach to environmental assessment requires that, in the first instance, environmental impacts are avoided or minimised as far as possible and subsequently reduced to acceptable levels through appropriate mitigation techniques. Where measures to avoid and mitigate impacts are not feasible or cost effective, offset strategies can be used to compensate the residual impacts of the development on biodiversity.

Transport for NSW has followed the 'avoid, minimise and mitigate' approach by firstly avoiding impacts to approximately 8.3 hectares of native vegetation and 1,030 *Melaleuca biconvexa* plant stems within the study area through modifications to the preliminary design of the proposed maintenance facility.

Section 7.1.2 of the SIS provided a detailed description regarding the proposed Biodiversity Offset Strategy for the Project which will be fully developed in accordance with the *NSW Biodiversity Offset Policy*, and delivered using BioBanking assessment methodology. This included identification of the estimated project offset requirements, potential offset options and the security of these offset options. The development of this strategy will be ongoing during the development approval phase and will be done in consultation with the NSW Office of Environment and Heritage and the Commonwealth Department of the Environment and Energy.

While specific offset sites for *Melaleuca biconvexa* were not identified in the SIS, Transport for NSW is committed to the delivery of a comprehensive biodiversity offset package that will include, in perpetuity conservation and management, in excess of 50,000 *Melaleuca biconvexa* species credits and 170 hectares of Swamp Sclerophyll Forest habitat, with the objective of having these offsets sourced from the local population.

4.1.12 Cumulative biodiversity impacts

Summary of issues raised

Submissions raised concern regarding the potential cumulative impacts associated with the proposed removal of *Melaleuca biconvexa* as part of both the New Intercity Fleet Maintenance Facility Project, the proposed Pacific Highway upgrade project at Lisarow and one other Roads and Maritime Services project currently in the planning approval stage. The submissions expressed concern that the combined removal of this species between the three projects would result in a significant impact to the local population.

Submission number(s)

141, 156, 165, 183

Response

Section 5.2.3.3 of the SIS provides an analysis of known cumulative impacts on other populations of *Melaleuca biconvexa* in the locality. Specifically, this section of the REF states that the Lisarow – Ourimbah Street and Parsons Road upgrade is currently still in the planning approval phase. This project has been identified to potentially directly impact on 2.13 hectares of *Melaleuca biconvexa* that is estimated to contain approximately 2,396 stems (Jacobs, 2015). This project is located within the same locality as the New Intercity Fleet Maintenance Facility although its occurrence is within a separate disjunct population (Lisarow–Narara population). The New Intercity Fleet Maintenance Facility will not result in cumulative impacts to the local population of *Melaleuca biconvexa* that is subject to proposed impacts under the Lisarow – Ourimbah Street and Parsons Road upgrade.

As a result, impacts on *Melaleuca biconvexa* resulting from the Pacific Highway upgrade project at Lisarow are not anticipated to exacerbate impacts on the local population that is subject to the New Intercity Fleet Maintenance Facility Project.

4.1.13 Subject site definition for the SIS

Summary of issues raised

Submissions stated that the SIS subject site area has not been correctly defined as areas likely to be affected by impacts such as noise, light and/or biodiversity fragmentation which were enclosed within the outer perimeter of the Project area had been excluded from the site. Additionally, the submissions noted that areas which are not proposed to be directly impacted have not been included within the study area and have not been surveyed.

Submission number(s)

173, 183, 188

Response

The subject site and study area is consistent with the definition outlined in the OEH Chief Executive Requirements. The impact assessments undertaken as part of the *Biodiversity Assessment Report* and SIS considered both direct and indirect impacts in terms of the local population and within the Project locality.

4.1.14 Assessment methodology for the SIS

Summary of issues raised

A number of issues were raised regarding the assessment methodology in the SIS, in particular regarding the surveying of specific species within the site. These issues included elements such as:

- seasonality of the surveys
- location(s) the surveys were undertaken
- survey techniques utilised for the surveys
- survey effort undertaken for specific species
- assessment of potential impacts in accordance with relevant guidelines.

Submission number(s)

160, 173, 181D, 183

Response

Specific issues (and Transport for NSW's response to these issues) are provided in Table 4.2.

Table 4.2 Items raised regarding the Species Impact Statement methodology

Issue	Transport for NSW response
<p>The SIS has not undertaken surveys for the Green-Thighed Frog and the Golden Bell Frog within the required season in accordance with the OEH Chief Executive Requirements. Areas of both breeding habitat and shelter habitat should be subject to seasonal surveys.</p>	<p>The SIS acknowledges that surveys were outside of optimal conditions for the Green Thighed Frog and Green and Golden Bell Frog and as such engaged one of NSW leading amphibian experts, Dr Arthur White (Biosphere Environmental Consultants) to prepare a report on the likelihood of the species' being present within the study area. This was undertaken in consultation with OEH and the approved methodology for expert reports for the SIS and NSW Biobanking Methodology.</p>
<p>The survey locations are confined to the southern sections of the development area and have not adequately covered central and northern areas of proposed development which may contain populations of threatened species not inhabiting the areas which have been surveyed.</p>	<p>Section 4.2.1 of the SIS noted that prior to designing the survey effort a site inspection was undertaken to identify the vegetation communities and their associated habitat types. The initial site inspection allowed for the stratification of the study area into vegetation communities and corresponding habitat types that informed the survey effort that would be required in order to comply with the Chief Executive Requirements and relevant survey guidelines.</p> <p>The subsequent survey effort was therefore directed to those areas of highest habitat quality or where specific threatened fauna species habitat attributes occurred, and therefore where the greatest likelihood of recording threatened fauna species existed. Areas of highest habitat quality selected were characterised by the highest diversity of flora species and vegetation community strata.</p> <p>Results of bird surveys across the site, which are considered to be a good surrogate for determining fauna habitat quality, strongly indicated that the areas selected for formal trapping surveys were the most likely places for threatened fauna species to occur.</p>
<p>Threatened flora species were only targeted during random meandering surveys and opportunistic observations. Belt transects across the site should have been completed to ensure that potential occurrences of threatened flora species were not missed.</p>	<p>Based on the identification of targeted subject species and habitat stratification, the adopted flora survey methods are deemed appropriate for the positive species identification. Parallel (or Belt) transects were undertaken as part of targeted <i>Melaleuca biconvexa</i> surveys. Further details regarding the flora survey methodology and effort was outlined in Section 4.2.1.1 of the SIS.</p>

Only 1/3 of the required effort for Large Forest Owl surveys has been undertaken in accordance with the OEH Chief Executive Requirements.

Surveys of the Large Forest Owls were undertaken across four separate nights in accordance with standard methods and guidelines (Debus 1995; Kavanagh & Debus 1994) and Threatened Species Survey and Assessment: Guidelines for Developments and Activities (Department of Environment and Conservation 2004b).

The Large Forest Owls were included in the species considered to be affected by the project given the likelihood of occurrence or use of the site for foraging habitat.

Large Forest Owl assessments were not based upon the results of field surveys alone, due to the possibility of false negative survey results (refer to Section 4.1 of the SIS).

The assessment discussions for Powerful Owl (Section 8.10 of the SIS) and Sooty Owl (Section 8.11 of the SIS), suggest that field surveys are only one component in determining the potential for a species to occur. The occurrence of local records and onsite habitats were taken as an 'assumed study area occurrence' for some locally occurring Large Forest Owls, which reduces a reliance on field survey effort alone.

Owl surveys were not undertaken during the breeding period for the target Large Forest Owls.

Hollow-bearing tree occurrences across the study area were used as the initial determining factor for potential Large Forest Owl breeding habitat occurring in the study area. The absence of suitable breeding hollows in the study area indicated that the site could not support the breeding cycle of Large Forest Owls. Therefore, it was considered unlikely that surveys during the breeding season would add to what could easily be concluded through habitat assessment (i.e. that the occurrence of local records suggests that the study area may represent part of the home range of local individuals for foraging and roosting purposes, but could not support the breeding cycle of these species).

No cage or Elliott B size trapping was undertaken in accordance with the OEH Chief Executive Requirements and Survey Guideline requirements for medium sized mammals. At least 100 trap nights are required for each stratification area.

Elliott B traps were employed for arboreal mammal surveys (refer to Section 4.2.1.2 of the SIS).

Methods of Terrestrial trapping within the site were tailored to the subject species considered potential to use the site and in consultation with OEH. Medium to large mammals were targeted using remote motion sensing infra-red cameras and hair tubes across 15 nights. These infra-red cameras are widely accepted as an appropriate alternative method for targeting trap shy species of terrestrial fauna.

<p>No bird surveys have been undertaken during the winter season when Swamp Mahogany trees are in bloom to allow optimal detection of the Regent Honeyeater and Swift Parrot.</p>	<p>Bird surveys were undertaken on 20 May 2016. Whilst this was ten days prior to the winter period, Swamp Mahogany blossom was present in the study area during the survey and nectarivorous bird activity was high. Some areas of Swamp Mahogany on site were holding fruit and were not likely to flower during 2016. Regent Honeyeater and Swift Parrot occurrences are spasmodic across their range and therefore impact assessments were not solely based on survey results and considered records.</p>
<p>Only one camera trap was used to survey the whole site.</p>	<p>Table 4.4 of the SIS identifies 75 trap nights for camera traps, and 'Remote Cameras' and Section 4.2.1.2 notes that six remote cameras were employed during field surveys.</p>
<p>No nest box surveys for Yellow-bellied Gliders were undertaken.</p>	<p>Field surveys confirmed that there were no Yellow-bellied Gliders using the study area. This is a very vocal species, which responds quickly to call playback broadcasts and there was no sign of their using the site during surveys. The lack of suitable hollows in the study area also suggested their unlikely occurrence. Surveys conducted in good habitat for Yellow-bellied Gliders throughout the same period found them to be abundant and easily encountered under the same seasonal conditions when present.</p>
<p>Details of the undescribed frog should be forwarded to the NSW Museum in accordance with the Chief Executive Requirements and NSW Scientific Committee for consideration for provisional listing on an emergency basis.</p>	<p>Refer to response in Section 4.1.7.</p>
<p>Potential impacts to undescribed <i>Uperoleia</i> species should not be approved until the conservation status of this species is assessed and the extent of impacts across the project area are properly determined.</p>	<p>Refer to response in Section 4.1.7.</p>
<p>The effort expended during nest box surveys is considered deficient and unlikely to detect the target species. The surveys should be undertaken over a longer time period and should utilise more boxes to account for the home range of the target species, Eastern Pygmy Possum and Squirrel Glider.</p>	<p>Due to the lack of records in the study area locality, the lack of preferred habitat in the study area, the lack of hollow resources, the lack of evidence during survey despite a number of survey techniques and an abundance of similar habitat locally, these species were not deemed to be an affected species and unlikely to be recorded.</p>
<p>Nest box surveys did not cover the preferred rainforest habitat of the Eastern Pygmy Possum.</p>	<p>Rainforest habitats are not the preferred habitat of the Eastern Pygmy Possum and habitats containing sclerophyllous and proteaceous plant species were determined to be the most likely areas for occurrence.</p>

<p>The spotlighting surveys undertaken were not adequate as they only covered the edge areas of the site and accordingly are considered as not likely to have detected the target species. Spotlight surveys should be undertaken across the whole site.</p>	<p>Spotlighting surveys were conducted throughout habitats containing canopy strata and not grassland dominated habitats to target those threatened species most likely to be detected by spotlighting methodologies (e.g. Large Forest Owls, Grey-headed Flying-foxes and threatened arboreal mammals). Other more elusive terrestrial mammals were targeted by other survey methodologies.</p>
<p>Surveys for arboreal or terrestrial mammal species did not cover rainforest habitats as identified in Table 4.4 of the SIS. Surveys for these species should be stratified across the entire site.</p>	<p>Rainforest habitats were represented by small areas within the study area and were considered unlikely to be important for the arboreal and terrestrial threatened mammal species most likely to occur in the study area. Survey efforts were therefore concentrated in the areas of greatest potential for local threatened mammals.</p>
<p>The assessments of significance completed for the affected species have not adequately addressed the DECC (2007) <i>Threatened Species Assessment Guidelines</i>.</p>	<p>Impact assessment at the State level was conducted by the test of significance as is required by the EP&A Act, while taking into consideration those amendments outlined in the <i>Threatened Species Conservation Amendment Act 2002</i>, which affect those species contained in the TSC Act and the <i>Fisheries Management Act 1994</i>.</p>
<p>The assessments of significance for habitats do not adequately consider the importance or extent of impacts to specific habitat components or types within the locality.</p>	<p>The SIS assessed impacts in regard to the amount of habitat for each species occurring within the study area against the amount of similar habitats occurring in the locality.</p>
<p>Impacts to <i>Melaleuca biconvexa</i> have not been properly classified in the assessment of significance provided, as a significant effect is likely to occur to this species due to the extent and importance of the 3,984 <i>Melaleuca biconvexa</i> plant stems and 25.5 hectares of habitat proposed for removal. This is supported by the Preliminary Ecological Assessment prepared for the site by EMM (2015).</p>	<p>An SIS was prepared for <i>Melaleuca biconvexa</i> based on the assessment of significance conducted as part of the Preliminary Ecological Assessment (EMM, 2015). The SIS provides detailed local population analysis (refer to Section 5.2) and revised assessment of significance (refer to Section 8.2) based on this additional analysis.</p>

The number of hours and the time of year the information was gathered at this important site is inadequate to allow for all possible fauna and flora to be observed. The REF, with reference to the Species Impact Statement, Appendix C pages 352-353 indicated that only 2 nights in May 2016 had field studies conducted to look for only 2 specific species the Green-Thighed Frog and the Green and Golden Bell Frog. This goes to show how hastily and incomplete the Species Impact Statement is.

It was recognised that optimum survey periods for both the Green and Golden Bell Frog and Green-Thighed Frog would not be possible during the period when other fauna surveys were conducted, so expert opinion from Dr Arthur White (expert report included in the SIS) was sought regarding the likelihood of these species to occur within the study area. The SIS was completed by experienced professionals with ecological expertise in accordance with all relevant environmental, legislation and, in particular, the Chief Executive Requirements which were prepared by the NSW OEH, identifying all information requirements that the SIS were required to meet. As part of their assessment of the SIS, OEH undertook a review of the document to ensure the report meet all the Chief Executive Requirements.

Why have the assessments of significance completed for the affected species not been adequately addressed the DEC (2007) Threatened Species Assessment Guidelines? How does TfNSW plan to resolve this issue?

The SIS has been prepared in consultation with OEH, including suitable survey methods and expert reports in accordance with guidelines for all subject species. Assessments of significance for all affected species have been undertaken in accordance with Section 5A of the EP&A Act. Section 5A of the EP&A Act requires that a seven part test is undertaken to assess the likelihood of significant impact upon Threatened Species, populations or ecological communities listed under the TSC Act. In addition, threatened biodiversity listed under the EPBC Act require assessment in accordance with the Matters of National Environmental, Significant Impact Guidelines (Department of the Environment 2013).

Why has TfNSW not adequately considered the importance or extent of impact to specific habitat component or types within the locality for threatened fauna species? According to their study, they have identified that the proposal will only affect 0.6% of the habitat for the threatened fauna species. Consider that at least 8.6% of Swamp Sclerophyll Forest habitat in the locality will be removed by the proposal. Is it considered that this would be likely to significantly affect several nomadic type threatened species fauna such as the Grey-headed flying fox, Swift Parrot and Regent Honey-eater, all listed under the EPBC Act?

The impact assessments have provided robust assessment of the project impacts on the habitat component within the locality for all threatened fauna species. The SIS has correctly assessed the impacts as 0.6% of the potential habitat within the locality for Regent Honeyeater and Swift Parrot. It should be noted that this assessment identifies more than just the Swamp Sclerophyll Forest as potential habitat for these species. The figure of 8.6% is also specifically related to the percentage of the Project impacts on the "local occurrence" of the TSC Act listed Swamp Sclerophyll Forest. This figure differs from the percentage of the project impacts in the "locality" (5 km radius) which is approx 4%.

4.1.15 Adequacy of assessment for the SIS

Summary of issues raised

Submissions stated that the SIS did not provide a sufficient level of survey or assessment to determine the impacts associated with the Project. Comments were made with respect to the duration of surveys and/or the timing of surveys and whether the SIS considered habitat for the newly identified frog.

Additionally submissions stated that the SIS did not appear to include any surveys of animals that are currently present in the area. One submission noted that several species identified in the SIS were excluded from the list of affected species despite the presence of suitable habitat and the potential to occur.

Submissions did not agree with the findings of the SIS that the Project was unlikely to have a significant impact to EPBC listed species (which may have been underestimated due to inadequate survey).

Submission number(s)

141, 150, 156, 160, 165, 167, 168, 173, 181D, 182, 183, 188

Response

The SIS was completed by experienced professionals with ecological expertise in accordance with all relevant environmental, legislation and, in particular, the OEH Chief Executive Requirements which identifies all requirements and information that the SIS is required to address.

As part of the SIS, subject species were determined based on an initial assessment and in accordance with the Chief Executive Requirements issued by OEH. A comprehensive list of identified subject species that became the focus for targeted surveys (refer to Chapter 3 and Table 3.5 and Table 3.6 of the SIS). Following this, a list of potentially affected species were identified based on field survey results and habitat assessment (refer to Table 5.1 and Table 6.1 of the SIS).

Results of flora and fauna surveys were outlined in Section 4.3 of the SIS with species inventories provided in Appendix A and B of the SIS.

It is considered that the information provided in the REF and SIS was sufficient to provide the community with an appropriate level of detail to understand the Project and the potential impacts.

4.2 Justification and need

4.2.1 Project justification

Summary of issues raised

Submissions raised concern about the justification of the Project and specifically why an inter-city fleet rail servicing Sydney was being built on the Central Coast.

There were also issues raised about the Project meeting the relevant objectives set out in the REF. Specific references were made about the ability of trains to exit or enter from the northern side of the facility, requiring trains arriving from Gosford or leaving towards Gosford to reverse direction to access or leave the site, therefore not providing 'efficient operation'.

Submission number(s)

162, 183

Response

Discussion regarding the overall need and justification for the New Intercity Fleet Maintenance Facility Project was provided in Chapter 2 of the REF. The primary need for the proposed New Intercity Fleet Maintenance Facility is a direct result of the current procurement of the New Intercity Fleet trains and the requirement to adequately maintain these trains.

As the New Intercity Fleet will operate on three routes including Sydney to the Central Coast/Newcastle (Main North Line and North Shore onto Main North Line); Sydney to Blue Mountains (Western Line); and Sydney to Wollongong/Nowra (South Coast Line) it was identified that the facility should be located centrally to one of these core routes to minimise out-of-sector train movements solely for the purpose of maintenance.

Additionally, to minimise empty train movements, the preference for the new maintenance facility was to locate the facility closer to where trains commence and conclude their journey. The Main North railway is expected to receive a larger proportion of the New Intercity Fleet and as a result, the Central Coast was considered the preferable region for the proposed maintenance facility.

The timetabling of trains into and out of the maintenance facility gives consideration of train operations on the overall rail network to ensure the efficient operation of the train passenger and freight timetable. Notwithstanding this, it should be noted that the current design of the facility does not preclude any future provision for a connection to the north of the site (which would be subject to a separate business case and planning approval) should this be required in the future.

4.2.2 Cost of the Project – General

Summary of issues raised

Submissions raised concern about the overall cost of the Project. Some submissions commented that the cost of the Project would be expected to be greater than the other short-listed sites (specifically the Warnervale site), given that the ongoing design of the Project has identified additional earthworks, access, services and other requirements which were not fully known during the site selection assessment process.

Others queried why the details of the budget were not included in the documentation that was on public display, and noted that costs (including for land acquisition) should be released publically prior to determination.

In addition to overall questions regarding the overall cost of the Project, a series of similar issues were raised as follows:

- the REF did not present any discussion regarding the full costs for the Project
- the cost for project elements such as earthworks, flood mitigation, sound barriers was not provided.

Submission number(s)

134, 138, 145, 148, 149, 153, 155, 162, 163, 165, 172, 175, 181B, 183, 186, 188, 191, 193

Response

Once the procurement process for the Project is complete the anticipated cost to design and construct the facility would be publically available. Details regarding the cost of specific elements of the overall Project (such as land acquisition) are

confidential, however these costs were included as part of the overall costing for the Project.

4.2.3 Cost of the Project – Access road bridge

Summary of issues raised

Submissions raised concern specifically regarding the potential cost of the access road bridge to the maintenance facility site from Enterprise Drive. A number of the submissions specifically noted that the cost of the bridge had not been included in overall costings when making comparison to other sites. Submissions identified concern that the expected costings for the access bridge could range between approximately \$50 million and \$100 million.

Submission number(s)

134, 139, 140, 141, 143, 149, 150, 153, 155, 162, 163, 165, 175, 186, 188, 191

Response

The site selection process included consideration of cost as part of the multi criteria assessment. This criteria assessment also considered environmental planning and engineering constraints including ecology, heritage, noise, contamination, flooding, planning approvals, construction access and enabling works. The cost of a bridge was included as part of the multi criteria assessment.

Once the procurement process for the Project is complete, the anticipated cost to design and construct the facility would be publically available.

4.3 Options development and site selection

4.3.1 Opposition to preferred site

Summary of issues raised

Submissions expressed general opposition to the selection of Kangy Angy as the preferred site and the suitability of this site for the New Intercity Fleet Maintenance Facility. Some submissions noted that the facility should be relocated to an alternative (unspecified) site.

Some submissions suggested that an existing facility (or facilities) be used, rather than the need to construct a new facility. Others noted their opposition to the Kangy Angy site as it was not considered as one of the initial 24 potential sites.

Submission number(s)

137, 138, 141, 142, 145, 146, 147, 148, 149, 151, 152, 153, 154, 155, 157, 159, 163, 164, 165, 169, 170, 172, 187, 188, 191, 193, 194

Response

In order to meet all of the operational requirements of the New Intercity Fleet, a comprehensive site selection and options development process was undertaken for the New Intercity Fleet Maintenance Facility which included consideration of a number of different site location options for the maintenance facility.

As the New Intercity Fleet will operate on three routes including Sydney to the Central Coast/Newcastle (Main North Line and North Shore onto Main North Line); Sydney to Blue Mountains (Western Line); and Sydney to Wollongong/Nowra (South Coast Line) it was identified that the facility should be located centrally to one of these core

routes to minimise out-of-sector train movements solely for the purpose of maintenance. Based on this primary requirement Transport for NSW initially identified a total of 24 potential sites across the Main North, Western and South Coast lines as part of the initial site selection process.

In order to minimise empty train movements the preference was to locate the new maintenance facility on the busiest route which is the Main North Line, noting that a substantial proportion of trains start and finish their daily cycle each day between Gosford and Wyong. Therefore, the rationale for the Central Coast as the preferred location is based on the current New Intercity Fleet deployment strategy, which would provide for a larger proportion of New Intercity Fleet trains being deployed on the Central Coast and Newcastle Lines.

As such, of the 24 initial sites identified, the seven sites located along the Main North Line were considered further as part of a strategic site options assessment. Following the strategic site options assessment, three of the seven sites were identified as being suitable for further detailed investigation.

The three short-listed sites were then considered against a more detailed series of environmental and engineering criteria including ecology, heritage, noise, contamination, flooding, planning approval processes, and construction access constraints. Based on the assessment process undertaken for the short-listed sites, a suitable site at Warnervale was identified. However, this site was subsequently identified as having a series of constraints including:

- impacts on areas of identified wetland identified under *State Environmental Planning Policy 14 (Coastal Wetlands)* (SEPP 14 wetlands)
- potential conflict with a proposed new link road between Warnervale and Wyong
- a planned employment precinct for future development by the Central Coast Council and potentially challenging property acquisition constraints.

These constraints resulted in this site being considered to be non-viable for the proposed New Intercity Fleet Maintenance Facility.

An additional site (which was identified in the original 24 long-listed sites considered), located at Kangy Angy, was consequently identified for consideration to address the constraints associated with the Warnervale site. Consideration of the site at Kangy Angy identified that it would result in a similar and/or more beneficial environmental and engineering outcomes to the previously identified Warnervale site. As part of this process, a number of factors were considered which is discussed in Section 4.3.4 of this report. This included potential costs associated with various project elements including the cost of potential site access (bridge(s), etc.). Overall, the site at Kangy Angy was considered to be the preferred site option for the proposed New Intercity Fleet Maintenance Facility.

A full discussion which provides greater detail regarding the options development and site selection process for the New Intercity Fleet Maintenance Facility Project was provided in Chapter 3 of the REF.

4.3.2 Community preference for the Warnervale site

Summary of issues raised

Submissions objecting to the preferred site at Kangy Angy for the New Intercity Fleet Maintenance Facility identified a preference for the facility to be located on the Warnervale site, one of the previously identified short-listed alternative sites.

Submission number(s)

134, 138, 139, 143, 146, 149, 150, 152, 154, 162, 172, 186, 188, 194

Response

As described in Section 3.1.3 of the REF, although the Warnervale site was identified as the most preferable location for the proposed maintenance facility based on the identified short-listed sites from the site option assessment process, it was still identified as being constrained by environmental issues at both ends of the site.

At the southern end of the site SEPP 14 wetlands were identified, while to the north of the proposed site, existing residential properties and a planned residential subdivision were also identified which would constrain the site. In addition, Roads and Maritime Services had identified that they were investigating a proposed new link road between Warnervale and Wyong. The provision of this road was identified as potentially conflicting with the Warnervale site and would require the facility to be moved, potentially impacting on SEPP 14 wetlands.

Based on the constraints identified at the Warnervale site, a *Comparative Site Analysis* (GHD, 2015a) was undertaken to compare the Warnervale site (as the identified preferred site) and an alternative location (the Kangy Angy site). The objective of the study was to undertake the comparison of the two locations to identify the preferred site with regard to engineering and environmental impacts. The assessment was based on a like for like comparison of the concept design at the time at each of the sites.

As part of the *Comparative Site Analysis* (GHD, 2015a), a multi criteria analysis (MCA) of the Kangy Angy site was done in line with the process used for the *Concept Options Assessment* (GHD, 2014). The assessment utilised the same staged MCA assessment that was undertaken for the initial options assessment. While it was identified as part of the *Comparative Site Analysis* (GHD, 2015a) that the Warnervale site would have some environmental benefits over the Kangy Angy site, based on consideration of both the environmental and engineering criteria, in conjunction with property ownership constraints and the potential to impact on the proposed Link Road, it was considered that the Kangy Angy site was identified a better overall site for the proposed maintenance facility.

4.3.3 Community preference for the Bushells Ridge site

Summary of issues raised

Submissions objecting to the preferred site at Kangy Angy for the New Intercity Fleet Maintenance Facility identified a preference for the development to be located on the Bushells Ridge site, one of the previously identified short-listed alternative sites. A series of these submissions noted that the Darkinjung Local Aboriginal Land Council (LALC) would be receptive to the facility being constructed on their land.

Submission number(s)

139, 149, 162

Response

In addition to the overall site selection assessment presented in the REF, Section 3.1.5 of the REF provided a more detailed discussion regarding the potential use of the Bushells Ridge site and the key reasons against this location being the preferred site for the maintenance facility. This discussion noted that in April 2015, Transport for NSW undertook additional evaluation of the Bushells Ridge site to

further investigate the potential for use of this site as a maintenance facility site (*Bushells Ridge Site Assessment* (GHD, 2015b)).

The key reasons for undertaking the additional evaluation were:

- to provide a greater understanding of some of the constraints and potential constructability issues that would affect potential development of the Bushells Ridge site
- to respond to ongoing consultation with affected land owners including Central Coast Council (as the land owner of the Warnervale site) and contact from the land owner of Bushells Ridge, Darkinjung LALC.

Following the additional evaluation of the Bushells Ridge site by Transport for NSW (GHD, 2015b), it was still considered that while the site would provide some environmental benefits in comparison to other identified sites, the Bushells Ridge site would continue to present considerable obstacles and potential for delay to the Project being able to obtain the use of the Bushells Ridge site on Darkinjung Land, which would make it an undesirable option overall.

These obstacles include:

- the Darkinjung Land, being subject to the *Aboriginal Land Rights Act 1989* (NSW), cannot be compulsorily acquired by Transport for NSW pursuant to the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW)
- additionally, Transport for NSW understand that there are unresolved native title claims in respect of the Darkinjung Land and due to the provisions of the *Aboriginal Land Rights Act 1989* (NSW), this creates limitations on the Darkinjung LALC's ability to sell or otherwise deal with the Bushells Ridge site
- approval from the NSW Aboriginal Land Council, in addition to the Darkinjung LALC, would also need to be obtained for the use of the site.

For the Bushells Ridge site, there was a significant risk that that the acquisition process could be delayed, or even not approved. For these reasons, the Bushells Ridge site was not considered viable.

4.3.4 Site selection options process

Summary of issues raised

Submissions objected to the assessment process used to determine the final preferred site (Kangy Angy). Specifically, some submissions noted that the REF failed to provide a robust comparison of the Kangy Angy site when compared to the other sites identified (in particular the Warnervale site as part of the *Comparative Site Analysis* (GHD, 2015a)). Some submissions also referenced the adequacy and objectiveness of the scoring used on the process and that the point scores used for the comparison of Kangy Angy and Warnervale appeared to be subjective without adequate justification. There were also concerns that the options process did not take into account biophysical impacts.

The omission of the enabling work criteria for the Kangy Angy site in the *Comparative Site Analysis* (GHD, 2015a) was also highlighted in some submissions as a concern as it was felt that this should have been included to enable a fair and robust assessment of the two options.

Submissions also raised that consultation should have been undertaken during the site selection process.

Submission number(s)

134, 141, 142, 143, 144B, 146, 147, 149, 150, 160, 162, 163, 166, 167, 169, 170, 173, 174, 175, 176, 177, 178, 179, 181A, 181C, 181E, 182, 183, 186, 188, 193

Response

To determine the final preferred site for the maintenance facility, Transport for NSW undertook a series of multi criteria assessments. These multi criteria assessments considered environmental planning and engineering constraints including ecology, heritage, noise, contamination, flooding, planning approvals construction access and enabling works. A summary of these assessments is presented in Section 3.1 of the REF.

Multi criteria assessments are a standard process utilised by government agencies to compare matters such as project sites. To undertake this type of assessment the project team developed a set of criteria to consider and compare the various opportunities and risks at each site. As the comparison progressed some of these criteria were adapted to be more specific to the sites being assessed.

As part of the consultation during the early phases of the Project's development, consultation regarding the site selection for the maintenance facility was undertaken with the following stakeholders:

- Sydney Trains
- Darkinjung LALC
- Central Coast Council (formerly Wyong Shire Council).

Consultation with these stakeholders was used to inform the decision regarding the preferred site location for the maintenance facility.

The *Comparative Site Analysis* (GHD, 2015a) compared the Kangy Angy and Warnervale sites. This assessment did not include 'enabling works' as an individual category as was done in the previous site analysis report, because it was considered that both sites required complex enabling works and that the consideration of this individual category would not provide a differentiating factor between the two sites. As a result, enabling works was expanded to include:

- earthworks
- new bridges (rail)
- existing bridge modifications
- major culverts
- minor culverts
- site access road
- existing/proposed road relocations
- existing utilities
- existing railway infrastructure.

These categories were considered as part of the option *Comparative Site Analysis* and identified that Kangy Angy was the preferred site based on all of the identified issues. As described above, further details regarding the site selection process was provided in Section 3.1 of the REF.

4.3.5 Site relocation recommendation

Summary of issues raised

Submissions noted that the REF did not adequately acknowledge the recommendations of the Guringai Tribal Link Aboriginal Corporation that the proposed development should be relocated to a different site given the potential environmental impacts associated with the preferred Kangy Angy site.

Other submissions also identified that other alternative or more appropriate sites between Ourimbah and Morisset (not in floodplain land) could be utilised.

Submission number(s)

140, 144B, 148, 162, 163, 169, 186

Response

While the recommendation of the Guringai Tribal Link Aboriginal Corporation was noted as part of their involvement in the development of the *Aboriginal Archaeological Survey Report* (Appendix E of the REF), as discussed in the sections above, a comprehensive site selection process was undertaken taking into consideration a range of factors. Based on this process, the preferred site for the maintenance facility was identified to be at Kangy Angy. While the view of the Guringai Tribal Link Aboriginal Corporation was considered, the overall advantages of the Kangy Angy site were considered to outweigh those of the other considered sites.

4.3.6 Support for the Project

Summary of issues raised

One submission from a group of residents and landholders within Kangy Angy noted their support for the Project and identified a number of positive local and regional benefits including improved access (through the new access road bridge), along with accommodating the growing transport needs of the region and creation of jobs.

Submission number(s)

171

Response

Noted – the Project is expected to have a number of beneficial impacts to the local and wider community and has been designed to adequately maintain the New Intercity Fleet trains.

4.4 Project description and design

4.4.1 Earthworks and fill materials

Summary of issues raised

Submissions noted opposition to the maintenance facility due to the large amount of fill that would be required in order to construct the facility. A number of the submissions noted that the amount of fill required could be significantly larger than described in the REF including ranges between approximately 225,000 cubic metres and 600,000 cubic metres of fill.

Submission number(s)

134, 144B, 162, 181B

Response

An outline of the estimated cut and fill requirements were presented in the REF in Table 4.4. The estimated cut and fill requirements were based on the Project design considered in the REF in addition to information available (such as ground and soil conditions) at the time of preparing the impact assessment.

Following the display of the REF, ongoing detailed design and the availability of further geotechnical information, refinement of the site level requirements for the Project have been ascertained. While it was suggested in some submissions that the entire Project site would be required to be raised by up to approximately 1.5 metres, this is not proposed as part of the Project.

Earthworks would be required for certain Project elements including:

- the new track formations and new maintenance facility buildings to ensure that these areas are outside the required flood design levels
- to support track formation for the existing track (such as modification to existing batters)
- to support embankments and cuttings for the new rail track
- for service roads, access roads, walkways, footpaths, cess drains and retaining walls.

As noted above, the estimated cut and fill requirements presented in the REF were based on the Project design considered at the time of preparing the impact assessment. The revised estimates include the earthwork requirements for capping materials, embankments, detention basins and the access road within the proposed site boundaries and can be seen in Table 4.3.

Table 4.3 Estimated earthwork quantities

Cut/fill requirement	Volume (cubic metres)
Cut volume	19,655 m ³
Fill volume	133,770 m ³
Net requirement	114,115 m ³

It should also be noted that the final extent of earthworks will continue to be refined during the ongoing detailed design phase of the Project.

4.4.2 Future expansion

Summary of issues raised

Submissions expressed opposition to the Project due to the potential for future expansion of the site and that this had not been assessed or considered as part of the current Project. A number of submissions also questioned why the expansion plans were not released to the public and noted that any future plans had not been considered as part of the overall cost of the Project.

Submission number(s)

134, 140, 141, 142, 144B, 148, 149, 150, 159, 165, 169, 170, 177, 178, 179, 183, 187, 188

Response

As discussed in Section 4.2.2 of the REF, the current design for the facility track layout has been designed to not constrain potential future needs of the New Intercity Fleet if required. However any future expansion of the capacity of the maintenance facility (or the Main North Line) would be subject to separate costing, environmental assessment, consultation and planning approval processes.

4.4.3 New intersection at Enterprise Drive

Summary of issues raised

Submissions raised concerns about the changes to the intersection of Enterprise Drive and Old Chittaway Road. Specific concerns included:

- increased traffic at the intersection due to the construction proposed at this intersection
- increased noise due to the extra vehicles the intersection would generate by maintenance facility employees who would access the site 24/7 as well as the noise generated by traffic slowing down towards the intersection (in particular noise generated by compression braking from trucks)
- requirement for changes to the speed limit if a roundabout were constructed.

Concern was also expressed regarding the changes to remove right turns from Old Chittaway Road in Enterprise Drive and from Enterprise Drive into Old Chittaway Road.

It was also noted that changes to this intersection may increase traffic past Rudolph Steiner School and through an industrial complex.

One submission also raised concern regarding the level of detail provided for the proposed treatment of this intersection.

Submission number(s)

162, 165, 175

Response

Based on responses and concerns raised by the community and further consideration of the traffic modelling regarding the proposed arrangement of the intersection at Enterprise Drive and Old Chittaway Road following display of the REF, the arrangement for the intersection has been developed further. The revised arrangement for this intersection is to provide a roundabout at this location. An indicative illustration of this option was presented at the community information sessions held in June 2016.

The roundabout would be located within the same location as the previously proposed intersection and would allow for all traffic movements between Enterprise Drive, Old Chittaway Road and the proposed new access road. This would result in an overall improved outcome for the operation of this intersection in comparison to the previously proposed intersection arrangement as presented in the REF.

4.4.4 Detention basins

Summary of issues raised

Submissions noted concern that the location and number of detention basins had not been appropriately considered in the REF and that they differed from those in the EPBC referral documentation. One submission enquired about specific details of the

basins such as their storage capacity and the timing period over which they will absorb water.

Submission number(s)

144B, 162, 183

Response

At the time the EPBC referral was prepared (February 2016), the number and location of detention basins differed to the number and locations illustrated in the REF (June 2016).

Section 4.2.6 of the REF provided a description of the proposed detention basins for the Project. This section identified that up to 14 detention basins were proposed to be constructed across the western side of the site to supplement the proposed drainage within the maintenance facility site. Following display of the REF, the design of the on-site stormwater detention system has been refined to include, including the rationalisation of the number of detention basins to manage surface water flows for the Project site. The refined design provides for a total of three detention basins.

The detention basins have been designed to help attenuate the flows discharging into the main drainage system for occurrence up to a 1:100 AEP event level. As part of the current design for the detention facilities, it has been assumed that the basins would be impermeable to prevent potential interaction with groundwater. Stored water would be pumped to onsite storage areas and then released to the environment in a controlled manner. In addition, one of the detention basins could also be utilised for bushfire management on site.

4.4.5 Flood access road

Summary of issues raised

One submission stated that the proposed flood access road would not provide an overall benefit to the local community as Wyong Council previously agreed (March 2016) to upgrade the existing (gravel) access road. It was also noted that there was a flood evacuation plan proposed for the facility, but not for local residents.

Submission number(s)

162

Response

It is considered that the provision of the flood free access road through the Project site would provide a beneficial outcome for local residents during times of flood. A new flood access road would be provided along the western edge of the maintenance facility site between Ourimbah Road and the new maintenance facility access road. This would provide an alternative access route for residents along Turpentine Road, Ourimbah Road and Orchard Road during times of flood (and other emergencies such as a bushfire) which may restrict access to Enterprise Drive from the southern end of Turpentine Road.

As identified in the REF, this access will be available to residents as part of their flood evacuation plan as an egress route during emergency periods (such as flooding or bushfire events).

Transport for NSW cannot comment on the commitments made by the former Wyong Council.

4.4.6 Site area

Summary of issues raised

One submission noted inconsistency within the REF regarding the overall size of the Project site. The submission noted that the REF provided three different values (being 37.2 hectares, 42.3 hectares and 50 hectares).

There were also queries over the site selection criteria being a site no larger than 10 hectares, when the SIS states that an area of 25.5 hectares would be cleared.

Submission number(s)

147, 170, 178, 181B

Response

It is acknowledged that a number of different areas of the Project site are identified in the REF. However, each of these areas are a component of the overall Project site and are relevant as follows:

- the 50 hectare reference relates to the whole of the Project site area (including the two options which were considered in the REF for the relocation of the 33kV high voltage powerline)
- the 42.3 hectares reference relates to the potential area of total vegetation which may be cleared
- the 37.2 hectares reference relates to the potential area of native vegetation only which may be cleared.

Section 3.1.1 of the REF notes the initial site selection criteria included a requirement that the area for the maintenance facility must be larger than 10 hectares (i.e. not less than 10 hectares). The SIS correctly identifies the estimated area for vegetation clearing as 25.5 hectares, although this is subject to detailed design.

4.4.7 Public accessibility to the access bridge

Summary of issues raised

Two submissions noted that the REF does not mention that the new access road bridge would be available for use by local residents.

Submission number(s)

163, 181C

Response

Once the access road bridge has been completed, it would become available for use by the public. This would include during the period of the main construction works for the maintenance facility.

For the operational phase of the maintenance facility, Transport for NSW is continuing to liaise with Central Coast Council to enable dedication of the access road as a public road to allow for alternative access for residents along Orchard Road. These discussions are ongoing.

4.4.8 Impact to Schubolt Lane

Summary of issues raised

One submission raised concern regarding the potential impact of the Project along Schubolt Lane, in particular the proposed alignment for the high voltage powerline.

Submission number(s)

188

Response

As described in Section 4.2.4 of the REF, two options for the relocation of the high voltage powerline which currently runs through the Project site were considered as part of the REF. A preferred alignment for this powerline has been identified (REF option 2) which is not along Schubolt Lane. As such, the Project would not have any direct impact on Schubolt Lane.

4.4.9 Proposed maintenance activities

Summary of issues raised

Submissions raised concern about the proposed activities to be carried out at the maintenance facility, including whether freight trains would be maintained at the facility in addition to the New Intercity Fleet as a result of the term 'heavy train maintenance'. One submission also queried what a wheel lathe was and if the train wash would be loud.

Submission number(s)

162, 188

Response

No maintenance of freight trains is proposed to be carried out at the maintenance facility. As described throughout the REF, the proposed maintenance facility has been designed for the New Intercity Fleet of trains. Section 2.1.2 of the REF identifies the levels of maintenance that are proposed to be undertaken within the facility. These include 'light maintenance' (minor repairs and daily checks, normally undertaken at stabling locations) and 'heavy maintenance' (component change out replacement and refurbishment of major components such as wheel bogies).

A description of the wheel lathe was provided in Section 4.2.1 of the REF. The wheel lathe involves machinery to re-profile and smooth the train wheels and would be housed in a building. The use of the train wash would result in some noise impacts. Both activities were taken into consideration as part of the Noise and Vibration Impact Assessment prepared for the Project.

4.4.10 Relocation of 33kV high voltage powerline

Summary of issues raised

One submission raised concern regarding the proposed relocation of the existing 33kV powerline. In particular, that the relocation would move power lines closer to existing homes and would be expensive to construct.

Submission number(s)

188

Response

As discussed in Section 3.2.2 of the REF, two options were identified for the realignment of the 33 kV powerline. As discussed in section 4.4.8 of this EPBC Submissions Report; option 2 has been selected as the chosen 33kV new alignment. This route moves the powerline closer to the maintenance facility.

Costing for the proposed relocation of the powerline was considered as part of the overall budget for the construction of the maintenance facility.

4.4.11 Maintenance facility access road

Summary of issues raised

Submissions expressed concern regarding the proposed site access road and queried why the existing roads could not be upgraded instead. One submission suggested it would be of little benefit given the council stated they would fix Turpentine Road.

Submissions also identified the issue of noise and light spill from the headlights of cars driving along the access road and asked that it be moved.

Submission number(s)

167, 175, 183, 187

Response

The new access road connecting the proposed access road bridge and facility with Orchard Road would be designed to the relevant road standards and consider safety in the design requirements. Opportunities to minimise light spillage will be examined further during detailed design.

Transport for NSW cannot comment on any commitments made by the Central Coast Council regarding repairs to existing roads (e.g. Turpentine Road) within the Kangy Angy area.

4.5 Project construction

4.5.1 Number of workers

Summary of issues raised

One submission raised concern about the number of workers on site during construction and operation of the Maintenance Facility.

Submission number(s)

188

Response

As noted in Section 4.4.2 of the REF, it is anticipated that up to about 200 construction staff (typical working day) and 300 construction staff (during peak times/rail close down periods) would typically be required on-site during construction. The requirement for this number of workers would fluctuate throughout the construction period.

During operation, the number of employees on site at any one time would be substantially reduced, with about 50 to 60 employees on duty at any one time (subject to operational requirements).

4.6 Planning and statutory requirements

4.6.1 Planning approval process

Summary of issues raised

Submissions noted that the preparation of an REF to assess the proposed development was insufficient and did not provide the appropriate level of rigour for the assessment of the Project.

In particular it was stated that the REF had not been completed with appropriate consideration of the potential environmental impacts of the maintenance facility and that an Environmental Impact Statement (EIS) should have been prepared to assess the Project.

There were also concerns that detailed design has commenced prior to planning approval, that previous submissions made on the REF have not yet been addressed and the delay of the Submissions Report to 2017 was too long.

Submission number(s)

133, 134, 138, 139, 142, 144A, 144B, 147, 148, 149, 158, 159, 162, 164, 165, 167, 169, 175, 181D, 183, 188, 193

Response

The assessment of significance of the potential impacts of the maintenance facility was based on the method outlined in *Is an EIS required? Best practice guidelines* (Planning NSW, 1995). The assessment of the potential environmental impacts associated with the Project concluded that it was unlikely that the proposed maintenance facility would be considered 'likely to significantly affect the environment' for any factors other than impacts to protected species.

Section 112(1C) of the EP&A Act states that an EIS is not required to be prepared for an activity for which a SIS has also been prepared in accordance with the TSC Act if, other than the potentially significant impact on protected species (which are required to be assessed by a SIS), the activity does not and is not likely to significantly affect the environment.

Therefore, in order to meet this requirement, a SIS was prepared as part of the environmental assessment documentation for the Project. The SIS was prepared and displayed concurrently with the REF.

This EPBC Submissions Report has been prepared to specifically address issues raised during the public display of EPBC documentation (listed in Section 2.1), to allow for the Federal Minister for the Environment to make a determination on the Project under the EPBC Act. Transport for NSW is also in the process of preparing a separate Submissions Report to address all of the issues raised during both public display periods. This report would be made publically available at the time of determination of the project, which is expected in early 2017. Following which, detailed design on the Project would commence.

4.6.2 Adequacy of documentation

Summary of issues raised

A number of submissions stated that the REF supporting technical papers and the SIS insufficiently considered potential impacts of the facility on the local community and the natural environment and did not identify all potential impacts of the Project (including cumulative impacts). It was also noted in submissions that the REF did not

provide sufficient information regarding the proposed management and mitigation measures which would be implemented to mitigate the identified impacts.

One submission queried why the REF did not refer to the *Central Coast Regional Strategy* (and in particular Direction 9: Protect and enhance productive agricultural land).

Submission number(s)

134, 141, 150, 156, 162, 164, 165, 176, 186, 188

Response

The REF, SIS and EPBC documentation was completed by experienced professionals with appropriate qualifications in accordance with all relevant environmental and planning legislation and other relevant procedures and guidelines required by government agencies. It is considered that the information provided in the REF, SIS and EPBC documentation was sufficient to provide the community with an appropriate level of detail to understand the Project, the potential impacts and the proposed mitigation measures. In addition, a range of technical studies were also undertaken as part of the assessment of the Project. These were contained in Volumes 2 of the REF.

Each of these technical studies provided a detail of impact assessment of the Project on issues such as biodiversity, noise and vibration, visual and landscape, heritage (both non-Aboriginal and Aboriginal), traffic and transport, socio-economic, surface and ground water and construction air quality. These studies used available information and informed the assessment of the potential impacts of the Project on the existing environment. Management and mitigation measures were developed as part of the technical studies and were summarised in Section 8.2 of the REF.

The *Central Coast Regional Plan 2036* was published by the NSW Department of Planning and Environment in October 2016. The plan will guide the NSW Government's land use planning priorities and decisions over the next 20 years to identify:

- economic, social and environmental opportunities to build a more prosperous regions; and
- actions to guide development and land use.

The Project is not considered to be inconsistent with this plan. However it is noted that Direction 9 of this plan, comprises a series of actions around the future management of Biophysical Strategic Agricultural Land (BSAL). While the Project site is located on land mapped as BSAL, this only has legal effect under the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* where State significant mining or Coal Seam Gas (CSG) proposals on land that is confirmed as BSAL must go through a Gateway process to obtain approval. There is no equivalent under the Infrastructure SEPP, and so does not apply to the Project.

4.6.3 Assessment of relevant legislation

Summary of issues raised

Submissions raised concern that the assessment of relevant legislation was inadequate. In particular, the following legislation was identified *State Environmental Planning Policy 33: Hazardous and Offensive Development* (SEPP 33) – as it was considered that the Project falls within the definition of a potentially hazardous and offensive development.

Submissions also queried why other environmental impacts or factors (like flooding or costs) had not been assessed under the EPBC Act.

One submission also queried what consent Transport for NSW had to build a rail facility on a wetland with EPBC listed species and considered such an act as breaking Federal law (which would be unconstitutional as Commonwealth laws prevail over State laws). Several respondents also requested that the Federal Minister not issue approval for the Project.

Submission number(s)

162, 167, 170, 178, 182, 183, 193

Response

Transport for NSW considers that the proposed maintenance facility would not be a 'potentially hazardous and offensive development' within the definition of SEPP 33. The Project would not pose a significant risk in relation to the locality with respect to human health, life or property, or the biophysical environment, nor would it result in significant discharge of pollution such that it would have a significant adverse impact in the locality or on the existing or likely future development on other land in the locality.

The EPBC documentation (listed in Section 2.1 of this report) was prepared to assess the relevant Matters of National Environmental Significance which for this Project are related to biodiversity and do not extend to other environmental issues which are instead captured and assessed under NSW legislation (such as flooding).

Transport for NSW is seeking an approval under the EPBC Act to carry out the Project, as well as concurrence from OEH under the TSC Act prior to determining the project under Part 5 of the EP&A Act.

4.7 Consultation and stakeholder engagement

4.7.1 Request for further and ongoing consultation

Summary of issues raised

Submissions requested that future meetings be coordinated with the two groups representing local residents and landowners to consult with across the Kangy Angy, Ourimbah and Tuggerah areas.

Submission number(s)

133, 162

Response

As described in Section 6.5 of the REF, should Transport for NSW determine to proceed with the Project, a range of consultation activities would continue to be undertaken in order to provide ongoing communication between the community and the Project team and to continue to seek Project feedback. Activities to inform and engage residents, businesses and other stakeholders in the lead up to and during construction would include:

- door knocking
- stakeholder briefings
- community notifications
- 1800 project information line

- email and telephone contact
- community information sessions
- Project website.

The Project team would continue to be available for meetings with the community to discuss any issues or concerns regarding the Project.

4.7.2 Availability and level of detail at community information sessions

Summary of issues raised

Some submissions raised concerns regarding the level of detail and accuracy of the information presented at the community information sessions and in factsheets, particularly with regard to the responses given to community questions about management and mitigation measures.

In addition, some submissions noted that community members questions were left unanswered at the display sessions or that the sessions did not meet the community's expectations.

Submission number(s)

162, 164, 165, 167, 186, 187

Response

As outlined in Section 2.5 of this report, a variety of communication materials were developed for the community information sessions. These materials reflected key points from the REF in an accurate, easy to understand format. The REF and supporting technical papers were also available for public review at the information sessions to provide access to detailed information about the assessments completed and the expected impacts.

One of the aims of the community information sessions was to make key staff (including technical specialists) available to assist in explaining to the community technical details of the proposal or the assessments that were carried out. With respect to the concerns that community members questions were not answered during the information sessions, Transport for NSW notes that answers were provided to questions when the information requested was known. .

Where responses to community questions were not able to be provided directly at the community information sessions, members of the community were encouraged to forward their questions to Transport for NSW via the Project email or the 1800 Project information hotline so that the relevant information could be provided following the information session.

4.7.3 Adequacy of consultation undertaken to date

Summary of issues raised

Submissions expressed dissatisfaction with the overall amount and adequacy of community consultation undertaken as part of the initial development and display of the Project. A number of submissions commented that little consultation appeared to have been undertaken (in general) and that numerous residents and stakeholders were not aware of the Project (including the local day care and the Ourimbah University Campus).

One submission also noted concern that there had been limited community consultation by Wyong Shire Council (now Central Coast Council) with local residents regarding the Project.

Submission number(s)

134, 148, 162, 165, 167, 168, 170, 182, 183, 184, 186, 188, 193

Response

As described in Section 6.2 of the REF, initial consultation with the community regarding the Project commenced in September 2015. An outline of the key issues which were raised by the community was provided in Table 6.1 of the REF. A range of consultation activities were carried out during the development of the Project design, environmental assessment and public display of the REF, SIS and EPBC documentation. Details of the consultation activities can be found in Chapter 2 of this Submission Report. Activities included:

- Project notifications and Project updates for nearby residents, businesses and stakeholders
- meetings with property owners
- discussions regarding permission for property access for environmental assessment surveys
- door-knocking nearby residents and businesses to outline the Project and discuss potential impacts
- meetings and briefings with key stakeholders, businesses and residents, including Central Coast Council
- letters, emails and phone calls about the ongoing development of the Project
- advertising in local newspapers
- community information sessions
- Project updates on the Transport for NSW website.

In addition to the consultation undertaken with the community, a range of consultation was carried out with various government authorities and agencies (including Central Coast Council, Department of Premier and Cabinet Office, Office of Environment and Heritage, Commonwealth Department of the Environment and Energy, Department of Planning and Environment) regarding the Project design.

Dissatisfaction regarding a perceived lack of communication from Wyong Council (now Central Coast Council) regarding the Project is considered to be outside the control of Transport for NSW.

4.7.4 Consultation and submissions process

Summary of issues raised

It was requested that submissions made on the Project are taken seriously by Transport for NSW. It was also expressed that the consultation process was inadequate, citing lack of awareness of the project within the community. Submissions also raised that the consultation techniques of door knocking during the day was not an effective method as most residents were at work during these times.

Submission number(s)

159, 162, 186, 188

Response

Transport for NSW has considered all submissions made during the public display of the EPBC documentation when preparing this Submissions Report.

Transport for NSW is also in the process of preparing a separate Submissions Report to address all of the SIS and REF submissions raised during both public display periods. This report would be made publically available at the time of determination of the project, which is expected in early 2017.

Awareness of the Project and the REF display period was raised via a range of methods as described in Section 6.2 of the REF. It is noted that while door knocking was typically undertaken during the day, this method was used to discuss the project with both businesses in the local area (who are only available during the day) and to opportunistically meet available local residents. When residents were not at home a 'sorry we missed you' letter was left which included contact details if they would like a visit from the project team or for further Project information.

Other methods of consultation were utilised including direct phone calls/meetings, Project newsletters and other targeted correspondence. For example, the Project community newsletter distributed in May 2016 (describing the display of the REF and SIS) was distributed to approximately 2,100 residents located within the immediate vicinity and surrounding areas of the Project prior to the display period.

The REF and SIS were publicly displayed for a period of four weeks from 6 June 2016 to 4 July 2016 while the EPBC documentation and SIS was on public display from 21 October 2016 to 21 November 2016. The REF and SIS display period was advertised in the Central Coast Express Advocate, the Wyong Chronicle and the Newcastle Herald newspapers while the EPBC (and SIS) documentation display period was advertised in the Central Coast Express Advocate, the Sydney Morning Herald and the Daily Telegraph.

The REF, SIS and EPBC documentation was also available to download electronically from the Transport for NSW website. In addition, hard copies of the REF and SIS were available at four separate locations including Wyong, Tuggerah, Gosford and Chatswood. The EPBC (and SIS) documentation was available at the eight locations listed in Section 2.2 of this report.

4.7.5 Website document links

Summary of issues raised

Submissions noted that some of the links to EPBC documents on Transport for NSW's website were not working and also queried why the EPBC documentation was not available on DoEE's website.

Submission number(s)

135, 136

Response

Transport for NSW promptly addressed the website issues following receipt of this submission so that all Project information remained accessible during the public display period.

The display of documents for the public display of EPBC controlled action is usually hosted by the applicant (being Transport for NSW) and not by the Department.

4.8 Noise and vibration

4.8.1 Peer review of noise and vibration assessment

Summary of issues raised

As part of the submission from a group representing local residents and landowners, a peer review of the *Noise and Vibration Impact Assessment* (Appendix B of the REF) was undertaken by PKA Consulting. In order to fully address the items raised in this peer review, these comments have been addressed separately in Table 4.4.

It should be noted that the information presented by PKA Consulting in the submission has been replicated in Table 4.2. Transport for NSW's responses to these comments has been included as an additional column.

Table 4.4 Summary of sub-issues from the topics three key issues in community submissions

Item	Technical paper section	Technical paper comment	PKA comment	Transport for NSW response
1	6.1.2	Currently at concept phase, some details and specifications of activities and equipment are not known yet therefore noise emissions cannot be fully quantified.	Once noise levels of those activities are known, if the noise levels will affect / increase the levels in the scenario, the calculations and modelling should be repeated.	Transport for NSW concurs with this approach. This was included as one of the mitigation measures included in the REF (refer to management and mitigation measures including B.1 and B.2).
2	6.1.2	Shunt vehicle noise not included. Vehicles are expected to be electric.	If shunt vehicle is mechanical (not electric), the vehicle noise should be included in the noise modelling.	Transport for NSW concurs with this remark and notes that any changes to plant or equipment would be reassessed in accordance with management and mitigation measure B.1.
3	6.1.2 (and Table 6.1)	Door tests, PA system noise not included in the assessment.	Noise from door tests and PA systems once obtained, to be included in modelling scenarios and assessments.	Transport for NSW concurs with this remark and when further details are known of the noise from these sources, they would be reassessed in accordance with management and mitigation measure B.2.
4	6.1.2 (and Table 6.1)	Wheel squeal notes.	Wheel squeal has the potential to be high frequency tonal noise at 70km stretch, therefore the noise including modifying factors of INP should be used in the assessment.	The potential for wheel squeal is addressed in Section 6.1.2 of the <i>Noise and Vibration Impact Assessment</i> . However as this phenomenon is not typically associated with normal operations, it has not been included in the predictions. If wheel squeal occurred during operations, mitigation measures would be investigated.

Item	Technical paper section	Technical paper comment	PKA comment	Transport for NSW response
5	6.2 and 8.4 (construction noise)	Receivers were modelled to be at 1.5m above ground level.	Some receivers are two storey dwellings, for which the bedroom will likely be 4.5m above ground. This will likely have a large effect on noise level increases which will require an updated model, results and recommendations.	In the case of the closest receivers on large properties, receivers were placed 30 metres from the dwelling in accordance with the Industrial Noise Policy (INP). Indicative calculations show that the difference in shielding for receiver heights 1.8 metres to 4.5 metres when 30 metres from the house is expected to be 2-3dBA. The receivers in question on Ourimbah Road are already identified for potential at-property acoustic treatment which would be considered following further detailed assessment.
6	6.2 – Noise modelling methodology	Calibration of noise model is not mentioned in the report.	The predications were not calibrated to known noise levels from example existing facilities to see if assumptions were correct.	The sound power levels used for the assessment were sourced from similar facility assessments of similar activities and equipment, and Transport for NSW asset standards.
7	6.2	Soft ground assumption.	Allowances must be made more specific for each calculation scenario rather than assumptions. Calculated noise will be higher where this assumption is not correct.	The model assumed majority hard ground (Factor 0.25) inside in the facility and rail corridor with generally soft ground (Factor 0.75) outside of the facility.
8	6.2	Train speed assumptions.	Require verification during detailed design and acoustic requirements adjusted accordingly.	Transport for NSW concurs with this approach. This was included as one of the mitigation measures included in the REF (refer to management and mitigation measures including B.1 and B.2).

Item	Technical paper section	Technical paper comment	PKA comment	Transport for NSW response
9	6.2	Based on a review of potential noise sources, adjustments for modifying factors of INP are not applicable.	The modifying factor correction was applied to some sources such as the substation but not all sources. The horns, wheel squeal, train cleaning etc. may require correction which will increase noise impacts.	<p>Based on other studies for similar rail facilities, these factors are not usually applied. In this case, if they were applied to the horns they are not considered to add significantly to the overall sound power level of the scenario. In addition, the following points are made:</p> <p>Wheel squeal was discussed in Section 6.1.2 of the <i>Noise and Vibration Impact Assessment</i> and is not considered to be applicable. If wheel squeal occurred during operations, mitigation measures would be investigated.</p> <p>As stated in Section 6.1.2 of the <i>Noise and Vibration Impact Assessment</i>, some of the potential noise sources including train system preparation testing were not able to be quantified during this concept stage of the project. An assumption was made that external train cleaning by pressure washer would only take place during the day.</p> <p>Where further details of these other noise sources are known, the eligibility for the application of modifying factors would be included as part of any further assessment.</p> <p>In terms of the sleep disturbance assessment, Section 4.3 of the INP requires a modifying factor to be added to the 15 minute level and not a maximum noise level, so modifying factors would not apply to the sleep disturbance assessment.</p>

Item	Technical paper section	Technical paper comment	PKA comment	Transport for NSW response
10	6.4 (and Appendix C)	Predicted noise levels for all scenarios are presented in Appendix C.	Noise levels for Scenario 8 are not shown in Table 13.1 of Appendix C.	The operational noise levels table presented in Appendix C of the REF omitted the results for Scenario 8. A revised version of this table has been developed to include this scenario and is included as Appendix B.
11	6.5.1	External cleaning takes place during the day only.	External cleaning is part of maintenance and also takes place in the evening and night (between 6.30pm and 1.30am). What will be the impact of this?	As part of the assessment it was assumed that external cleaning with a pressure washer would not occur during the evening and night. This was a recommendation stated in Section 6.6.8 of the <i>Noise and Vibration Impact Assessment</i> and would be addressed/ validated as part of the operational noise management plan.
12	6.5.1 and 6.6.10	South of Enterprise Drive - the noise source from trains entering and exiting the main line will be similar in nature to the existing train noise therefore considered unlikely to cause additional impact.	Existing rail movements cause a noise impact. The additional noise although similar will increase the L_{eq} (equivalent level) and will result in a higher noise impact.	At the time the noise assessment was prepared, there was expected to be one or two additional rail movements per day associated with the facility. This number is small compared with the overall number of rail movements (approximately one to two passenger train movements per half an hour) and is unlikely to increase L_{eq} 15hr and 9hr noise levels. Furthermore, the controlling INP criterion for this project is assessed over a 15 minute period and the number of trains per 15 minute period is not expected to increase.

Item	Technical paper section	Technical paper comment	PKA comment	Transport for NSW response
13	6.5.2 and 6.6.10	South of Enterprise Drive - the noise source from trains entering and exiting the main line will be similar in nature to the existing train noise therefore considered unlikely to cause additional impact.	Existing rail movements cause a noise impact. The additional noise although similar, will increase the number of L ₁ exceedances and will have noticeable effects on health or wellbeing.	At the time the noise assessment was prepared, there was expected to be one or two additional rail movements associated with the facility. Therefore the noise from trains on the lines entering the facility would be similar in nature and there was assumed to be one or two more a day. An assessment of the potential impacts arising from trains travelling on the main line and crossing new turnouts is being prepared to identify any additional impacts associated with the main line as a result of community feedback.
14	6.5.2	Noise mitigation recommended above 65 db(A). Note: 65 dB(A) refers to an L _{A1,1min} for the assessment of sleep disturbance.	RNP is in the range of 60-65db(A) as the goal is not well defined. Measures should be considered from 60 db(A) rather than 65 db(A).	The limit was set at 65 dBA as this represented the limit at which sleep disturbance is not unlikely. The guidance from the RNP suggests that below 60 to 65 dBA sleep disturbance is not likely. Roads and Maritime Services use a noise level of 65 dBA to identify a maximum noise level with the potential to cause sleep disturbance. As the guidance from the Road Noise Policy was developed based on road traffic noise, the use of 65dBA as a screening criteria is considered appropriate in this case.

Item	Technical paper section	Technical paper comment	PKA comment	Transport for NSW response
15	6.6.3	Rw26 requirements from the shed.	All doors and windows to be acoustically rated as well. Is there internal absorption treatment proposed to reduce reverberation time and therefore noise build up?	The <i>Noise and Vibration Impact Assessment</i> specifies the maintenance building would achieve the sound insulation rating, this would include windows, doors and any other apertures for ventilation. Specific construction materials for the maintenance building would be addressed as part of detailed design and could include reverberation control where required.
16	6.6.3	Alcuobond panelling	This will offer poor sound insulation against low frequency noise sources.	Specific materials would be developed and specified as part of the detailed design process.
17	6.6.3	Roller door	Unlikely to be able to achieve Rw26 from a fast acting roller door.	Specific materials and operational processes would be developed as part of the detailed design process.
18	6.6.4	Testing of horns.	The recommended strategies should be developed now as they are of critical importance to the minimisation of noise impacts to the residential areas.	The potential impacts from the use of horns are to be considered in the operational noise management plan in consideration of the potential environmental noise impacts. Management and mitigation measure AC.1 identifies that the operational noise and vibration management plan would be developed to meet the environmental noise objectives for the Project and would include consideration of alternative methodologies for horns, warning signals and horn testing at the facility. This would include the recommendation that horns are not to be used at the maintenance facility and that a ground based warning system is used instead of yard horns.

Item	Technical paper section	Technical paper comment	PKA comment	Transport for NSW response
19	6.6.6	5m acoustic barriers are considered next to the standing tracks and at full height of the train wash to block the line of sight from source to receiver.	<p>Are 5m barriers high enough for two storey receivers? A 5m barrier will likely only block line of sight which typically gives 5db(A) attenuation whilst some exceedances are more than 5db(A). When barriers are used in the model, is a 0.75 ground absorption coefficient still taken into account?</p>	<p>The <i>Noise and Vibration Impact Assessment</i> identified options for noise barriers and other mitigation to be considered as part of detailed design. The barrier was limited at a height of five metres with the aim of minimising potential visual amenity impacts. However it is noted that all barrier heights in conjunction with other mitigation measures such as property treatment should be considered as part of further detailed design. As the facility is in concept design stage, the implementation of any mitigation measure is subject to further consideration by Transport for NSW as identified in management and mitigation measure B.5. The ground absorption in the facility and rail corridor was modelled as hard ground as 0.25.</p>
20	6.6.8	12 cubic metre mass of barrier. Note: this comment relates to the surface density of the proposed barrier material and is related to the sound transmission through the barrier.	Mass is likely to be insufficient to control component of noise <i>through</i> the barrier, especially with noise sources close to ground level.	The minimum barrier requirement of 12 kilograms per square metre represents the typical standard adopted for transport infrastructure noise mitigation in Australia. Specific barrier materials would be developed during detailed design as described in management and mitigation measure B.5.

Item	Technical paper section	Technical paper comment	PKA comment	Transport for NSW response
21	Figure 6.1	Barrier layout	More details and locations for barriers should be given. The barrier described to the east of the maintenance shed is not shown.	The <i>Noise and Vibration Impact Assessment</i> presented options for noise barriers and other mitigation to be considered as part of the detailed design process. As the facility is in concept design stage, the implementation of any mitigation measures is subject to further consideration by Transport for NSW as stated in Section 6.6 of the <i>Noise and Vibration Impact Assessment</i> . These measures would be considered further during detailed design as outlined in management and mitigation measure B.5.
22	6.2	Calibration of the noise model is not mentioned in the report.	The predictions were not calibrated to known noise levels from example existing facilities to see if assumptions were correct.	Refer to response for Item 6 above (repeated item).
23	Section 10.1 and Table 10.3	Out of hours work recommendations	For outside recommended standard hours, details shown in Table 5.3 (how to apply) should also be considered.	The application of the additional mitigation measures is provided in Transport for NSW's <i>Construction Noise Strategy</i> .
24	All sections	Nowhere in the report is the accumulated noise of different scenarios mentioned or considered.	The accumulated noise from simultaneous scenarios should be considered. This may increase the noise exceedances or impacts.	The operational situations have been assembled such that simultaneous operations have been considered (for example trains preparing to leave and trains moving at the same time, or two trains arriving and standing). As the controlling criteria are assessed over a 15 minute period, the <i>Noise and Vibration Impact Assessment</i> intends to conservatively address the potential impact over a 15 minute period.

4.8.2 Adequacy of assessment

Summary of issues raised

Submissions noted that they considered the noise and vibration assessment provided in the REF and associated *Noise and Vibration Impact Assessment* (Appendix B of the REF) was inadequate and that it did not address all potential impacts (including cumulative) or were concerned around the number of assumptions.

Additionally, one submission noted that further assessment should be undertaken to determine if the Project can comply with *Industrial Noise Policy* (INP) criteria prior to approval, rather than during detailed design.

Submission number(s)

150, 162, 183

Response

The *Noise and Vibration Impact Assessment* (Appendix B of the REF) was developed to address, highlight and assess potential noise issues associated with the Project. At the time of the preparation of the report, all of the details of the noise sources, activities and operations were not known. However in order to address this, gaps in the data were highlighted in the report and have been flagged for further assessment when details are known.

The INP is not intended to present noise criteria that are absolute noise limits; rather it is designed to provide a method of establishing trigger levels above which mitigation should be considered and a range of guidance to deal with situations where the criteria are exceeded. The *Noise and Vibration Impact Assessment* provided a range of recommendations where additional assessment should be carried out and the outcomes of this assessment to be addressed accordingly. These were included as management and mitigation measures B.1 to B.6 in the REF.

In addition to the management and mitigation measures identified in the REF, the predicted noise levels and determination of required noise mitigation would be reviewed and verified as part of an operational noise and vibration management plan in the next stage of the Project (measure AC.1). This review would determine the final design of management and mitigation measures..

4.8.3 Construction noise impacts

Summary of issues raised

Submissions expressed concern regarding the potential noise impacts that would be generated by the construction of the Project. Specific concerns identified included the potential for excessive noise from heavy trucks and equipment during construction and disturbances to residents, the Follyfoot Farm Child Care Learning Centre and farm animals on surrounding properties.

Questions regarding the extent of expected construction hours (i.e. standard construction hours or out-of-hours work requirements) were also raised in some submissions.

Submission number(s)

134, 138, 148, 150, 151, 154, 162, 165, 170, 172, 175, 177, 179, 182, 183, 186, 187

Response

It is acknowledged that the *Noise and Vibration Impact Assessment* indicated that construction noise levels above the noise management levels would be experienced by a number of the surrounding receivers including the Follyfoot Farm Child Care Learning Centre and the Central Coast Steiner School. In order to minimise these potential impacts, a series of noise management measures, including the preparation of the construction noise and vibration management plan (CNVMP) were recommended for both the construction and operational phases of the Project (refer to management and mitigation measures B.1 to B.6, L1 to L.5 and AC.1 to AC.3 in the REF).

With respect to the extent of construction hours, these were described in Section 4.4.3 of the REF. As some of the works are required in the rail corridor, some work may be required outside of standard hours during rail shut down periods. The potential noise and vibration impacts for out of hours works was also addressed as part of the Noise and Vibration Impact Assessment (refer to Section 8.4 of Appendix B of the REF).

The Construction Noise and Vibration Management Plan would include details to instruct the construction contractors in methods and protocols to reduce and manage construction noise impacts from their activities. This would include trucks on public roads accessing the site and any works carried out outside of standard hours during the night. Construction works outside of standard hours would also be required to be approved by Transport for NSW in accordance with the relevant protocols or by the NSW EPA (should an Environmental Protection Licence be required).

4.8.4 Construction vibration impacts

Summary of issues raised

One submission expressed concern regarding the potential vibration impacts that would be generated by the construction of the Project and the potential impacts to property.

Submission number(s)

186

Response

Section 7.2.4 of the REF identified the potential vibration impact associated with the construction of the Project. This discussion noted that the vibration levels and associated safe working distances indicate that cosmetic damage is not considered be a substantial risk due to construction at the nearest sensitive receivers. Vibration may be perceptible at the nearest houses; however it is unlikely to be a risk for the majority of receivers.

Nevertheless, prior to the commencement of construction, property conditions surveys will be undertaken at properties designated by the relevant risk assessments.

4.8.5 Operational noise impacts – General

Summary of issues raised

Submissions raised concerns regarding the general noise impacts which are predicted to result from the operation of the maintenance facility. These included noise impacts associated with the 24-hour site operation, including train washing, maintenance to the wheels (wheel lathe) and other aspects of the facility which would be most prevalent during night time periods. A number of the submissions noted

concerns that this would result in impacts to sleep and general amenity for the surrounding area.

Some submissions also raised concerns regarding the noise impacts generated by additional traffic during shift changes during night or early morning periods. Specific concerns included noise increase from increases in road traffic as well as other elements such as compression braking associated with trucks approaching the new intersection along Enterprise Drive at this times.

Submission number(s)

134, 138, 142, 148, 149, 151, 153, 154, 155, 165, 170, 172, 177, 179, 182, 186, 187, 188, 191, 194

Response

The operational noise and vibration impacts of the Project were assessed in the REF in accordance with the *Industrial Noise Policy* (EPA, 2000).

The *Noise and Vibration Impact Assessment* considered a range of operational scenarios which were developed in consultation with Transport for NSW. The assessment of these scenarios presented the range of predicted impacts associated with the operation of the maintenance facility. The assessment indicated that even after the implementation of mitigation measures, residual impacts may be experienced at some of the closest receivers to the facility. These receivers were recommended for consideration of 'at-property treatment' (refer to management and mitigation measure B.6).

In addition to the management and mitigation measures identified in the REF, the predicted noise levels and determination of required noise mitigation would be reviewed and verified as part of an operational noise and vibration management plan in the next stage of the Project. This review would determine the final design of management and mitigation measures, and identify any residual exceedances of the operational goals.

With respect to the concerns raised regarding potential road noise impacts, the Project also assessed the potential for noise impacts from operational road traffic associated with heavy vehicles movements and shift changeovers in Chapter 11 of the *Noise and Vibration Impact Assessment*. This assessment identified that off-site road traffic noise impacts would comply with the NSW Road Noise Policy (DECCW, 2011) guideline limits and as such specific noise mitigation was not considered to be required. However, the operational noise management plan for the facility would include provisions for managing heavy vehicles and shift change over times to further minimise potential noise impacts.

4.8.6 Operational noise impacts – Horn testing

Summary of issues raised

Submissions raised concern regarding the impacts of horn testing as part of the operation of the maintenance facility. Additionally, a number of the submissions questioned how the impacts of this noise would be mitigated, and whether testing would be undertaken throughout the 24 hour operational period of the facility (i.e. testing during night time or early morning periods).

Submission number(s)

146, 153, 155, 177, 179, 183, 187, 191

Response

As outlined in Section 7.2.6 of the REF, alternative methodologies for horn testing would be considered further during the development of the operational noise and vibration management plan (refer to management and mitigation measure AC.1 in the REF). This consideration would include the environmental noise objectives for the Project and the safety of any staff within the facility. However, the use of horns within the Project site would not be restricted where there is an immediate potential hazard or safety risk to maintenance facility employees.

Further community consultation would be undertaken as part of the operational noise and vibration management plan.

4.8.7 Operational vibration impacts

Summary of issues raised

Submissions raised concern about the potential increase in vibration on their residence and resulting health impacts from lack of sleep and surrounding properties (including schools) based on the increase in train movements, increased heavy vehicle traffic and increased vehicle traffic during operation of the maintenance facility.

Submission number(s)

142, 153, 155, 187, 191, 194

Response

Operational vibration impacts of the Project were addressed in Section 7.2.5 of the REF. This section noted that it is expected that the rail vehicles would comply with applicable vibration standards. As such, substantial operational vibration impacts were not expected. Similarly, it is considered that heavy vehicle movements would not cause perceptible vibration at the nearest sensitive receivers.

4.8.8 Management and mitigation measures

Summary of issues raised

Submissions noted uncertainty about the details regarding proposed management and mitigation measures (such as the location of the proposed noise walls) and that the measures proposed were not clearly defined. Some of the submissions also noted that many acoustic predictions and noise mitigation options were proposed to be delayed for future assessment (i.e. to be further considered during detailed design).

A series of requests for specific mitigation treatments were also made in some submissions including:

- provision of double glazing on all windows
- provision of sound insulation in walls and ceilings of surrounding residences
- no use of any type of loud speaker system inside or outside the facility during operation
- identification of additional noise walls or mounds
- provision of a suitable level of sound proofing to the interior of the facility
- construction trucks fitted with noise reducing backing signals.

Questions regarding the ongoing monitoring of noise levels during the operation of the maintenance facility and enforcement of noise goals were also raised in three submissions

Submission number(s)

153, 155, 162, 175, 177, 179, 183, 185, 186, 191, 194

Response

The operational noise assessment identified a range of mitigation options (refer to management and mitigation measures B.1 to B.6 in the REF). These options are intended for further consideration by Transport for NSW during detailed design when further reasonable and feasible measures are considered for implementation. The options presented included:

- architectural treatment for the facilities buildings
- noise barriers
- restrictions on activities and noise sources
- treatment and selection of noise sources
- at-property treatments.

These mitigation measures were identified to address potential residual noise and vibration impacts associated with the Project.

In addition, the maintenance facility would be subject to an operational noise and vibration management plan. The plan would include processes, protocols and measures to control activities and sources that generate noise. Operational noise monitoring would be carried out to confirm compliance with applicable noise goals.

4.9 Landscape and visual

4.9.1 Visual impacts during operation

Summary of issues raised

Submissions expressed concern about the visual impacts of the maintenance facility including the overall size and industrial appearance of the facility.

Submission number(s)

153, 155, 191

Response

As identified in Section 7.3.4 of the REF, the *Landscape and Visual Impact Assessment* (Appendix C of the REF) concluded that moderate or high visual impacts associated with the Project would be expected to be limited to those properties which are in close proximity to the Project site, including two dwellings along Ourimbah Road and Orchard Road. These dwellings were identified to likely have filtered views of the most prominent elements of the Project including the main facility building, light poles, fences and potentially, moving trains within the Project site.

In addition, the assessment noted that, as the Project site is proposed to be surrounded by dense and tall tree planting (including a large amount of retained vegetation along the boundaries of the Project site, this would assist in screening or blocking many views of the Project from surrounding roads and dwellings. Illustrations of where the vegetation retention would provide substantial screening of the Project

site were shown in artist's impressions displayed at two community information sessions held in June 2016.

Where possible, Transport for NSW would seek to retain and enhance as much of the existing vegetation within the site to provide a visual buffer between the Project and adjoining properties to limit visual impacts. While the assessment noted that some dwellings may have some views of the facility, with the implementation of a sufficient buffer of screen planting, the overall impact would be reduced.

In addition, during the detailed design of the Project, additional opportunities to increase the visual screening for adjacent properties would be considered, including the potential for additional planted earth mounds within the Project site, in order to provide both a visual and noise buffer to adjacent residences.

4.9.2 Lighting impacts and light spill

Summary of issues raised

A number of submissions identified concern regarding the lighting and potential light spill impacts from the operational facility including potential impacts on the existing night time environment and surrounding residential properties. Specific reference to the lighting of the access bridge was also raised in some submissions.

Submission number(s)

142, 143, 146, 148, 172, 182, 186, 187

Response

As described in Section 4.2.6 of the REF, lighting of the indoor and outdoor areas of the facility would be required as part of the facility for general maintenance activities, navigation and security purposes. Due to the 24-hour operation of the facility, it is acknowledged that lighting would be required to be on for all or most of the night and may result in some increased lighting impacts to surrounding areas. As a result, the REF noted that any lighting within the site would be required to be installed in a manner which minimises light spill to areas beyond the maintenance facility site boundary (management and mitigation measure M.3 in the REF).

To further facilitate this outcome, Transport for NSW is currently preparing a detailed Lighting Impact Assessment, contents of which would be included as part of the separate Submissions Report under Part 5 of the EP&A Act.

4.9.3 Privacy

Summary of issues raised

One submission raised concern about reductions to privacy as a result of the Project.

Submission number(s)

151

Response

Maintaining privacy of residences adjacent to the Project is an important consideration for the Project's urban design. In order to maximise the existing privacy for surrounding properties from the maintenance facility, it is proposed that, wherever possible, existing vegetation along the boundary of the site be maintained in order to provide a visual screen between the maintenance facility and adjacent properties. Where vegetation is required to be removed for construction, it is proposed that,

where possible, this vegetation is reinstated following completion of construction. These requirements are described in greater detail in management and mitigation measure M.1 in the REF.

In addition, as described in management and mitigation measure M.1, as part of the consideration of the detailed design of the maintenance facility, consideration of additional measures to reduce potential visual privacy impacts, such as overlooking of adjacent properties from the new access road, would be undertaken.

4.9.4 Management and mitigation measures

Summary of issues raised

Concerns were raised about the management and mitigation measures proposed for nearby homes to reduce visual impacts. A number of submissions noted they did not want to be able to see the facility or overpass from their houses. Some submissions requested that Transport for NSW increase the proposed noise walls in order to assist with mitigating the visual impacts of the Project. Other requests raised in submissions included the retention of vegetation or landscaping with appropriate native plants early in the Project timeline.

Submission number(s)

174, 175, 177, 179, 194

Response

Minimising the visual impact of the Project from surrounding residences is an important consideration for the Project's urban design.

As described in Section 7.3.5 of the REF, a range of management and mitigation measures have been proposed to assist with minimising the potential impacts of the Project within the context of the existing environment.

One of the key management measures which have been proposed for the Project is, wherever possible, maintaining existing vegetation along the boundary of the site in order to provide a visual screen between the maintenance facility and adjacent properties. Where vegetation is required to be removed for construction, it is proposed that, wherever possible, this vegetation would be reinstated following completion of construction. These requirements are described in greater detail in management and mitigation measure M.1.

Where it is proposed to provide additional landscaping, this would be undertaken as early within the construction program as possible in order to assist with ongoing screening of construction works (and subsequent operation of the facility).

Management and mitigation measure M.4. states that tree planting outside the works boundary would also be considered to assist in visually screening the facility. Offset planting for the removed vegetation would be required and would be undertaken with specialist ecological advice.

Selection of sympathetic colours, the final materials and finishes for the maintenance facility would be determined during detailed design in accordance with existing management and mitigation measure M.2.

4.10 Traffic, transport and access

4.10.1 Assessment methodology

Summary of issues raised

The adequacy of the assessment methodology for the *Traffic and Transport Impact Assessment* (Appendix F of the REF) was raised. Specific issues include:

- a number of local roads which will be impacted by the construction and operation of this facility were omitted from the traffic and transport report, including Station Road East and Manns Road
- no traffic modelling of the Catamaran Road and Enterprise Drive intersection was provided.

Submission number(s)

162, 165

Response

The *Traffic and Transport Impact Assessment* (Appendix F of the REF) was developed to address, highlight and assess potential traffic and transport impacts associated with the Project. As part of the assessment, the key roads with the potential to be impacted by the construction and operation of the Project were considered. As all construction and operational employee traffic were anticipated to access the Project site via Enterprise Drive and the local roads to the west of this road, increases in traffic impact to local roads to the east of Enterprise Drive were considered to be minimal.

It was not considered that traffic modelling of the Catamaran Road and Enterprise Drive intersection was required as this intersection was not expected to result in any changes to existing traffic volumes as a result of the Project (other than some additional through traffic). During construction and operation of the Project, this intersection was expected to operate at the same level of service as existing operations. Therefore, it was considered that additional modelling of this intersection is not required.

4.10.2 Construction traffic impacts

Summary of issues raised

Submissions expressed concern that there would be increased traffic through the area during the construction phase. Traffic related concerns included increased delays and congestion, pollution from vehicles and increases in traffic related noise. There was specific concern about delays on Enterprise Drive and increased heavy vehicles in a semi-rural area.

It was also noted that the REF failed to take into account the impact on associated roads like the M1 from the increased truck movements during construction.

Submission number(s)

134, 162, 165, 170, 177, 179, 182, 183, 188

Response

As part of the REF, a range of management and mitigation measures were identified to be implemented during construction in order to minimise potential impacts. Specifically, these included development of a construction traffic management plan as

part of the pre-construction planning for the Project. This plan would be developed to address construction traffic and transport management, maintenance of local access, and would also be used to develop site-specific traffic management measures once the construction methods and haulage routes are finalised. These are outlined as management and mitigation measures P.1 to P.14 in the REF..

4.10.3 Impacts to local access and local roads

Summary of issues raised

Submissions expressed concern about potential access restrictions for residents and commuters during the construction of the facility. Specific reference was made to the potential impacts to Station Road East and Manns Road which, the submissions noted would result in increased traffic due to the proposed changes to the existing right turn at Old Chittaway Road.

The corresponding impacts on the increase in traffic past the Central Coast Steiner School and through the industrial area was also noted as part of this concern.

Submission number(s)

134, 151, 153, 155, 162, 165, 175, 177, 179, 186, 187, 191

Response

The design of the Enterprise Drive and Old Chittaway Road intersection arrangement has been reconsidered as part of the ongoing design of the Project following display of the REF. This design refinement would allow for all traffic movements at this location to continue without the need to restrict any turning movements. As such, it is not expected that the traffic along Manns Road and Station Road East would substantially increase as a result of the Project.

4.10.4 Operational traffic impacts

Summary of issues raised

A number of submissions objected to the Project based on the resulting increased traffic impacts. Specific issues raised include:

- generation of additional traffic (in particular along Enterprise Drive) by maintenance facility employees both during peak and non-peak periods which would worsen existing traffic conditions in the area
- increase in heavy vehicles which were expected to constantly service the maintenance facility
- a request that all employees and visitors access the maintenance facility do so via the new access road bridge, rather than using existing local roads (Turpentine Road, Ourimbah Road and Orchard Road)
- increased noise impact associated with the increase in vehicle traffic travelling to and from the maintenance facility.

Submission number(s)

154, 165, 170, 177, 179, 182, 188, 194

Response

An assessment of the potential operational traffic movements associated with the maintenance facility was presented in Section 7.6.3 of the REF. This assessment

noted that the key traffic impacts associated with the facility would be the arrival and departure of approximately 50 to 60 light vehicles at the shift changeover points. Additionally, the movements of shift workers to and from site was not anticipated to coincide with standard peak traffic times as shift changeover points would fall outside these hours. Therefore, the impact of these movements is considered to be minimal.

Light vehicle traffic due to office-based staff would account for approximately 20 additional vehicles per day with their movements likely to coincide with peak traffic periods however given the small number of vehicles anticipated, impacts are expected to be minimal.

The REF noted that up to approximately 10 heavy vehicles would access the facility per day for maintenance, service and delivery which is considered to be a minimal impact.

It is expected that all employees and visitors would access the maintenance facility via the new access road as this would represent the shortest (and therefore most efficient) access route to the facility.

4.11 Socio-economic

4.11.1 Assessment methodology

Summary of issues raised

Submissions expressed concern that the *Socio-economic Impact Assessment* (Appendix G of the REF) used out of date statistics for the assessment and also expressed disappointment at the use of the available statistics to misrepresent the existing demographics of the local community.

Submission number(s)

162, 165, 183

Response

All of the technical studies prepared as part of the REF, including the *Socio-economic Impact Assessment*, used up to date information which was available at the time of preparation of these studies.

With respect to the concerns regarding the use of the available statistics to misrepresent the existing demographics, this comment is noted by Transport for NSW. This representation was only intended as an interpretation of the available demographics data that was available from the Australian Bureau of Statistics for the Kangy Angy and Fountaindale suburb profiles. The information presented was intended to provide an averaged assessment of the available data.

4.11.2 Amenity impacts

Summary of issues raised

Submissions raised concern about potential impacts to the existing amenity and rural character of the local area. Or expressed opposition to the introduction of an industrial facility in the area which would impact on the existing amenity and quality of life for surrounding residences.

Submission number(s)

134, 139, 148, 165, 170, 174, 183, 188, 190

Response

Amenity impacts of the Project during construction and operation were considered throughout the REF (in particular in Chapter 7) in relation to issues such as noise impacts (Section 7.2), visual impacts (Section 7.3), socio-economic impacts (Section 7.7), general land use amenity impacts (Section 7.8) and air quality (Section 7.13). A range of mitigation measures were proposed to manage and mitigate all of the anticipated impacts associated with these environmental issues.

4.11.3 Impacts to local businesses and schools

Summary of issues raised

Submissions raised concerns about the potential impact of the Project on the local schools (Follyfoot Farm Child Care Learning Centre, Central Coast Steiner School and Berkley Vale High School) and businesses in the area surrounding the Project area.

Submission number(s)

165

Response

The potential impact of the Project on local businesses and schools and childcare centres was considered throughout the REF, in particular with respect to key potential impact issues including noise and vibration, traffic and transport and socio-economic (Section 7.2, Section 7.6 and Section 7.7 of the REF respectively). These assessments concluded that, with the implementation of the identified management and mitigation measures, the impacts to local businesses and the nearby schools and childcare centres would be able to be suitably managed.

4.12 Hydrology, drainage and flooding

4.12.1 Adequacy of assessment

Summary of issues raised

A number of submissions expressed concern that the *Surface Water Impact Assessment* (Appendix H of the REF) undertaken for the REF was inadequate and did not address all of the potential impacts of the Project, including:

- the impact of various components of the Project such as the train washing facility, the access road bridge, the widening of the rail bridge at the Turpentine Road underpass
- the impact of blocked bridges, culverts and drains during major flooding events outside of the Project site
- the perceived reduction in overall area of the flood plain and the potential impact on Bangalow Creek and Chittaway Creek.

Some of the submissions also expressed concern that modelling of the one per cent annual exceedance probability (AEP) (or 1:100 year) event level (with an allowance of 10 percent made for potential future climate change impacts) was not sufficient, or that detailed assessment should be undertaken prior to planning approval.

Submission number(s)

141, 143, 149, 159, 162, 174, 175, 177, 179, 186, 187

Response

The level of assessment undertaken is considered appropriate given the level of design detail on which the REF was prepared. The REF was completed by experienced and suitably qualified professionals in accordance with all relevant environmental and planning legislation, relevant guidelines by government agencies and was based on available information at the time of preparation of the assessment.

The design criteria identified for the Project is to meet a 1:100 AEP event level. As such, the design for the facility, and the associated assessment of potential impacts, was assessed against this design criteria.

The hydrology and flooding impact assessment presented in the REF and the *Surface Water Impact Assessment* technical paper (Appendix H of the REF) did consider the potential for flooding impacts on all proposed Project elements. This includes potential local drainage, stormwater impacts, and water quality impacts during construction, in addition to potential regional flooding impacts, local drainage, stormwater impacts, and water quality impacts during operation.

Additional flooding assessment is being progressed by Transport for NSW in response to the REF and SIS issues raised by the community, the details of which would be included as part of the separate Submissions Report under Part 5 of the EP&A Act.

4.12.2 Change to flooding flow regime

Summary of issues raised

Submissions expressed concern regarding the potential changes to flood flow regimes in the area as a result of the construction and operation of the Project. A number of submissions specifically noted concern about the potential changes to flood water flow paths (due to the importation of fill material) and the resultant diversion of surface water run-off which would result in increased flooding impacts to adjacent properties. Residential properties and the University site at Ourimbah were identified as specific concerns in the future. Additional concerns were also raised that any diversion of flood waters away from the Project site would impact on the local waterway system including Ourimbah Creek, Bangalow Creek and Chittaway Creek which flow directly into Tuggerah Lake.

One submission also questioned what assessment had been undertaken to identify likely impacts of the flood waters displaced by fill imported to the site into other adjacent areas, and where this had been addressed in the REF.

Submission number(s)

138, 141, 142, 150, 151, 153, 155, 157, 162, 163, 164, 177, 179, 183, 186, 188, 191

Response

As described in Section 7.9.3 of the REF, the current design for the proposed New Intercity Fleet Maintenance Facility would be broadly unaffected by the flood waters during the 1:100 AEP event level. However, the REF also did identify that widening of the embankment where the rail crosses an unnamed intermittent waterway may potentially impact the existing flood plain and local drainage processes. These impacts were however noted to likely be minor and the impacts were to be further investigated during the detailed design process. The proposed detention basins would also be designed to manage drainage flows across the site, further minimising potential impacts.

Additional flooding assessment is being progressed by Transport for NSW in response to the REF and SIS issues raised by the community, the details of which would be included as part of the separate Submissions Report under Part 5 of the EP&A Act.

4.12.3 Site flooding impacts

Summary of issues raised

A number of submissions objected to the Project noting that it is unsuitable to propose that the facility be located in an area that has been documented as being prone to flooding. Some submissions also raised flooding of the site as a concern and noted that potential flooding impacts associated with the site would add significant costs to the Project.

Some submissions also noted that the flood-prone nature of the site would be likely to delay construction of the facility, and that during operation, flooding would have the potential to cut off access to the site for up to four to eight days at a time.

Submission number(s)

134, 138, 139, 147, 148, 151, 154, 167, 169, 170, 172, 180, 181B, 183, 188, 193, 194

Response

The concerns raised in the submissions regarding the potential flood-prone nature of the Project site are acknowledged. As discussed in Section 7.9.3 of the REF, the maintenance facility would be developed so as to be located outside the identified 1:100 AEP event level.

Other design elements that have been incorporated in the facility design to minimise the impacts of flooding on the site and neighbouring sites include:

- the access road would be designed so as to be immune from the 1:100 AEP event level
- detention basins have also been proposed as part of the maintenance facility, designed to attenuate flows up to the 1:100 AEP event level
- the track connection from the Main North railway to the Project site would be at the same elevation as the existing so that the 1:100 AEP event level flood immunity is preserved. The new bridge structures at this location over Turpentine Road would be designed to have no impact on existing flood levels
- where possible, all Project components would be designed to be above the 1:100 AEP event level.

Additional flooding assessment is being progressed by Transport for NSW in response to the REF and SIS issues raised by the community, the details of which would be included as part of the separate Submissions Report under Part 5 of the EP&A Act.

4.12.4 Flood modelling

Summary of issues raised

Submissions raised concern that the flood modelling in the report was not extensive enough for the Project. Submissions stated that the REF did not consider:

- extreme events such as the 0.5 per cent AEP (1:200 year) flood event and the Probable Maximum Flood (PMF)

- the impact of blocked bridges, culverts and drains during major flooding events
- possible blockages at Lees Bridge and the Turpentine Road/Chittaway Creek rail bridge.

A number of submissions also requested that additional flooding modelling and flooding impact assessment be completed for the Project. Of these, a number also specifically requested that the site be re-evaluated with reference to the flood mapping from the 1992 flood event.

Submission number(s)

150, 162, 183, 186, 188

Response

The level of assessment undertaken is considered appropriate given the level of design detail on which the REF was prepared. The REF was completed by experienced professionals in accordance with all relevant environmental and planning legislation, relevant guidelines by government agencies and was based on available information at the time of preparation of the assessment. The design criteria identified for the Project to meet was a 1:100 AEP event level, for which the facility has been designed to, and to which the Project will be assessed.

Additional flooding assessment is being progressed by Transport for NSW in response to the REF and SIS issues raised by the community, the details of which would be included as part of the separate Submissions Report under Part 5 of the EP&A Act.

4.12.5 Water quality and pollution to local waterways

Summary of issues raised

A number of submissions expressed concern about potential impacts to water quality and pollution in local waterways, particularly Ourimbah, Chittaway and Bangalow Creeks and the Tuggerah Lake system. These submissions were also concerned about the release and/or leakage of contaminated wastes and chemicals into the local water systems. It was also noted that the Tuggerah Lake system is currently subject to substantial weed and water quality issues which would be exacerbated by the Project. It was also recommended that the waterways should be monitored.

Submission number(s)

138, 139, 141, 148, 153, 155, 165, 162, 167, 177, 179, 182, 183, 188, 191, 194

Response

Section 7.9.4 of the REF identified a range of management and mitigation measures which would be implemented to minimise potential contamination and pollution impacts from discharge and run-off from the Project site. Water quality impacts would also be managed in accordance with a site Erosion and Sediment Control Plan (management and mitigation measure U.1 - REF). In addition, a range of measures would be put in place during construction and operation to minimise pollutants entering the water system including:

- scour protection would be provided at both ends of culvert extensions to reduce erosion and water quality impacts (management and mitigation measure E.6 - REF)
- the proposed detention basins would be designed so as to reduce sediment loads and pollutants entering streams. These detention basins would be installed as

early as possible during the construction phase of the Project (management mitigation measure E.7 - REF)

- stormwater from higher risk pollution generating activities such as workshop facilities should be treated with oil interceptors or other treatment measures discharge to sewer, where feasible (management and mitigation measure E.8 - REF).

4.12.6 Management and mitigation measures

Summary of issues raised

Submissions questioned the proposed management and mitigation measures for the management of potential hydrology, drainage and flooding impacts. Some of these submissions were also concerned that not all possible management and mitigation measures were addressed in the REF. One submission queried the Work, Health and Safety requirements around potential flooding and if medics were required to be on site.

Submission number(s)

156, 162, 183

Response

As part of the REF, a range of management and mitigation measures were identified to minimise potential impacts during both detailed design and construction with respect to potential hydrology and flooding impacts associated with the Project. These were outlined in Section 7.9.4 of the REF and summarised as management and mitigation measures E.1 to E.8 (detailed design) and S.1 to S.7 (construction).

With respect to the suggestion to provide safe access and egress from the Central Coast Highway during flood periods, the proposed flood access road outlined in the REF is considered to be sufficient to meet this need and will provide direct access to Enterprise Drive during flood events. In the event of an emergency, the relevant emergency services will be contacted.

An Erosion and Sedimentation Control Plan (ESCP) would be developed, implemented and maintained for areas within the site in accordance with *Managing Urban Stormwater, Soils and Construction Guidelines* (Landcom, 2004). As the Project would not increase the flood risk to surrounding properties, no alteration of existing erosion hazards are expected. The implementation of erosion control measures on private property is therefore considered outside the scope of the Project.

4.13 Groundwater

4.13.1 Impact to existing bores

Summary of issues raised

Submissions raised concern regarding the potential impacts to bore water and ground water as a result of the Project. It was noted in the submissions that some properties in the area rely on bore water and expressed concern about potential contamination of this water source.

Submission number(s)

138, 139

Response

The potential impacts to registered groundwater bores was discussed in Section 7.10.2 of the REF. This assessment concluded that the potential impacts to registered groundwater bores during the construction and operational phases of the Project are considered to be negligible. Additionally, the REF stated that further consideration and assessment of the potential impacts to registered bores would be undertaken during detailed design, following the calculation or modelling of groundwater inflow rates, dewatering volumes and drawdown (refer to management and mitigation measures F.1 to F.4 in the REF).

With respect to the potential for contamination to groundwater, management and mitigation measure AE.1 identified that a hazardous material procedure, including procedures for managing spills and refuelling, would be developed and implemented during operation of the Project to minimise groundwater contamination from chemical spills and leaks..

4.14 Land use and property

4.14.1 Land zoning

Summary of issues raised

A number of submissions objected to the Project based on the current zoning of the site with a majority of the land currently being zoned as either E2 Environmental Conservation or E3 Environmental Management under the *Wyong Local Environmental Plan 2013*. Concern was also raised in some submissions that the facility would represent an inappropriate use of the objectives and intention of these zones. Some submissions also raised objection that the zoning could be changed for the purposes of the Project without consultation or an EIS process.

Submission number(s)

134, 144B, 150, 153, 155, 162, 164, 165, 167, 183, 186, 191, 193, 194

Response

As described in Section 5.3 of the REF the provisions of the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP) means that local environmental plans (LEPs), and hence the zonings that they identify, do not apply to the extent that they impose controls which are inconsistent with the Infrastructure SEPP.

Specifically, clause 79 of the Infrastructure SEPP outlines that railway facilities (inclusive of 'maintenance, repair and stabling facilities for rolling stock') are permissible without the need for development consent on any land.

Notwithstanding the above provisions of the Infrastructure SEPP, during the preparation of the REF, the aims and objectives of the Wyong LEP 2013 (current LEP affecting the site), and the relevant land use zonings were still considered. The consideration of all the zonings affected by the Project were described in Table 5.1 of the REF.

While it is acknowledged that the Project would result in a change to the overall environment and the identified intentions of the E2 Environmental Conservation and E3 Environmental Management zone objectives, the ongoing design of the Project has included consideration of these objectives in order to minimise potential impacts. In particular, throughout the ongoing design of the maintenance facility, the need to retain and conserve as much of the existing vegetation on the site has been

considered, including the retention of as much vegetation as possible, in particular along the boundaries of the site.

4.14.2 Land and property value impacts

Summary of issues raised

A number of submissions expressed concern that the construction and operation of the Project would result in detrimental impacts to the value of their properties and the properties in the surrounding area.

Submission number(s)

142, 148, 149, 153, 155, 162, 170, 175, 177, 179, 182, 185, 186, 188, 191, 194

Response

Movements in the value of a property are difficult to predict as they are subject to many variables including specific attributes of the property, capital improvements, demand and supply factors and other changes in the wider property market. Land values have a tendency to move in response to positive and negative influences in a given area. As such they can be seen as a barometer of the net effectiveness of various changes.

While it is acknowledged that the Project would result in some change to the local character of the area, ongoing detailed design of the facility would assist in ensuring that the design of the facility is as sensitive as possible to the amenity of the surrounding landscape. This would include retention of existing vegetation and enhancement of new vegetative screening of the facility from surrounding residents which would assist with minimising potential adverse impacts on property values. The implementation of the range of additional management and mitigation measures (as identified throughout the REF) as part of the construction and operation of the Project are considered to be sufficient to minimise any potential impacts associated with the Project, including any potential impact to the land values of surrounding properties.

In addition, under the NSW *Land Acquisition (Just Terms Compensation) Act 1991*, Transport for NSW is not required to compensate property owners for the potential loss of property value, and are only required to compensate property owners at market value for all property acquired as part of the Project (refer to Section 4.14.3).

4.14.3 Land acquisition

Summary of issues raised

Submissions objected to the need for compulsory acquisition as part of the Project. Some submissions noted that the REF did not make any reference to the need to acquire properties to accommodate the Project.

One respondent requested that their property be acquired as part of the Project while another requested that less land be acquired than what is currently proposed. Another also queried why the sale contract value for Central Coast Council land had not yet been disclosed to the public.

Submission number(s)

133, 157, 166, 167, 174, 182, 183, 193

Response

The general extent of land acquisition required as a result of the Project was described in Section 4.3 of the REF. While it is acknowledged that some level of private property acquisition would be required to accommodate the Project, Transport for NSW would seek to refine the amount of land required as part of detailed design.

Transport for NSW is currently in the process of negotiating with existing private property owners and Central Coast Council for the acquisition of their respective land holdings in accordance with the (NSW) *Land Acquisition (Just Terms Compensation) Act 1991*. The compensation requirements of this Act would apply to all property proposed to be acquired as part of the Project.

Only properties that are directly required for the construction and operation of the Project have been identified for acquisition. Under the NSW *Land Acquisition (Just Terms Compensation) Act 1991*, Transport for NSW is only required to compensate property owners at market value for all property directly affected by the Project. This refers to property that is either temporarily or permanently required for the Project. There is no legal requirement for compensation for indirect impacts (such as amenity impacts) on adjacent properties.

Costs associated with property acquisition are commercial in confidence.

4.15 Air quality

4.15.1 Assessment methodology

Summary of issues raised

Submissions expressed concern that there was no specific air quality testing undertaken at the Project site or surrounding residences.

Submission number(s)

162, 165

Response

A *Construction Air Quality Impact Assessment* for the Project was provided a part of the REF (provided as Appendix J). This assessment included consideration of air quality impacts associated with the generation of dust and emissions from the operation of on-site machinery, excavation works, materials handling and material storage.

While this assessment was limited to a desktop study and did not include specific air quality testing at the Project site, the assessment did take into account available data for the existing environment including local climate, wind speed and direction data from the Bureau of Meteorology in addition to local air quality data from the OEH including PM₁₀, PM_{2.5} and total suspended particle concentrations which were available from local monitoring stations. The use of available information was consistent with the preparation of construction air quality assessments for similar projects and provided an adequate level of information to identify the potential impacts and determine appropriate management and mitigation measures.

4.15.2 Construction air quality impacts

Summary of issues raised

Submissions expressed concern about potential air pollution impacts during construction. In particular, raising the issue of dust and the potential that air quality changes would affect the health of their animals.

Submission number(s)

134, 143, 154, 165, 172, 175, 182, 183, 187

Response

While it is acknowledged that there would be a temporary increase in dust from earthworks and particulate emissions from the movement and use of on-site machinery and traffic during construction, these issues are typical of infrastructure projects and would be able to be successfully managed using standard environmental management measures.

One of the key measures would be the development of a Dust Management Plan (management and mitigation measure W.1- REF). This plan would identify the range of construction activities with potential to impact air quality and detail specific management and mitigation measures which would be applied to minimise these impacts. The management and mitigation measures identified would also take into consideration measures to minimise potential health impacts to the local community as a result of construction and operation of the Project.

During construction, most recommended management measures are routinely employed as standard practice on construction sites. At the Project site, particular attention would be paid to controlling dust generated by earthworks and movement of vehicles to, from and within the Project site.

4.15.3 Operational air quality impacts

Summary of issues raised

Submissions expressed concern regarding potential air quality impacts such as pollution and dust from the facility during operation.. One submission also noted that they felt the facility doors should be closed at all times to manage air pollution.

Submission number(s)

134, 154, 162, 165, 172, 182

Response

As described in Section 7.13.3 of the REF, the proposed maintenance facility is expected to generate limited operational air quality impacts. The New Intercity Fleet would consist of electrified trains and equipment would typically be electricity or battery powered where practicable. A small amount of gaseous emissions (including some minimal potential for dust) would however have the potential to occur as a result of the use of some site equipment or from the additional vehicle travel required for employees.

Section 7.13.4 of the REF outlines a series of management and mitigation measures that would be included in the Dust Management Plan and implemented for the Project site during operation to minimise potential air quality impacts.

Closure of the maintenance facility doors was considered as part of the noise and vibration impacts in the REF. This assessment noted that the maintenance shed

doors would remain closed when activities are occurring inside the sheds, where reasonable and feasible. This would also apply to the closure of the doors to mitigate any potential air quality impacts.

4.15.4 Errors and omissions

Summary of issues raised

One submission identified an error in the REF regarding the statement that the Project would have potential air quality impacts during operation.

Submission number(s)

162, 165

Response

While all efforts were made during the preparation of the REF to provide accurate and consistent information throughout the report and technical papers, some inconsistencies or omissions have been raised throughout the submissions process. Any inconsistencies and errors which have been identified are considered to be minor in nature and Transport for NSW does not consider that they significantly impede the ability to assess the impacts of the Project.

With specific reference to the inconsistency regarding operational air quality impacts, as described in Section 7.13.3 of the REF, the proposed maintenance facility would have very little operational impact on air quality. The operation of the main elements of the New Intercity Fleet Maintenance Facility would have almost no operating air quality impacts as the new fleet would consist of electrified trains and would therefore result in minimal generation of air quality impacts.

4.16 Bushfire

4.16.1 Adequacy of assessment

Summary of issues raised

Submissions noted that under the *Planning for Bushfire Protection Guidelines* (NSW Rural Fire Service, 2006), developments which may start bushfires should not be permitted in bushfire prone areas. It was also noted that the REF did not contain a Bushfire Assessment Report given its identification as being within a bushfire risk zone.

Submission number(s)

162, 183

Response

The document entitled *Planning for Bushfire Protection guidelines* (NSW Rural Fire Service, 2006) was reviewed in relation to the Project and the relevant management and mitigation measures have been identified. As noted in Section 7.15.1 of the REF, the Project site has been identified Bush Fire Prone Land. Section 7.15.4 of the REF identifies the appropriate bushfire management and mitigation measures. These measures have been developed based on a review of the document entitled *Planning for Bushfire Protection* (NSW Rural Fire Service, 2006). A Bushfire Management Plan would be incorporated into the overall CEMP.

In addition, a *Bushfire Protection Assessment Report* (Australian Bushfire Protection Planners Pty Limited, 2016) was prepared as part of the development of the concept design for the Project. The Bushfire Protection Assessment Report provided an assessment of the bushfire protection measures required to address the objectives of *Planning for Bushfire Protection guidelines* and examined the standards regarding setbacks (i.e. defensible space), provision of water supply, fuel management protocols and other matters considered necessary to mitigate any potential bushfire threat to persons, property and the environment from the danger that may arise from a bushfire within or adjacent to the site.

A meeting with the Rural Fire Service was also undertaken as part of the development of the concept design (18 April 2016) to discuss the facility, its location and to ensure that the facility was designed to offer protection from bushfire risk.

4.16.2 Escape routes during a bushfire

Summary of issues raised

Submissions noted that the Project site would not provide a safe access/egress route for emergency vehicles or evacuating workers in the event of a local bushfire.

Submission number(s)

162, 183

Response

The design of the maintenance facility is considered to provide a safe access/egress route for emergency vehicles or evacuating workers in the event of a local bushfire. Specifically, Section 7.15.4 of the REF notes that the following measures would be included to ensure provision of safe escape routes at the facility:

- appropriate access tracks would be maintained to all sections of the Project site during construction and operation to allow safe access, egress and a defensible space for emergency services in the event of a bushfire or emergency
- the CEMP would include emergency evacuation procedures in the event of a bushfire or emergency. This would include a map of all potential access tracks to and from the site, in addition to the primary access route for site personnel
- the emergency/evacuation plan for the site would be prepared in accordance with the relevant NSW Rural Fire Service Guidelines for the preparation of emergency/evacuation plan(s).

In addition, the new access road to the maintenance facility is considered to provide a suitable alternative egress/evacuation route for emergency vehicles, maintenance facility employees as well as local residents (through the proposed connection to Orchard Road) during a bushfire emergency.

4.17 Hazards and risks

4.17.1 Impacts to tank water

Summary of issues raised

Submissions raised concerns about potential dust and pollution impacts to the tank water of local residents. A majority of the submissions noted that increased dust and pollution from the construction of the Project would result in potential health risks to residents as a result of any contamination of their tank water. Some residents suggested methods to mitigate this potential impact during construction including:

- connecting all local residents to town water
- cleaning all buildings roofs every six months throughout the construction period
- all existing water tanks to be cleaned and restocked with water every six months throughout the construction period
- provide a sufficient number of tap filters to allow replacement of existing filters throughout the construction period.

The impact of additional vehicles using Enterprise Drive during operation (such as increased brake dust) and the resultant impact on tank water was also cited as a concern in one submission.

Submission number(s)

138, 153, 155, 162, 165, 175, 177, 179, 186, 188, 191

Response

As described in Section 7.13 of the REF, the key potential risks during construction would be associated with the increase of particular matter from earthworks, wind erosion and vehicle movements.

During construction, the nominated construction contractor would be required to minimise any dust or emissions leaving the site throughout the construction period. This would be achieved through the use of the management and mitigation measures (management and mitigation measures W.1 to W.8) identified in the REF.

In particular, dust monitoring of any particulate material leaving the site would need to be undertaken throughout construction (management and mitigation measure W.2 to W.4). This would include the use of dust and weather monitoring equipment at various intervals along the Project site boundary to monitor for external exceedances of dust. When this occurs, mitigation measures would be implemented for affected properties (i.e. those properties downwind at the time of an exceedance) including cleaning dust off roofs and, if required, replacement of existing tank water.

These mitigation measures would be applied in accordance with the results of a condition survey of existing buildings within the vicinity of the Project site. This survey would be undertaken as part of the preparation of the Dust Management Plan to establish a baseline extent of existing dust accumulation prior to commencement of construction works (management and mitigation measure W.1).

At this time, it is not proposed to provide connection for local residents to town water as part of the Project. This is the responsibility of the Central Coast Council. However Transport for NSW will ensure that water pipes within the site are installed to cater for future connection (by others) to the water service.

During operation, the maintenance facility is expected to produce a limited amount of emissions (due to the electric nature of the New Intercity Fleet and the fact that a majority of the proposed maintenance activities will be undertaken within enclosed areas). As such, the operation of the maintenance facility is not expected to result in any increase in potential risks to existing tank water collection.

4.17.2 Health impacts

Summary of issues raised

Submissions expressed concern regarding potential health impacts to the community as a result of the construction and operation of the facility. These included:

- noise from the facility would cause sleep disturbance and contribute to stress for local residents
- dust and air quality impacts would cause potential respiratory issues.

Submission number(s)

141, 142, 165, 175, 177, 179, 188

Response

As noted in Section 7.2.5 of the REF, it is acknowledged that some receivers within the immediate vicinity of the Project would still have the potential to be impacted by noise levels above the assessment criteria during operation, even with mitigation measures in place. Further to the management and mitigation measures identified in the REF, the predicted noise levels and determination of required noise mitigation would continue to be reviewed and verified as part of an operational noise and vibration management plan in the next stage of the Project. This would determine the final design of management and mitigation measures, and identify any residual exceedances of the operational goals and further mitigation measures which can be implemented to minimise these impacts.

With regards to air quality, any potential air quality impacts during operation are expected to be minimal and would be able to be suitably managed through the implementation of the management and mitigation measures.

4.17.3 Childcare safety

Summary of issues raised

One submission expressed concern about the safety and wellbeing of children at the Follyfoot Farm Child Care Learning Centre. The submission noted that parents and caregivers may be concerned about excessive noise, dust and emissions from the facility.

Submission number(s)

186

Response

As noted in Section 7.2.5 of the REF, the Central Coast Steiner School at 10 Catamaran Road and the Follyfoot Farm Child Care Learning Centre at 98 Old Chittaway Road are not expected to experience noise levels in excess of the applicable INP criteria from the Project, even without mitigation measures. Notwithstanding, Transport for NSW have identified a range of management and mitigation measures which are proposed to be implemented during construction as described in Section 7.2.6 of the REF which would further minimise the impacts of noise and vibration from the Project.

Overall, it is anticipated that the proposed management and mitigation measures would be sufficient to minimise any potential impacts to the safety and wellbeing of local residents, including attendees of the Follyfoot Farm Child Care Learning Centre and Central Coast Steiner School, during construction and operation of the maintenance facility.

In addition, safety barriers/hoardings would be installed around the Project site during construction to delineate construction versus public areas. Suitable barricades and traffic/access management measures would also be implemented to protect the public and prevent public access onto the worksite during construction. As part of the

ongoing design and development of the Project, Transport for NSW would continue to liaise with local schools and childcare facilities regarding the Project and methods to further mitigate potential impacts.

4.17.4 Security of residences

Summary of issues raised

Submissions raised concern about the security of their properties as a result of the proposed maintenance facility during construction and operation. One submission also requested that the facility access point onto Orchard Road be locked at all times.

Submission number(s)

151, 175, 182, 188

Response

Maintaining the safety and security of residences adjacent to the Project during the construction and operation of the Project is an important consideration for Transport for NSW. It is acknowledged that the Project would result in the need for additional people to access the locality during construction and operation of the maintenance facility. However, workers would not be required to access private properties outside the Project area (without reason and following prior consultation from Transport for NSW to seek approval of the property owner), in particular during construction. It is not expected that the additional workers would result in any decrease in the current existing security for adjoining residences.

During operation, it is not anticipated that any employees would be required to access adjoining properties. The entrance to the maintenance facility would be securely gated to ensure access is limited to authorised personnel only.

4.17.5 Other

Summary of issues raised

Two submissions made reference to a resident that almost lost their life in a 2007 floods.

Submission number(s)

183, 188

Response

Noted. Transport for NSW takes the safety of the community very seriously.

As described in Section 7.9.3 of the REF, the current design for the proposed New Intercity Fleet Maintenance Facility would be broadly unaffected by the flood waters during the 1:100 AEP event level. However, the REF also did identify that widening of the embankment where the rail crosses an unnamed intermittent waterway may potentially impact the existing flood plain and local drainage processes. These impacts were however noted to likely be minor and the impacts were to be further investigated during the detailed design process.

4.18 Utilities and services

4.18.1 Cost for additional utilities

Summary of issues raised

The cost of installation of new utilities to meet the needs of the maintenance facility was questioned and whether these costs had been considered as part of the overall Project.

Submission number(s)

139

Response

The costs associated with the installation of new utilities to meet the needs of the maintenance facility were considered as part of the economic assessment for the Project and have been included as part of the overall cost of the Project.

4.18.2 Provision of additional utilities

Summary of issues raised

Three submissions enquired about the provision of additional utilities such as sewerage, water, stormwater and NBN to properties in the area.

Submission number(s)

153, 155, 191

Response

As part of the construction of the maintenance facility, some additional services, such as sewerage, water, stormwater and telecommunications would be installed to the site. At this stage it is not proposed to extend these utilities to properties adjacent or surrounding the maintenance facility site. However, allocation would be made as part of the Project for the potential provision of these services in the future. For example, this would include installation of empty conduits within the access road bridge deck and extension of water services to the boundary of the Project site (such as Orchard Road) which would be available for connection by other service providers (such as Central Coast Council) in the future.

4.19 Out of scope issues

4.19.1 Compensation

Summary of issues raised

Submissions questioned whether Transport for NSW intended to provide compensation to residents with specific regard to issues such as:

- increased insurance costs (noted in submissions to be due to the potential for increased flooding due to the raising of the project site)
- loss of income as a result of the construction of the Project (as a result of restriction to or closure of local roads during construction).

Submission number(s)

183, 188

Response

Transport for NSW does not provide compensation for impacts other than those which occur as a direct impact of the Project (such as direct impact to property through acquisition of land, or specific mitigation measures such as direct treatment to properties to minimise noise impacts). As described in section 4.12 of this report, the range of management and mitigation measures proposed for the Project is not expected to result in any substantial change to existing flooding flow regimes, and therefore is not anticipated to result in any increased risk of flooding to surrounding properties above or beyond the existing risks to these locations.

It is not proposed that existing local roads would typically be closed during construction. As such, it is not expected that residents will be restricted from travelling to and from their residences throughout the construction period. However it is likely that Turpentine Road would need to be temporarily closed for short periods of time during construction of the new bridges at this location. This would only occur once the new access bridge has been constructed and can provide an alternative access point for local residents.

4.19.2 Public transport

Summary of issues raised

Submissions noted that there is limited public transport in the area. One submission suggested that a public railway station be established on the western side of the railway line. Additionally one submission suggested a cycleway is established on the western side of the line to enable access the proposed maintenance facility from Tuggerah Station, including the provision of secure bike storage lockers.

Submission number(s)

140, 163, 182, 186, 189

Response

The provision of additional public transport for the local area is outside the scope of the current Project. It is not proposed to construct a new railway station or cycleway as part of the Project.

4.19.3 Impacts from construction of the Gosford Passing Loops

Summary of issues raised

One submission noted that there were a number of traffic related impacts during the construction of the "Passing Loops" project. Impacts noted include congestion, speeding, dust, increased litter, increased noise and incidences of graffiti.

Submission number(s)

188

Response

Concern regarding the potential impacts associated with the Gosford Passing Loops project is noted by Transport for NSW.

A range of management and mitigation measures are proposed to ensure that the proposed maintenance facility project is constructed with minimal impacts. These include impacts such as potential noise, dust, traffic and waste impacts.

5 Response to Government agencies and representative submissions

This chapter details the issues raised in submissions made by Government agencies and representatives during the public display of the EPBC documentation. For each issue (or sub-issue) raised – a summary of the issue is presented, followed by a list of the relevant submission numbers and Transport for NSW's response.

5.1 Central Coast Council

Central Coast Council provided a submission, with the input of their ecologist and focused on biodiversity issues, and are listed in Table 5.1 along with Transport for NSW's response.

Table 5.1 Comments raised by Central Coast Council

Issue	Transport for NSW response
Adequacy of assessment for the SIS	
<p>It is considered the impacts to Swamp Sclerophyll Forest on Coastal Floodplains (SSF) and threatened species habitat have been underestimated as the assessment largely focusses on direct impacts, namely, the removal of vegetation and habitat. The proposed layout shows small, narrow areas of native vegetation will be retained however, these areas are unlikely to remain viable as functional areas of habitat and will be highly susceptible to edge effects and other indirect impacts due to their size, shape and isolation. Greater consideration of the impacts to these areas should be included in the assessment.</p>	<p>Section 7 of the Species Impact Statement (SIS) proposes that a specific Threatened Flora Management Plan be prepared for retained areas within the site that contain <i>Melaleuca biconvexa</i> and Swamp Sclerophyll Forest. This plan will provide a framework for the management of the species and community from preclearing, construction and operation phases of the project.</p>

Assessment methodology for the SIS

The assessment of impacts to *Melaleuca biconvexa* relies on stem counts, which have been used as the basis for various calculations and assumptions in relation to the species. An individual of the species may have numerous stems and therefore, stem counts do not provide an accurate estimate of the size of the population. Calculations and assumptions based on stem counts may be misleading. A recent study undertaken by Bell (2016) uses a condition assessment of stands of *Melaleuca biconvexa* to ascertain their value. When comparable data is available, this approach would provide a more accurate picture of the value of the stands to be removed, and be more informative for impact assessment and management of retained stands of the species. However, it is acknowledged that information regarding this method may not have been available during preparation of the SIS.

The SIS acknowledges the difficulty in estimating *Melaleuca biconvexa* populations. In estimating the population size and abundance of *Melaleuca biconvexa* for the local population, two methods incorporating a broad visual abundance assessment (Duncan 2001) and stem count were completed (Cropper 1993). In addition these surveys were undertaken in accordance with methods identified within the Threatened Species Survey and Assessment: Guidelines for Developments and Activities (Department of Environment and Conservation 2004).

At the time the SIS was prepared this method was considered appropriate to enable population estimate for this species.

Vegetation clearance

The impacts of the proposal are considered to be significant due to the extensive removal of SSF and Biconvex Paperbark. It is Council's preference that further attempts are made to avoid impacts to SSF, *Melaleuca biconvexa* stands and habitat for threatened species, including exploration of the potential to utilise cleared and disturbed areas and retain connectivity.

Where possible, detailed design of the maintenance facility would seek to further reduce the overall footprint of the Project (operational and construction areas) to further reduce vegetation impacts.

Prior to construction commencing, exclusion zones will be established to protect vegetation and fauna habitats outside of the approved clearing limits. Vegetation to be retained on site will be clearly defined on ground and "no go zones" clearly signposted and demarcated to prevent unauthorised clearing and vehicular and/foot traffic.

Offset provisions

Offsets should be secured through the Biobanking scheme to ensure management of the land in perpetuity. This should be undertaken in preference to contributions to conservation programs as these do not benefit from the same level of ongoing security as Biobank sites.

Section 7.1.2 of the SIS provided a detailed description of the proposed Biodiversity Offset Strategy for the Project and which will be developed in accordance with the NSW Biodiversity Offset Policy and delivered using BioBanking assessment methodology. This included identification of the estimated project offset requirements, potential offset options and the security of these offset options. The development of this strategy is ongoing and will be done in consultation with the NSW Office of Environment and Heritage and the Commonwealth Department of the Environment and Energy.

5.2 State Member of Parliament for The Entrance

The State Member of Parliament for The Entrance provided a submission and identified a series of concerns. These concerns, and Transport for NSW's responses, are addressed in Table 5.2.

Table 5.2 Comments raised by the State Member of Parliament for The Entrance

Issue	Transport for NSW response
Opposition to preferred site	
<p>I write to oppose the proposed location of the above facility on the basis that the environmental damage which will occur should construction proceed at Kangy Angy site is unacceptable and better site exist for the development nearby.</p>	<p>It was identified as part of the <i>Comparative Site Analysis</i> (GHD, 2015a) that Kangy Angy site was identified as a better overall site for the proposed maintenance facility.</p> <p>Consideration of potential impacts of the project has been undertaken; the New Intercity Fleet Maintenance facility project is expected to have both positive and negative environmental and social impacts. With the implementation of suitable management and mitigation measures, the social and environmental impacts are not anticipated to be substantial.</p>
Impact to threatened species	
<p>I am concerned that the habitat of the critically endangered Regent Honey Eater and Swift Parrot, as well as an unidentified frog, will be damaged by development which does not need to be built at Kangy Angy when it could be built at site 2 (Warnervale) on industrial zoned land with little or no environmental impact.</p>	<p>In examining the life cycle of the Regent Honeyeaters, it is considered unlikely that this species would breed within the study area. However there is an abundance of Swamp Mahogany on site, a winter flowering species which provides suitable habitat to the Regent Honeyeater. Potential foraging habitat found within the study area spans the two broad habitat types; swamp forest and wet open forest.</p> <p>The study area provides approximately 30.2 hectares of foraging habitat for the Regent Honeyeater and Swift Parrot, of which 23.2 hectares is likely to be impacted, including 19.6 hectares of swamp forest and 3.6 hectares of wet open forest. In the locality this equates to approximately 0.6 per cent of potentially suitable habitat for the Regent Honeyeater. Therefore, whilst the project will add incrementally to the loss of foraging habitat in the locality and the loss of approximately 0.6 per cent of potentially suitable foraging habitat in the locality is not likely to have an adverse effect on the life cycle of this species.</p> <p>Kangy Angy is the preferred site for the proposed maintenance facility based on consideration of all identified site options against the assessment criteria and potential property acquisition constraints as per the <i>Comparative Site Analysis</i> (GHD, 2015a).</p>

Impact to newly described frog

I am concerned that the habitat of the critically endangered Regent Honey Eater and Swift Parrot, as well as an unidentified frog, will be damaged by development which does not need to be built at Kangy Angy when it could be built at site 2 (Warnervale) on industrial zoned land with little or no environmental impact.

On 4 November 2016, a scientific paper was published which provided a taxonomic name and classification of the unidentified frog species - *Uperoleia mahonyi* (or Mahony's Toadlet).

This species has not been provisionally listed with a threatened status under the *Threatened Species Conservation Act 1995*.

Site selection – options process

My own inspection of the site revealed standing water to just under a metre deep and abundant wildlife in the vicinity of the proposed development. These constraints, and the absurd proposal to build a new bridge over the northern line to access an inaccessible site when there is a site nearby without the same constraints is impossible to reconcile.

As described in Section 7.9.3 of the REF, the current design for the proposed New Intercity Fleet Maintenance Facility would be broadly unaffected by the flood waters during the 1:100 AEP event level. However, the REF also did identify that widening of the embankment where the rail crosses an unnamed intermittent waterway may potentially impact the existing flood plain and local drainage processes. These impacts were however noted to likely be minor and the impacts were to be further investigated during the detailed design process. The proposed detention basins would also be designed to manage drainage flows across the site, further minimising potential impacts.

Community preference – Warnervale site

Reconsideration of the Warnervale site should occur or, in the alternate, a full Environmental Impact Study of the Kangy Angy site should be undertaken.

While it was identified as part of the *Comparative Site Analysis* (GHD, 2015a) that the Warnervale site would have some environmental benefits over the Kangy Angy site, based on consideration of both the environmental and engineering criteria, in conjunction with property ownership constraints and the potential to impact on the proposed Link Road, it was considered that Kangy Angy was identified a better overall site for the proposed maintenance facility.

Section 112(1C) of the EP&A Act states that an EIS is not required to be prepared for an activity for which a Species Impact Statement (SIS) has also been prepared in accordance with the *Threatened Species Conservation Act 1995* (TSC Act) if, other than the potentially significant impact on protected species (which are required to be assessed by a SIS), the activity does not and is not likely to significantly affect the environment. Therefore, in order to meet this requirement, a SIS was prepared as part of the environmental assessment documentation for the Project.

A detailed environmental assessment has been completed and is detailed in the Project REF and SIS.

6 Conclusion

Transport for NSW received a total of 62 submissions during the public display of the EPBC documentation. Of these submissions, two were received from Government agencies/representatives, three were provided on behalf of community groups. The remaining submissions were received from individual members of the community and/or businesses.

This EPBC Submissions Report has documented the issues identified in these submissions and outlines Transport for NSW's responses to the issues. A substantial proportion of submissions were concerned about options development and site selection, biodiversity, hydrology drainage and flooding and noise and vibration.

This report has been issued to DoEE for their consideration in providing their decision on the Project, under the requirements of the EPBC Act.

7 References

Australian Bushfire Protection Planners Pty Limited 2016, *Bushfire Protection Assessment Report*, 30 May 2016.

Department of Planning and Environment 2016, *Central Coast Regional Plan 2036*, October 2016.

EMGA Mitchell McLennan (EMM) 2015, Preliminary Ecological Assessment, New Intercity Maintenance Facility. Prepared for Transport for NSW, 15 October 2015.

Environment Protection Authority 2000, *Industrial Noise Policy*

GHD 2014, *Central Coast Train Stabling and Maintenance Facility – Concept Options Development*. Prepared for Transport for NSW, November 2014.

GHD 2015a, *Central Coast Train Stabling and Maintenance Facility – Comparative Site Analysis*. Prepared for Transport for NSW, March 2015.

GHD 2015b, *Central Coast Train Stabling and Maintenance Facility – Bushells Ridge Site Assessment*. Prepared for Transport for NSW, April 2015.

Landcom 2004, *Managing Urban Stormwater, Soils and Construction Guidelines*, March, 2004.

Planning NSW 1995, *Is an EIS required? Best practice guidelines for Part 5 of the Environmental Planning and Assessment Act 1979*.

Transport for NSW 2016a, *New Intercity Fleet Maintenance Facility – Review of Environmental Factors*.

Transport for NSW 2016b, *New Intercity Fleet Maintenance Facility – Species Impact Statement*.

Appendix A Key issue and sub-issue categories

Key issue	Sub-issues(s)
Biodiversity	<ul style="list-style-type: none"> • Assessment methodology – Orchid study surveys • Assessment methodology – General survey undertaken • Adequacy of assessment • Classification of vegetation • Consistency between assessments • Impacts to biodiversity – General • Impact to newly described frog • Impact to threatened species • Impact to wildlife corridor • Vegetation clearance • Offset provisions • Cumulative biodiversity impacts • Subject site definition for the SIS • Assessment methodology for the SIS • Adequacy of assessment for the SIS
Justification and need	<ul style="list-style-type: none"> • Project justification • Cost of the Project – General • Cost of the Project – Access road bridge
Options development and site selection	<ul style="list-style-type: none"> • Opposition to preferred site • Community preference for Warnervale site • Community preference for Bushells Ridge site • Site selection options process • Site relocation recommendation • Support for the Project
Project description and design	<ul style="list-style-type: none"> • Earthworks and fill materials • Future expansion • New intersection at Enterprise Drive • Detention basins • Flood access road • Site area • Public accessibility to the access bridge • Impact to Schubolt Lane • Proposed maintenance activities • Relocation of 33kV high voltage powerline • Maintenance facility access road
Project construction	<ul style="list-style-type: none"> • Number of workers
Planning and statutory requirements	<ul style="list-style-type: none"> • Planning approval process • Adequacy of documentation • Assessment of relevant legislation

Consultation and stakeholder engagement	<ul style="list-style-type: none"> • Request for further and ongoing consultation • Availability and level of detail at community information sessions • Adequacy of consultation undertaken to date • Consultation and submissions process • Website document links
Noise and vibration	<ul style="list-style-type: none"> • Peer review of noise and vibration assessment • Adequacy of assessment • Construction noise impacts • Construction vibration impacts • Operational noise impacts – general • Operational noise impacts – horn testing • Operational vibration impacts • Management and mitigation measures
Landscape and visual	<ul style="list-style-type: none"> • Visual impacts during operation • Lighting impacts and light spill • Privacy • Management and mitigation measures
Traffic, transport and access	<ul style="list-style-type: none"> • Assessment methodology • Construction traffic impacts • Impacts to local access and local roads • Operational traffic impacts
Socio-economic	<ul style="list-style-type: none"> • Assessment methodology • Amenity impacts • Impacts to local businesses and schools
Hydrology, drainage and flooding	<ul style="list-style-type: none"> • Adequacy of assessment • Change to flooding flow regime • Site flooding impacts • Flood modelling • Water quality and pollution to local waterways • Management and mitigation measures
Groundwater	<ul style="list-style-type: none"> • Impact to existing bores
Land use and property	<ul style="list-style-type: none"> • Land zoning • Land and property value impacts • Land acquisition
Air quality	<ul style="list-style-type: none"> • Assessment methodology • Construction air quality impacts • Operational air quality impacts • Errors and omissions
Bushfire	<ul style="list-style-type: none"> • Adequacy of assessment • Escape routes during a bushfire

Hazards and risks	<ul style="list-style-type: none">• Impacts to tank water• Health impacts• Childcare safety• Security of residences• Other
Utilities and services	<ul style="list-style-type: none">• Cost for additional utilities• Provision of additional utilities
Out of scope issues	<ul style="list-style-type: none">• Compensation• Public transport• Impacts from construction of the Gosford Passing Loops

Appendix B Maintenance facility operational noise results

NIF maintenance facility operational noise results

Receiver	Criteria			1			2			3			4			5			6			7			8			9			10			
	D	E	N	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W				
2 Bridge Street, Ourimbah	50	45	40	21	25	26	20	24	24	<20	22	23	<20	22	23	22	26	27	<20	<20	<20	<20	23	24	<20	<20	<20	<20	<20	<20	<20	<20	<20	
3 Bridge Street, Ourimbah	50	45	40	20	24	25	<20	23	23	<20	21	22	<20	21	22	20	25	25	<20	<20	<20	<20	22	23	<20	<20	<20	<20	<20	<20	<20	<20	<20	
11 Bridge Street, Ourimbah	50	45	40	21	25	26	<20	23	24	<20	21	22	<20	22	23	21	25	26	<20	<20	<20	<20	23	23	<20	<20	<20	<20	<20	<20	<20	<20	<20	
15 Bridge Street, Ourimbah	50	45	40	23	26	27	21	25	26	<20	23	23	<20	23	24	23	27	28	<20	<20	<20	20	24	25	<20	<20	<20	<20	<20	<20	<20	<20	<20	
24 Bridge Street, Ourimbah	50	45	40	23	27	28	22	26	26	20	24	25	21	25	25	24	28	29	<20	<20	<20	21	25	26	<20	<20	<20	<20	<20	20	<20	<20	<20	
36 Bridge Street, Ourimbah	50	45	40	25	28	29	23	27	27	21	24	25	20	24	25	23	27	28	<20	<20	<20	21	25	25	<20	<20	<20	<20	<20	<20	<20	<20	<20	
43 Bridge Street, Ourimbah	50	45	40	24	28	29	22	26	27	<20	23	24	<20	23	24	22	26	27	<20	<20	<20	<20	24	24	<20	<20	<20	<20	<20	<20	<20	<20	<20	
57 Bridge Street, Ourimbah	50	45	40	27	31	31	24	28	29	<20	22	23	<20	23	23	21	25	26	<20	<20	<20	<20	23	24	<20	<20	<20	<20	<20	<20	<20	<20	<20	
67 Pacific Highway, Kangy Angy	50	45	40	21	25	25	20	24	24	<20	22	23	<20	23	23	23	27	28	<20	<20	<20	21	25	25	<20	<20	<20	<20	20	21	<20	<20	<20	
68 Pacific Highway, Kangy Angy	50	45	40	20	24	25	20	24	24	<20	22	23	<20	23	23	23	27	28	<20	<20	<20	20	24	25	<20	<20	<20	<20	<20	20	<20	<20	<20	
79 Pacific Highway, Kangy Angy	50	45	40	22	26	27	22	26	26	21	25	26	22	26	26	26	30	31	<20	20	21	24	28	28	<20	21	22	<20	23	24	<20	<20	<20	
56 Bridge Street, Ourimbah	49	42	40	34	36	37	30	33	34	<20	21	22	21	25	25	20	24	25	<20	<20	<20	<20	22	23	<20	<20	20	<20	<20	<20	<20	<20	<20	
52 Howes Road, Ourimbah	49	42	40	26	30	31	23	27	28	<20	<20	<20	<20	21	21	<20	22	23	<20	<20	<20	<20	20	20	<20	21	21	<20	<20	<20	<20	<20	<20	
2 Orchard Road, Kangy Angy	49	42	40	27	30	31	26	29	30	26	29	30	26	29	30	29	32	33	<20	21	22	27	30	31	<20	22	23	20	23	24	<20	<20	<20	
8 Orchard Road, Kangy Angy	49	42	40	24	28	28	23	27	28	22	26	27	23	26	27	26	30	31	<20	<20	20	24	27	28	<20	20	21	<20	22	22	<20	<20	<20	
50 Orchard Road, Kangy Angy	49	42	40	33	35	36	33	35	36	32	34	35	33	35	36	38	41	42	29	30	30	36	38	39	29	30	31	31	33	34	<20	<20	<20	
54 Orchard Road, Kangy Angy	49	42	40	32	34	34	32	34	34	32	33	34	32	34	34	38	40	41	29	30	30	35	38	38	30	31	31	32	34	35	<20	<20	<20	
62 Orchard Road, Kangy Angy	49	42	40	32	33	34	32	34	34	31	33	34	32	34	34	37	40	40	29	30	30	35	37	38	29	30	31	32	34	35	<20	<20	<20	
72 Orchard Road, Kangy Angy	49	42	40	31	33	33	31	33	33	31	32	33	31	33	33	35	38	38	30	30	30	33	35	36	30	31	31	33	35	36	<20	<20	<20	
80 Orchard Road, Kangy Angy	49	42	40	30	32	32	30	32	32	30	31	32	30	32	32	34	36	37	29	29	29	32	34	35	29	30	30	31	33	34	<20	<20	<20	
84 Orchard Road, Kangy Angy	49	42	40	27	29	30	27	29	30	27	29	30	27	29	30	31	34	35	25	27	27	29	32	33	26	27	28	27	30	30	<20	<20	<20	
92 Orchard Road, Kangy Angy	49	42	40	27	29	29	27	29	29	26	28	29	27	29	29	30	33	33	25	26	27	28	30	31	25	27	27	27	29	30	<20	<20	<20	
106 Orchard Road, Kangy Angy	49	42	40	28	30	30	28	30	30	27	29	30	28	30	30	30	33	34	26	27	28	29	31	32	26	28	29	28	30	31	<20	<20	<20	
12 Ourimbah Road, Kangy Angy	49	42	40	40	41	42	41	42	42	40	42	42	41	42	42	42	44	44	27	28	29	39	41	42	28	30	31	28	30	31	29	30	31	
19 Ourimbah Road, Kangy Angy	49	42	40	38	39	40	38	39	40	38	39	40	38	39	40	45	46	46	29	30	30	42	43	44	30	31	31	31	31	32	33	22	23	25
15 Schubolt Lane, Kangy Angy	49	42	40	35	37	38	32	35	36	31	33	34	29	32	33	31	34	35	20	22	23	28	31	32	28	32	33	21	24	24	20	22	23	
15 Schubolt Lane, Kangy Angy	49	42	40	34	36	37	33	35	36	32	34	35	31	33	34	32	35	36	21	23	24	30	33	34	22	25	25	22	25	25	21	23	24	
16 Schubolt Lane, Kangy Angy	49	42	40	33	35	36	30	33	34	29	32	32	28	31	32	30	33	34	<20	21	22	27	30	31	26	31	31	20	23	23	<20	20	21	
16 Turpentine Road, Kangy Angy	49	42	40	37	38	39	31	34	35	23	26	27	24	27	28	25	29	29	<20	<20	20	22	26	27	23	27	28	<20	<20	20	<20	<20	<20	
26 Turpentine Road, Kangy Angy	49	42	40	39	40	40	34	37	37	30	33	33	29	32	33	30	34	34	20	22	23	27	31	32	24	28	28	20	24	24	<20	20	21	
26 Turpentine Road, Kangy Angy	49	42	40	42	42	43	35	37	38	28	31	31	27	30	31	28	32	32	<20	20	21	25	29	30	26	30	31	<20	22	22	<20	<20	20	
137 Enterprise Drive, Ourimbah	54	40	38	31	34	34	28	32	32	<20	21	22	<20	23	24	20	25	25	<20	<20	<20	<20	22	23	<20	23	24	<20	<20	<20	<20	<20	<20	

NIF maintenance facility operational noise results

Receiver	Criteria			1			2			3			4			5			6			7			8			9			10		
	D	E	N	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W			
11 Enterprise Drive, Fountaindale	54	40	38	40	41	42	37	39	39	21	25	25	22	26	27	23	27	28	<20	<20	<20	20	24	25	21	26	26	<20	<20	<20	<20	<20	<20
21 Enterprise Drive, Fountaindale	54	40	38	38	39	40	36	37	38	<20	21	22	<20	23	24	20	24	25	<20	<20	<20	<20	21	22	<20	23	23	<20	<20	<20	<20	<20	<20
14 Enterprise Drive, Fountaindale	54	40	38	40	41	42	37	39	39	20	23	24	21	25	26	22	26	27	<20	<20	<20	<20	23	24	20	25	25	<20	<20	<20	<20	<20	<20
16 Enterprise Drive, Fountaindale	54	40	38	38	40	41	36	38	38	<20	23	24	20	24	25	21	25	26	<20	<20	<20	<20	23	24	20	24	25	<20	<20	<20	<20	<20	<20
28 Lillygrove Lane, Fountaindale	54	40	38	<20	22	23	<20	22	23	<20	22	23	26	30	31	23	26	27	<20	20	21	21	24	25	27	31	32	<20	21	22	<20	<20	<20
32 Lillygrove Lane, Fountaindale	54	40	38	<20	22	22	<20	22	23	<20	22	22	27	30	31	23	27	27	<20	20	21	21	24	25	28	32	32	<20	20	21	<20	<20	<20
36 Lillygrove Lane, Fountaindale	54	40	38	<20	20	21	<20	20	21	<20	20	21	25	29	30	21	25	26	<20	<20	20	20	23	24	25	30	30	<20	<20	20	<20	<20	<20
48 Lillygrove Lane, Fountaindale	54	40	38	<20	<20	<20	<20	<20	<20	<20	<20	<20	24	28	29	<20	22	23	<20	<20	<20	<20	20	21	26	30	31	<20	<20	<20	<20	<20	<20
6 Lorikeet Lane, Fountaindale	54	40	38	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
9 Lorikeet Lane, Fountaindale	54	40	38	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
12 Lorikeet Lane, Fountaindale	54	40	38	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
120 Berkeley Road, Fountaindale	54	40	38	<20	23	24	<20	23	24	<20	23	24	27	31	32	24	27	28	<20	21	22	22	25	26	28	32	33	<20	21	22	<20	<20	<20
11 Manns Road, Fountaindale	54	40	38	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
22 Manns Road, Fountaindale	54	40	38	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
23 Manns Road, Fountaindale	54	40	38	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
39 Manns Road, Fountaindale	54	40	38	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
130 Old Chittaway Road, Fountaindale	54	40	38	39	40	40	39	40	40	39	40	40	39	41	41	38	40	41	24	26	26	35	37	38	33	37	38	25	27	27	40	40	40
86 Old Chittaway Road, Fountaindale	54	40	38	34	36	36	30	33	34	24	27	27	23	26	27	24	28	29	<20	<20	<20	21	25	26	<20	22	23	<20	<20	<20	<20	<20	<20
89 Old Chittaway Road, Fountaindale	54	40	38	31	34	35	29	32	33	27	30	30	27	30	31	27	31	32	<20	<20	20	25	28	29	25	29	30	<20	20	21	<20	<20	20
96 Old Chittaway Road, Fountaindale	54	40	38	35	37	38	32	35	36	26	29	29	25	29	29	26	29	30	<20	<20	<20	23	27	28	24	28	29	<20	<20	20	<20	<20	<20
96 Old Chittaway Road, Fountaindale	54	40	38	37	39	39	32	35	35	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
103 Old Chittaway Road, Fountaindale	54	40	38	34	36	37	31	34	35	29	31	32	28	31	32	28	32	32	<20	20	20	25	29	30	26	30	31	<20	21	21	<20	<20	20
105 Old Chittaway Road, Fountaindale	54	40	38	30	32	33	28	31	32	28	30	31	28	31	32	28	32	33	<20	20	20	26	29	30	26	30	31	<20	20	21	<20	20	21
107 Old Chittaway Road, Fountaindale	54	40	38	32	34	35	30	32	33	29	31	32	28	31	31	23	26	27	<20	<20	<20	20	23	24	27	31	32	<20	<20	<20	<20	<20	<20
121 Old Chittaway Road, Fountaindale	54	40	38	34	36	36	33	35	36	33	35	35	31	33	34	31	34	35	<20	21	22	28	31	32	23	26	27	20	22	23	23	24	25
125 Old Chittaway Road, Fountaindale	54	40	38	27	30	30	25	28	29	24	27	27	22	24	25	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
127 Old Chittaway Road, Fountaindale	54	40	38	34	36	37	34	36	36	34	36	37	34	36	37	35	37	38	22	24	25	32	35	35	32	35	36	23	25	25	32	33	33
141 Old Chittaway Road, Fountaindale	54	40	38	33	35	36	33	35	36	33	35	36	35	37	38	35	38	39	23	25	25	32	35	36	32	36	37	23	25	26	30	31	32
149 Old Chittaway Road, Fountaindale	54	40	38	33	35	36	33	35	36	33	36	36	36	38	39	37	39	40	26	27	27	35	37	38	35	39	40	26	27	28	27	28	30
150 Old Chittaway Road, Fountaindale	54	40	38	36	38	38	36	38	38	36	38	39	39	41	41	40	42	43	27	28	28	38	39	40	37	40	41	27	29	29	32	32	33
157 Old Chittaway Road, Fountaindale	54	40	38	31	33	33	30	33	33	30	32	33	31	33	33	31	34	35	<20	<20	<20	28	31	32	22	25	26	<20	<20	<20	27	28	29
161 Old Chittaway Road, Fountaindale	54	40	38	28	31	32	28	31	32	28	30	31	32	35	35	32	35	36	22	24	24	30	32	33	31	35	36	22	24	25	21	22	24

NIF maintenance facility operational noise results

Receiver	Criteria			1			2			3			4			5			6			7			8			9			10		
	D	E	N	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W			
165 Old Chittaway Road, Fountaindale	54	40	38	33	35	35	33	35	35	33	34	35	38	40	40	38	40	41	28	28	29	36	38	38	38	41	42	28	29	29	20	21	22
170 Old Chittaway Road, Fountaindale	54	40	38	36	38	38	36	38	38	36	37	38	45	46	47	42	44	45	32	33	33	40	41	42	48	50	51	32	33	33	21	23	24
32 Old Chittaway Road, Fountaindale	54	40	38	30	34	34	28	32	32	<20	21	21	<20	23	23	<20	24	24	<20	<20	<20	<20	21	22	<20	22	23	<20	<20	<20	<20	<20	
46 Old Chittaway Road, Fountaindale	54	40	38	30	34	35	28	32	33	<20	21	22	<20	23	24	20	24	25	<20	<20	<20	<20	22	22	<20	23	24	<20	<20	<20	<20	<20	
58 Old Chittaway Road, Fountaindale	54	40	38	30	33	34	27	31	32	<20	22	23	<20	22	22	21	25	26	<20	<20	<20	<20	22	23	<20	<20	<20	<20	<20	<20	<20		
60 Old Chittaway Road, Fountaindale	54	40	38	31	34	35	28	32	33	<20	23	24	20	24	24	21	25	26	<20	<20	<20	<20	23	24	<20	20	20	<20	<20	<20	<20		
64 Old Chittaway Road, Fountaindale	54	40	38	31	34	35	28	32	33	20	23	24	<20	23	24	22	26	27	<20	<20	<20	<20	23	24	<20	<20	20	<20	<20	<20	<20		
78 Old Chittaway Road, Fountaindale	54	40	38	33	36	37	30	33	34	<20	21	22	20	24	25	22	26	27	<20	<20	<20	<20	23	24	<20	22	22	<20	<20	<20	<20		
33 Station Road, Fountaindale	54	40	38	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20		
3 Station Road, Fountaindale	54	40	38	30	32	33	30	32	33	30	32	33	35	37	38	35	38	38	25	27	27	32	35	36	35	39	40	26	27	27	<20	<20	21
7 Station Road, Fountaindale	54	40	38	28	31	32	28	31	32	28	30	31	34	36	37	33	36	36	24	26	26	30	33	34	36	39	40	24	26	26	<20	20	21
16 Station Road, Fountaindale	54	40	38	31	33	33	31	33	33	31	32	33	39	41	41	36	38	39	28	29	29	33	36	36	41	44	45	28	29	29	<20	<20	<20
23 Station Road, Fountaindale	54	40	38	25	28	28	26	28	28	25	27	28	32	35	36	31	34	34	23	25	25	28	31	32	35	38	39	24	25	26	<20	<20	<20
27 Station Road, Fountaindale	54	40	38	23	25	26	23	26	26	23	26	26	32	35	35	29	31	32	22	24	24	26	29	30	34	38	39	22	24	24	<20	<20	<20
35 Station Road, Fountaindale	54	40	38	23	25	25	23	25	25	23	25	26	32	35	36	27	30	31	22	24	24	25	28	28	34	38	39	22	24	24	<20	<20	<20
11 Station Road, Fountaindale	54	40	38	31	33	33	30	33	33	30	32	33	37	39	39	35	38	39	27	28	28	33	35	36	39	42	43	27	28	28	<20	20	21
139 Orchard Road, Kangy Angy	52	37	37	24	26	27	23	26	26	23	25	26	28	31	32	24	26	27	23	25	25	23	25	26	25	27	28	24	26	27	<20	<20	<20
98 Old Chittaway Road, Fountaindale	45	45	45	39	40	40	38	39	39	38	39	39	34	36	37	32	35	36	20	22	23	29	32	33	30	34	34	21	23	24	24	25	26
3A Catamaran Road, Fountaindale	65	65	65	<20	22	22	<20	21	22	<20	22	23	26	30	30	21	24	25	<20	20	20	20	23	23	27	31	32	<20	20	21	<20	<20	<20
1 Catamaran Road, Fountaindale	65	65	65	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	
2 Ketch Close, Fountaindale	65	65	65	27	30	31	27	30	31	29	32	33	35	39	39	30	34	35	26	27	28	29	32	33	37	41	42	26	28	28	<20	<20	<20
3 Catamaran Road, Fountaindale	65	65	65	25	27	28	25	27	27	26	29	30	32	35	35	27	30	30	23	25	26	25	28	29	34	37	38	24	25	26	<20	<20	<20
4 Catamaran Road, Fountaindale	65	65	65	22	24	24	22	24	24	22	24	25	32	35	35	24	27	28	20	22	22	23	25	26	28	31	32	20	22	22	<20	<20	<20
5 Catamaran Road, Fountaindale	65	65	65	23	25	26	23	25	25	23	25	25	29	32	33	24	26	27	22	23	24	23	25	25	28	31	32	22	24	24	<20	<20	<20
6 Catamaran Road, Fountaindale	65	65	65	29	31	31	29	31	31	29	31	32	39	41	42	30	32	33	29	30	31	30	31	32	40	43	45	29	30	31	<20	<20	<20
8 Catamaran Road, Fountaindale	65	65	65	26	28	28	26	28	28	26	28	29	33	36	37	28	31	32	25	26	27	27	29	30	35	39	39	25	26	27	<20	<20	<20
9 Catamaran Road, Fountaindale	65	65	65	21	23	25	21	23	25	21	24	25	28	31	32	23	26	27	21	22	23	22	25	26	26	30	31	21	22	23	<20	<20	<20
11 Catamaran Road, Fountaindale	65	65	65	21	24	25	21	24	25	21	24	25	27	30	31	27	31	32	<20	<20	20	24	28	29	25	29	30	<20	<20	21	<20	<20	<20
13 Catamaran Road, Fountaindale	65	65	65	<20	22	23	<20	22	23	<20	22	23	27	31	32	23	26	27	<20	20	21	21	24	25	27	31	32	<20	20	21	<20	<20	<20
15 Catamaran Road, Fountaindale	65	65	65	24	27	28	24	27	28	24	27	28	31	34	35	30	33	34	21	23	25	27	31	32	27	31	32	21	23	25	<20	<20	<20
17 Catamaran Road, Fountaindale	65	65	65	25	27	28	25	27	28	25	27	28	33	36	37	28	31	32	24	26	27	26	29	30	30	33	34	24	26	27	<20	<20	<20
1 Co-wyn Close, Fountaindale	65	65	65	33	35	35	33	35	35	35	37	39	45	46	46	37	39	40	32	32	32	35	37	38	46	49	50	32	32	32	<20	<20	<20

NIF maintenance facility operational noise results

Receiver	Criteria			1			2			3			4			5			6			7			8			9			10		
	D	E	N	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W	N	T	W			
2 Catamaran Road, Fountaindale	65	65	65	31	32	33	31	32	33	33	35	36	40	42	43	34	36	37	30	31	31	32	34	35	42	46	47	30	31	31	<20	<20	<20
4 Ketch Close, Fountaindale	65	65	65	23	26	27	23	26	27	23	26	27	29	33	34	27	30	31	20	23	24	25	28	29	31	35	36	20	23	24	<20	<20	<20
5 Ketch Close, Fountaindale	65	65	65	24	26	27	23	26	27	24	27	28	30	33	33	25	28	29	22	24	25	24	27	27	30	34	35	22	25	25	<20	<20	<20
7 Ketch Close, Fountaindale	65	65	65	22	25	25	22	24	25	23	26	26	28	31	32	24	27	28	21	23	23	22	25	26	29	33	34	21	23	24	<20	<20	<20
8 Ketch Close, Fountaindale	65	65	65	22	25	25	22	25	25	22	26	26	27	31	32	23	27	28	20	22	23	22	25	26	28	32	33	20	22	23	<20	<20	<20
9 Ketch Close, Fountaindale	65	65	65	<20	22	22	<20	21	22	<20	22	22	24	27	28	20	22	23	<20	21	22	<20	22	23	22	25	26	<20	21	22	<20	<20	<20
10 Ketch Close, Fountaindale	65	65	65	<20	21	22	<20	21	21	<20	21	22	22	25	26	<20	22	23	<20	20	21	<20	21	22	21	24	25	<20	20	21	<20	<20	<20
11 Ketch Close, Fountaindale	65	65	65	21	25	26	21	25	26	22	26	27	27	30	31	25	29	30	<20	21	22	23	27	28	26	30	31	<20	21	22	<20	<20	<20
13 Ketch Close, Fountaindale	65	65	65	22	25	27	22	25	27	23	27	28	29	33	34	25	29	30	21	23	25	23	27	28	30	34	35	21	24	25	<20	<20	<20
14 Ketch Close, Fountaindale	65	65	65	<20	20	21	<20	20	21	<20	20	21	22	25	26	<20	23	24	<20	<20	20	<20	21	22	21	25	26	<20	<20	20	<20	<20	<20
15 Ketch Close, Fountaindale	65	65	65	20	24	25	<20	23	24	20	23	24	24	28	29	21	25	26	<20	<20	<20	20	23	24	23	27	28	<20	<20	<20	<20	<20	<20
Sanitarium Factory	65	65	65	23	26	27	23	26	27	24	27	28	30	33	34	24	27	28	22	24	25	23	26	26	31	35	35	22	24	25	<20	<20	<20
10 Catamaran Road, Fountaindale	45	45	45	26	27	27	26	27	28	26	27	28	35	37	38	29	32	32	25	26	26	28	30	30	37	40	41	25	26	26	<20	<20	<20