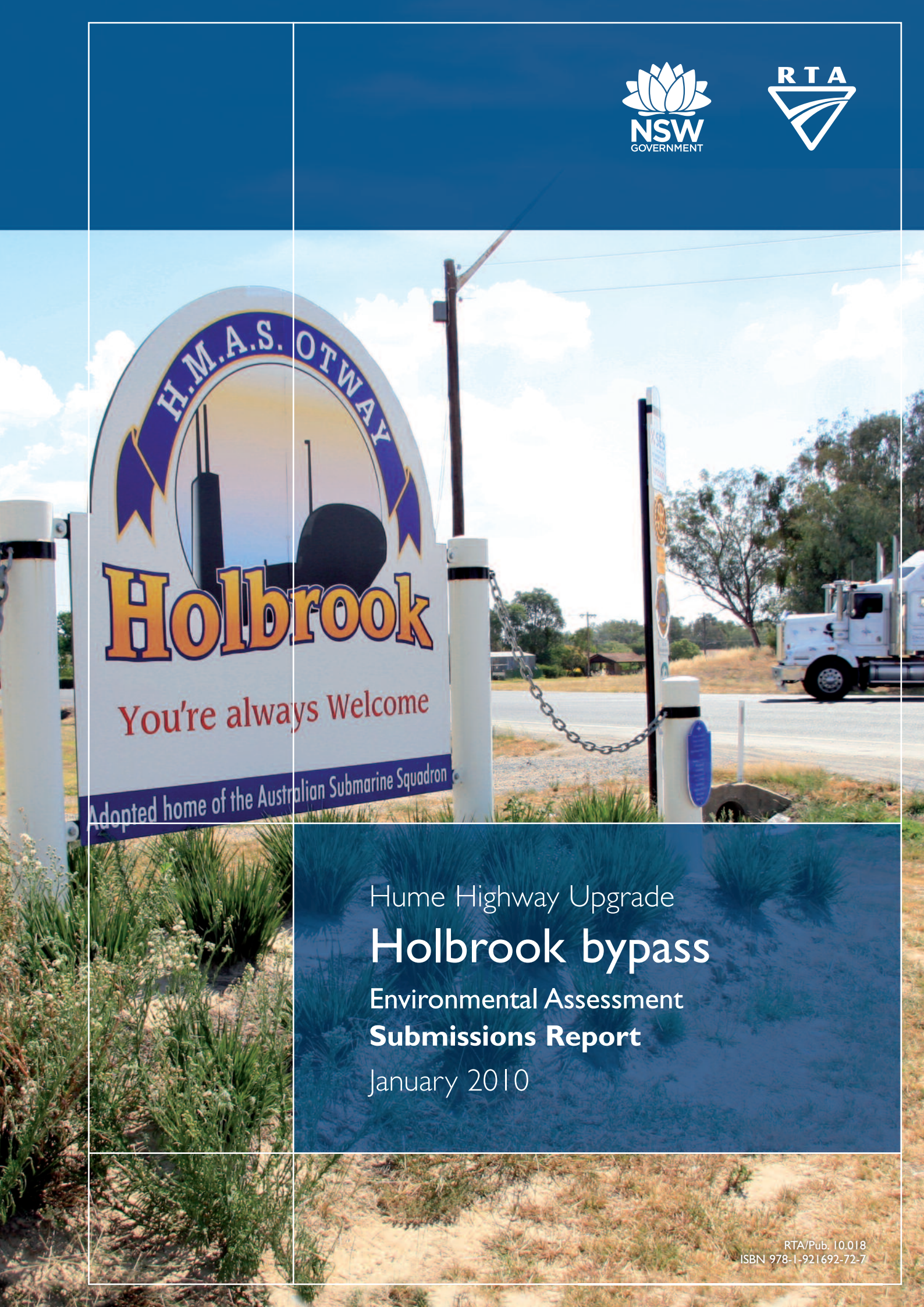

Hume Highway Upgrade

Holbrook bypass

Environmental Assessment

Submissions Report

January 2010

RTA/Pub. 10.018
ISBN 978-1-921692-72-7

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Submissions Report

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NSW Roads and Traffic Authority

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Date: ..... 22 January 2010

Distribution: ..... RTA; PB File; DoP

Contents

Appendices

ADDENDUM: In Appendix A the predicted noise levels in Table B2, Appendix B12 to B22, were updated in February 2010 due to a typographical error made when subscribing information into the table from a previous report.

1 Introduction and background

1.1 The Project

The NSW Roads and Traffic Authority proposes to construct a dual carriageway bypass of the town of Holbrook, located on the Hume Highway. The project would comprise approximately 9.5 kilometres of dual carriageway, including 0.5 kilometres along the existing Hume Highway alignment north of Holbrook, seven kilometres along a new alignment to the west of Holbrook and two kilometres along the existing Hume Highway alignment south of Holbrook.

The project would include:

- Approximately 9.5 kilometres of dual carriageway.
- A grade-separated interchange with Wagga Wagga Road.
- Twin bridges (two lanes each) over Culcairn Road.
- Twin bridges (two lanes each) over Ten Mile Creek.
- A grade-separated interchange with the existing Hume Highway, south of Holbrook (the 'southern interchange').

A more detailed description of the project is provided in Chapter 5 of the *Hume Highway Upgrade Holbrook bypass Environmental Assessment* (the 'environmental assessment'; RTA November 2009).

1.2 Statutory context

The Minister for Planning has declared, by Order dated 20 December 2007 and published in the NSW Government Gazette (No 4 of 2008), that the Hume Highway bypass of Holbrook is a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) applies. The Minister has also declared, by order dated 4 March 2009 and published in the gazette (No 51 of 2009), that the Hume Highway bypass of Holbrook is a critical infrastructure project under section 75B of the EP&A Act.

In accordance with the requirements of the EP&A Act, an environmental assessment was prepared to assess the potential impacts of the proposed bypass.

1.3 Environmental assessment exhibition

The environmental assessment was publicly displayed for 34 days from 11 November 2009 to 14 December 2009.

The environmental assessment was exhibited at the following locations:

- The Department of Planning (Information Centre, Bridge Street Sydney).
- Holbrook local library.
- Greater Hume Shire Council.
- The Nature Conservation Council (Kent Street, Sydney).

An electronic copy of the environmental assessment was also available on the Department of Planning's website (www.planning.nsw.gov.au) and the project website (http://www.pb.com.au/humehighwaybypasses).

A staffed display was provided at the Holbrook public library on 3 December 2009. The objective of this staffed display was to provide the community with an opportunity to discuss aspects of the project with the project team.

A toll free project information line (1800 755 767) was available throughout the exhibition period.

1.4 Purpose of this document

In response to the exhibition of the environmental assessment, 13 submissions were made. The Director-General of the Department of Planning provided copies of the submissions to the RTA. In accordance with Section 75H(6) of the EP&A Act, by letter dated 18 December 2009, the Director-General required the RTA to address the issues raised in the submissions. The Director-General advised that if there are any changes to the project to minimise its environmental impacts a preferred project report may be required, and the statement of commitments may also need to be revised to reflect any project changes.

This report includes the RTA's responses to issues raised in submissions (Chapter 2) and a revised statement of commitments (Chapter 3). No project changes are proposed and as such a preferred project report is not required.

2 Response to issues

2.1 Respondents

The Department of Planning received a total of 13 submissions in response to the exhibition of the environmental assessment, comprising five submissions from government agencies and eight submissions from the community.

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

Due to the small number of submissions that were received on the project, government and community submissions have been considered together. The RTA's response to each of the submissions is provided in Sections 2.3 to 2.10.

2.2 Overview of issues raised

Submissions were received from the following government agencies:

- Department of Environment, Climate Change and Water.
- NSW Office of Water.
- Land and Property Management Authority.
- Industry and Investment NSW.
- Greater Hume Shire Council.

Eight submissions were received from the community.

A summary of the key issues raised in government agency and community submissions is provided in Sections 2.2.1 and 2.2.2, respectively.

2.2.1 Government agency submissions

Five government agency submissions were received on the project, which predominately focused on the particular responsibilities of those agencies. Recommendations for conditions of approval were also made. The issues raised by each of the agencies are summarised below.

Department of Environment, Climate Change and Water (DECCW)

The DECCW raised a number of issues related to environmental management, including biodiversity, noise and vibration, and monitoring. The Department also made a number of recommendations to be included in the statement of commitments. Issues raised in DECCW's submission are addressed in Sections 2.3 (*Flora and fauna*), 2.4 (*Aboriginal heritage*), 2.5 (*Noise and vibration*), 2.9 (*Planning and statutory requirements*) and 2.10 (*Monitoring*).

NSW Office of Water (NOW)

The NOW has no objections to the project, conditional on the recommended conditions of consent which they provided. The NOW raised issues in relation to water supply, water licensing, groundwater assessment and watercourse crossings which it would like clarified. Issues raised in NOW's submission are addressed in Section 2.7 (*Monitoring),* Section 2.8.2 (*Bridges & drainage issues*) and Section 2.9.1 (*Licences*).

Land and Property Management Authority (LPMA)

The LPMA identified Crown Land that may be impacted by the project, and raised issues concerning flora and fauna. Issues raised in LMPA's submission are addressed in Section 2.3 (*Flora and fauna),* 2.6.1 (*Property acquisition*) and 2.6.2 (*Access*).

Industry and Investment, NSW (I&INSW)

I&INSW identified that the environmental assessment documents were relatively general and specific plans for individual sites such as stream crossings and aquatic habitat rehabilitation measures were not provided. The issues to be addressed included riparian vegetation, snags (woody debris) and assistance with the re-snagging initiative, fish passage, water quality and monitoring. A number of recommendations were also made for the conditions of approval. Issues raised in the I&INSW submission are addressed in Sections 2.3 (*Flora and fauna*).

Greater Hume Shire Council (GHSC)

Council raised issues relating to flora and fauna, noise and vibration, social and economic, visual amenity and landscape, hydrology and project design. Issues raised in GHSC's submission are addressed in Sections 2.3 (*Flora and fauna*), 2.5 (*Noise and vibration*), 2.6.3 (*Economic impacts*), 2.6.4 (*Visual amenity and landscape*), 2.7 (*Hydrology*) and 2.8 (*Project design*).

2.2.2 Community submissions

The community raised issues relating to flora and fauna, noise and vibration, social and economic, visual amenity, hydrology and project design. Issues raised in the community submission are addressed in Sections 2.3 (*Flora and fauna*), 2.5 (*Noise and vibration*), 2.6 (*Social and economic*), 2.7 (*Hydrology*) and 2.8 (*Project design*).

2.3 Flora and fauna

2.3.1 Habitat and vegetation clearing

Submissions

DECCW, I&INSW, Community submissions

Summary of issues

- The Flora and Fauna Technical Paper indicates that the area of habitat to be cleared is 24 hectares. This may be an underestimate as the Flora and Fauna Technical Paper and subsequent flora assessments do not appear to have mapped all woodland communities.
- The conservation value of the Holbrook Town Common, in particular the connectivity for woodland birds, is not addressed in the Flora and Fauna Technical Paper. There is a need ensure that the Holbrook Town Common continues to function as a single remnant following the construction of the bypass.
- The proposal will fragment and/or reduce the size of a number of relatively large remnants.
- The proposal has the potential to fragment populations of woodland birds.
- The area of vegetation cleared for the Hume Highway duplication projects was significantly greater than that detailed in the environmental assessment for those projects. Care needs to be taken to ensure that impacts avoided during the assessment/approval process are maintained during the detailed design and construction phases.
- The environmental assessment is relatively general and specific plans for individual sites such as stream crossings and aquatic habitat rehabilitation measures are not provided.
- The degradation of riparian vegetation is listed as a Key Threatening Process under the threatened species schedule of the *Fisheries Management Act 1994*.
- Development on the eastern side of the existing highway at the southern end of the proposed bypass requires the removal of vegetation, including areas which have been regenerated through the Landcare/Catchment Management Authority re-birding project, whereas areas to the west are devoid of vegetation. This area is more suitable from an environmental perspective as it is already cleared.
- Barking owls, Curlews and Kingfishers do live in the Holbrook area. Their habitat will need to be maintained.

Response

The flora and fauna assessment in Technical Paper 1 (Flora and Fauna) was undertaken in accordance with the *Draft Guidelines for Threatened Species Assessment under Part 3A* (DEC 2005) and *the EPBC Act Policy Statement 1.1 Significant Impact Guidelines* (DEH 2006). All areas of remnant native vegetation within the study area were identified and mapped including all areas of derived native grasslands with isolated scattered paddock trees that meet the condition criteria of the listed threatened ecological community, Box Gum Woodland. Areas not mapped within Figures 3-8 (a-c) of Technical Paper 1 (Flora and Fauna) as part of the remnant native vegetation communities generally correspond with exotic grasslands, plantings and/or cleared lands that no longer meet the condition criteria of a remnant vegetation community. Table 9-6 in the environmental assessment shows that 24 hectares of

four native vegetation communities would be cleared, and one hectare of disturbed exotic, non-native vegetation.

The conservation value of the former Town Common is recognised in the environmental assessment. The former Town Common is recognised for the important role it plays in the connectivity of remnant patches of vegetation and wildlife movement and was mapped as part of a patch greater than 50 hectares in size. The environmental assessment recognised that the proposed bypass may present a barrier to movement within the Ten Mile Creek riparian corridor and remnant patches within the former Town Common and Culcairn Road Travelling Stock Reserve. Measures identified in Section 9.1.4 of the environmental assessment, including the development of crossing treatments for threatened species, have been developed to maintain connectivity within the Town Common so that the remnant continues to function as one patch.

The reduction in size and fragmentation of a number of remnant patches, and impacts to connectivity are acknowledged and addressed in Section 5.2 of the Technical Paper 1 (Flora and Fauna), and Section 9.1.3 of the environmental assessment. The impact assessment considered the impacts on threatened species, populations and communities. It was concluded that the project would be unlikely to have an impact on highly mobile species, such as woodland birds, if measures were put into place. Proposed measures to mitigate the impacts on connectivity and fragmentation include the development of fauna crossing structures, to be developed in consultation with relevant government agencies (refer Section 2.3.2).

Lessons learnt on the Hume Highway duplication projects regarding minimising vegetation clearance during construction will be adopted for the Holbrook bypass. During construction, measures will be put in place to minimise impacts on flora and fauna. This will include identification of environmentally sensitive areas such as stands of native vegetation to be retained. Environmentally sensitive areas will be marked on sensitive area maps, and demarcated and signposted onsite where necessary, to limit vegetation disturbance during construction (see statement of commitments EM2 and EM3 in Table 4-1).

The conservation value of and impact of the project on native flora and fauna within the affected corridor is noted and acknowledged in the environmental assessment. Chapter 4 of the environmental assessment describes the selection of the preferred option (based on consideration of a range of issues) and the development of the concept design. The preferred option was chosen as, compared to other options, the environmental impacts of the preferred option could be better managed and mitigated.

It is acknowledged that the area of vegetation clearing outlined in the environmental assessment for the Holbrook bypass is based on a concept design and includes a buffer zone for construction. While the alignment will be subject to detailed design, as outlined in the environmental assessment, design development will seek to keep vegetation clearing and disturbance of native vegetation to the minimum necessary to construct and operate the project.

The detailed design for this project has not been completed and therefore specific plans relating to stream crossings and aquatic habitat have yet been undertaken. The detailed design would seek to minimise impact on identified environmentally sensitive areas and significant species and communities wherever possible. Any management plans for works within aquatic areas, including riparian rehabilitation works, will be undertaken in consultation with I&INSW.

The RTA acknowledges that the degradation of native riparian vegetation is listed as a Key Threatening Process under the threatened species schedule of the *Fisheries Management Act 1994*. The significance assessment for the Southern Pygmy Perch in Appendix E14 of the flora and fauna Technical Paper recognises that one of the threats to this species is habitat degradation including loss of aquatic and riparian vegetation.

The environmental impact of the southern end of the proposed bypass was considered as part of route selection and design development. The impact assessment and design development considered impacts to a range of environmental issues including property, hydrology, Aboriginal heritage and flora and fauna. The proposed bypass design responds to the value of roadside vegetation at the southern end of the project through the adoption of a wide median to retain native vegetation within the median and minimise impacts on remnant vegetation.

The Barking Owl and the Bush Stone Curlew are listed under the *Threatened Species Conservation Act* 1995. Neither species was recorded during targeted surveys for threatened species. Despite this, suitable habitat for both was identified. Consequently, it was assumed these species were present in the area. Appendices E6 and E7 of the flora and fauna Technical Paper contain significance assessments for both species. Three species of Kingfisher were recorded during the field surveys, none of the recorded Kingfisher species are listed on either State or Commonwealth legislation. A range of management, mitigation and offset measures are proposed to maintain and improve habitat for these and other woodland fauna species (refer to Table 9-8 of the environmental assessment).

2.3.2 Managing impacts

Submissions

DECCW, LPMA, I&INSW

Summary of issues

- Effective control of weeds is required within wildlife habitat revegetation areas until plantings become established.
- Construction should not contribute to the spread of noxious weeds.
- Construction should not cause increased soil erosion or reduce water quality. Sediment, erosion and dust control measures should be installed prior to the commencement of works and monitored and maintained for the duration of the works until the site is stabilised.
- Development should occur with minimal environmental disturbance to Crown land.
- The removal of large woody debris (snags) from NSW rivers and streams is listed as a Key Threatening Process under the threatened species schedules of the *Fisheries Management Act 1994*.
- Fish passage should be maintained at all times during the extension and modification of culverts and bridge construction.

Response

Construction work will be managed to minimise the spread of noxious weeds during construction. In addition, weeds would continue to be managed in areas of revegetation until all revegetation becomes established (see revised statement of commitment FF5 in Table 4-1). Weed control in offset areas will be detailed in property management plans developed as part of the biodiversity offset package which is discussed in more detail in Section 2.3.5.

Erosion and sediment control measures will be implemented to manage soil and water quality impacts as detailed in Table 10-8 of the environmental assessment and statement of commitments SW1, SW2 and SW3 (refer Table 11-1 of the environmental assessment). Best practice measures will be designed, installed and maintained to minimise erosion and sedimentation. In addition, in recognition of the high erosion risk of the site, the RTA will engage a soil conservation specialist to provide technical advice on soil and erosion control and ensure that impacts are minimised as far as possible.

Environmental disturbance and resultant impacts would be limited to within the site boundary. As outlined in the environmental assessment, a range of mitigation and management measures would be implemented. Any construction on Crown land would be subject to these management and mitigation measures.

The RTA acknowledges that the removal of large woody debris (snags) is listed as a Key Threatening Process under the threatened species schedules of the *Fisheries Management Act 1994*. As part of the RTA's commitment to minimise impacts to aquatic habitat any snag management will be undertaken in consultation with I&INSW and will follow the principles described in *Policy and Guidelines for Aquatic Habitat Management and Fish Conservation* (NSW Fisheries 1999). See revised statement of commitment FF9 in Table 4-1.

During construction, fish passage would be maintained in accordance with Fairfull and Witheridge guidelines (2003) *Why do fish need to cross the road? Fish passage requirements for waterway crossings* and in consultation with I&INSW.

2.3.3 Wildlife crossings

Submissions

DECCW, I&INSW

Summary of issues

- The proposal cuts a number of important movement corridors which may negatively impact local populations of threatened species and may have deleterious consequences at a regional level.
- Wildlife crossing points need to be fully considered during the design stage to increase the likelihood of their effectiveness and long-term sustainability.
- There is a need to monitor the effectiveness of wildlife crossing points to ensure the objectives of these crossings are achieved.
- Recognition needs to be given to the important role road reserves play in enabling the movement of wildlife.
- Consideration should be given to actions required beyond the project corridor to ensure the effectiveness of the wildlife crossings.

- Designs for all waterway crossings should be in accordance with *NSW Fisheries Policy* and Guidelines and to be in consultation with I&INSW.

Response

The potential impacts to local and regional populations of threatened species as a consequence of habitat fragmentation and wildlife corridor impacts were identified and assessed within the environmental assessment and Technical Paper 1 (Flora and Fauna). It was concluded that while the project is unlikely to substantially affect highly mobile species, the project may result in a barrier effect for small and sedentary fauna, such as ground-dwelling and arboreal mammals, reptiles and amphibians. However, the wildlife corridors are degraded due to a history of agricultural land uses. It is likely that the disturbed wildlife corridors are used mostly by highly mobile species, such as birds and bats. The project is unlikely to have a significant impact on these highly mobile species provided that the impacts to wildlife corridors are managed through the measures identified in the environmental assessment. Impacts to wildlife corridors will be managed through the measures identified in Section 9.1.4 of the environmental assessment, including the development of crossing treatments for threatened species.

Crossing zones will be developed further during detailed design with consideration given to effectiveness and long-term sustainability. Crossing zones will target threatened species and the design and objectives of the crossing treatments will be developed in consultation with DECCW and other relevant government agencies. A monitoring program will be implemented to determine the effectiveness of crossing treatments. See revised statement of commitment FF6 in Table 4-1.

The importance of road reserves to wildlife movement corridors is noted. The project has sought to retain native vegetation as far as possible and will include landscaping incorporating native plant species within the future road reserve. These measures would have regard to the movement of wildlife, however the function of the road reserve as a wildlife movement corridor would only be realised in the long term.

Wherever possible, wildlife corridors would be established in areas where vegetation exists beyond the project boundaries, to allow for greater fauna movement. Whilst the RTA is unable to commit to works outside the final project boundary it will liaise with the surrounding landowners during the detailed design phase.

As described in statement of commitment FF7, waterway crossings, including temporary works, will be developed in accordance with the fish habitat classification of each waterway and in consultation with I&INSW.

2.3.4 Monitoring

Submissions

DECCW, I&INSW

Summary of issues

- The lack of monitoring proposed regarding impacts of the proposal on threatened species and the effectiveness of mitigation measures is a concern.
- Where fish habitat is to be directly affected, restoration works shall be planned and implemented to the satisfaction of I&INSW and a monitoring program implemented to determine the success of the restoration works.

Response

All proposed mitigation measures are best practice management and are consistent with those implemented on the previous Hume Highway duplication projects, which have been developed with consideration of specialist advice and in consultation with DECCW. Mitigation measures targeted at threatened species and endangered ecological communities will be subject to a monitoring program to be developed in consultation with DECCW and I&INSW, as relevant. This will include a pre-construction survey for nominated threatened species and/or communities to establish baseline data. See revised statement of commitment FF4 in Table 4-1.

2.3.5 Offsets

Submissions

DECCW, LPMA, GHSC, I&INSW

Summary of issues

- A comprehensive biodiversity offset package is required.
- Separate to any biodiversity offset package, there is a need to ensure that the total area of vegetation along or adjacent to the road corridor is not reduced in the long term.
- The loss of habitat values within Reserves 41130 and 80183 should be offset to obtain positive biodiversity outcomes. The habitat loss/vegetation replanting ratio is to be determined in accordance with the *Native Vegetation Act 2003* and the *Threatened Species Act 1995*.
- Biodiversity offsets for the Holbrook Town Common can be complemented by land being set aside for environmental purposes by Council in that area.
- I&INSW is currently managing a re-snagging initiative of the Murray River. Tree trunks and root balls from trees cleared from the bypass alignment are potentially very valuable for this purpose. The I&INSW requested that potential trees are set aside for collection.
- Where fish habitat is to be directly affected, habitat restoration will be required at a ratio of 2:1.

Response

The RTA is committed to developing a biodiversity offset package to offset the residual impacts on biodiversity, particularly on threatened ecological communities and habitat for threatened species. The objective of the biodiversity offset package would be to maintain or improve biodiversity values in the area in the long term. The biodiversity offset package would include a number of actions which would consider the issues raised in submissions, and would include impacts on identified Reserves where the project results in a loss of native vegetation/habitat. The offset ratio and the package would be developed in consultation with DECCW, the Commonwealth Department of Environment, Water, Heritage and the Arts, and other relevant agencies.

The project would also include landscaping with native plant species and crossing treatments within the project corridor.

The RTA understands that the GHSC are proposing environmental rehabilitation works within the former Town Common. To ensure any rehabilitation/offset works undertaken in this area as part of the project complement the proposed GHSC works, RTA will consult with the GHSC during the development of these works.

The RTA is committed to consulting with I&INSW regarding the use of cleared vegetation in the re-snagging program for the Murray River. Maintaining terrestrial habitat through minimising clearing and enhancing habitat through relocation of habitat features on site would be a priority use for felled timber.

The restoration of any fish habitat directly affected by the proposal would be undertaken in consultation with I&INSW.

2.4 Aboriginal heritage

Submissions

DECCW

Summary of issues

- The Aboriginal Cultural Heritage Assessment report should be used to prepare and implement an Aboriginal Heritage Management Plan.

Response

The RTA is committed to the development of environmental management plans, which will incorporate (as a minimum) the mitigation and management measures in the environmental assessment. Additionally, the RTA has committed to managing Aboriginal heritage in accordance with Technical Paper 2 (Aboriginal Heritage) of the environmental assessment, which recommends the preparation of an Aboriginal Heritage Management Plan. See statement of commitments EM2 and AH1 in Table 4-1.

2.5 Noise and vibration

2.5.1 Working hours

Submissions

DECCW

Summary of issues

- It is premature to agree to the requested out-of-hours construction or a variation to standard construction hours. The project approval, as with normal practice, can include a post approval process to seek, and have determined, out-of-hours works and/or variation to standard construction times. The *Interim Construction Noise Guideline* (ICNG) (DECC 2009) provides a framework for this process.

Response

The environmental assessment was undertaken in accordance with the Director-General's Requirements (as clarified on 29 May 2009), which required the construction noise assessment to take into account Chapter 171 of the *Environmental Noise Control Manual* (EPA 1994). It also made use of the best available design and construction information at the time it was prepared.

The environmental assessment proposed extended daytime construction working hours (6am to 7pm Monday to Friday and 7am to 4pm on Saturday) as use of available daylight and increasing the productivity of the working day would provide several positive benefits. It was intended that the information presented in the environmental assessment would allow work within these nominated hours as part of the project approval process. Section 2.3 of the *Interim Construction Noise Guideline* (DECCW, 2009) provides guidance on assessing any expected need to work outside standard hours. In accordance with this document, the RTA identified a potential need to work outside of standard hours and provided justification.

The environmental assessment outlined the likelihood for activities that, due to technical considerations and climatic conditions, would likely be undertaken during the evening and night-time periods. Previous experience on the Hume Highway duplication project has provided the RTA with an understanding of what activities are likely to be required outside standard construction hours.

The environmental assessment provided an opportunity to make the community aware of the likely need to work outside standard construction hours, the nature of those activities and the likely impacts. It should be noted that no community submissions were received regarding the proposed construction working hours.

Notwithstanding the assessment approach of the environmental assessment, the RTA will undertake to use the ICNG during construction of the project to manage construction noise impacts. See revised statement of commitment NV1 (Table 4-1).

The RTA does see benefit in the proposed extended daytime working hours (6am to 7pm), particularly during the period of daylight saving. Extended work hours would make use of available daylight, while the additional cooler hours of the day would offer site personnel some respite. Longer working hours would facilitate better project quality outcomes, as longer runs of concrete paving would provide for improved quality, and would assist in achieving the maximum and most efficient use of equipment and resources. The potential increase in productivity, efficiency and quality may result in a more sustainable project overall and earlier project completion. The benefits of the project to the Holbrook community and to the broader community of road users, including improved traffic safety outcomes and improved amenity, would be achieved earlier.

2.5.2 Construction noise

Submissions

DECCW

Summary of issues

- The ICNG should be adopted as the appropriate construction noise mitigation framework.
- The environmental assessment does not identify specific locations of ancillary facilities and information on impacts and mitigation measures are not provided. Residents in proximity to ancillary activities may be subjected to noise impacts for extended periods over the project duration, including night-time impacts associated with the batch plant. A separation distance should be employed and noise impacts will have to be managed in accordance with the ICNG.

- Local residential roads could potentially be used to carry significant construction traffic resulting traffic noise impacts on residential properties. It is recommended that local roads in or adjacent to residential areas should not be used for access to the project or for the haulage of construction materials.

Response

As noted above, the RTA will undertake to use the ICNG during construction of the project to manage construction noise impacts. See revised statement of commitment NV1 (Table 4-1).

The location of ancillary facilities will be determined during the detailed design phase. Statement of commitment AF1 (refer Table 4-1) provides guiding criteria for the location of ancillary facilities, including the need to minimise impacts on the amenity (including noise) of the closest sensitive receiver. As the project has committed to use of the ICNG to manage noise impacts during construction, the ICNG will be used to assess the proposed ancillary facilities compliance with this guiding criterion. Should the ancillary facilities result in noise impacts above the construction noise criteria, mitigation and management measures would be carried out in accordance with the ICNG.

The Hume Highway forms the main street of town and the town centre. This is surrounded to the east and west by residential areas located on local streets, and rural lots further afield. In addition to the Hume Highway, Holbrook is connected by regional roads to Wagga Wagga via the Wagga Wagga Road, to Culcairn via the Culcairn Road and to Wantagong, Lankeys Creek, Jingellic and Tumbarumba via the Jingellic Road. The amenity for some local residents on these roads is currently adversely affected by traffic noise. Construction traffic travelling to Holbrook will be required to use these roads. As these roads are flanked by residential areas, there may be a short term impact on the noise environment of some local residents.

Construction access points will provide construction vehicles access from Holbrook to the project site. Construction access points will likely be required at the northern and southern tie-in points and at the compound site (refer Section 9.5.3 of the environmental assessment). Construction access points would be located to minimise impacts (traffic and noise) on local residential areas. Wherever possible construction traffic would seek to limit the use of local roads, especially during evenings and night-time periods. Delivery of materials would be scheduled for daytime hours as much as possible.

2.5.3 Blasting

Submissions

DECCW

Summary of issues

- There was no specific reference to blasting in the statement of commitments. A commitment should be added.

Response

Noted. Statement of commitment NV2 in Table 4-1 has been amended to address blasting.

2.5.4 Operational noise

Submissions

DECCW, GHSC

Summary of issues

- The noise predictions in Table D1, Appendix D of Technical Paper 3 (Noise and Vibration) in the environmental assessment appear to be incorrect. The reported "future existing level 2012" for the western façade is the same as the eastern façade which cannot be correct due to shielding by the building.
- The high diversion scenario used for noise modelling is based on daytime origin-destination survey. This is not considered a valid process as the travelling purpose and destination is fundamentally different at night. This requires a response from the proponent and should not be left to detailed design.
- The redevelopment noise criterion has been adopted for the western façade of receivers in noise catchment areas (NCAs) 4, 6, 7 and 8. The RTA's *Environmental Noise Management Manual* (ENMM) (RTA 2001) indicates that these receivers should have been subject to the new road noise criterion and may require consideration of additional mitigation in NCAs 6 and 8.
- The noise model may be under-predicting noise levels by up to 2.4 dB(A) and additional mitigation measures may be required. Given that additional noise modelling will be undertaken at detailed design stage, it is considered that additional model validation can occur at that time.
- Consideration should be given to the treatment of acute noise exposures within Holbrook village as part of the project.
- The proposed concrete pavement, north of Wallace Street, will cause noise impacts at residents in the north west of Holbrook. There are no noise treatments proposed for these residences.
- It is unclear what noise treatments are proposed for impacts on the Holbrook Caravan Park.
- There are no noise walls proposed for the area north of the Culcairn Road, west of the proposed bypass. However residences may be subject to architectural treatment. Further consultation should be undertaken with affected residents.

Response

Table D-1 and Table D-2 in Appendix D of environmental assessment Technical Paper 3 (Noise and Vibration) reported the same future existing 2012 noise levels to both the eastern and western facades for receivers in NCAs 4, 6, 7 and 8 (refer Fig 2.1). With the exception of some houses along Culcairn Road, this was an error as the future existing 2012 noise levels to the western façade would be reduced by shielding from the residences (Appendix A). The reduction in future existing noise levels to the western façade would be up to 8 dB(A).

The noise modelling within the environmental assessment predicted noise levels based on the high diversion scenario traffic predictions (cited in Section 9.5 of the environmental assessment and Technical Paper 4 — Traffic and Transport (Volume 2)). The high diversion scenario predicted around 64 per cent of heavy vehicles and 54 per cent of light vehicles

would use the proposed bypass. This scenario was informed by origin-destination survey undertaken during the daytime (7am to 7pm), the stoppers survey carried out for the project and the post opening report on the Karuah bypass on the Pacific Highway. While this high diversion scenario is considered to provide a valid average across any 24 hour period, it is likely that additional vehicles would divert to the proposed bypass at night-time (due to the different travelling purpose and destination at night-time).

A supplementary noise study (Wilkinson Murray 2010) has been prepared to address these issues and is included as Appendix A. Operational noise impacts have been reassessed with consideration of the revised future existing noise levels and a revised night-time traffic diversion scenario which assesses a 90 per cent diversion scenario for both light and heavy vehicles to the bypass (refer to Section 3.1.1). Revised predicted noise impacts require consideration of reasonable and feasible mitigation operational noise treatment at an additional 32 receivers from what was considered in the environmental assessment. Two receivers are isolated residences and may be considered for architectural treatment, and the others are part of a group where noise would be mitigated by at-road treatments near the southern interchange. There has been an overall reduction in the revised receivers exposed to acute levels under the 90 per cent diversion scenario.

The indicative at-road operational noise mitigation proposed in the environmental assessment for NCAs 7 & 8 would be revised to include low noise pavement, barriers and the use of Asphaltic Concrete, or similar on the Culcairn Road overpass. The revised mitigation measures discussed in the supplementary noise assessment (Appendix A) includes the extension of the noise barriers near NCA 7 & 8. Architectural treatment would be considered for the additional operational noise impacts at receivers 256 and 257 in NCA 4. It should be noted that operational noise mitigation measures would be subject to detailed design and would be developed in consultation with affected landowners. Refer to Section 3.1.3 and Section 3.1.4.

The noise impact assessment in Technical Paper 3 (Noise and Vibration) was conducted using guidelines for a 'new freeway or arterial road corridor' ("new road") for most of the alignment in accordance with the ECRTN and the ENMM. The project would be considered a 'redevelopment of existing freeway/arterial road' ("redevelopment") for receivers located south of the southern interchange where the project rejoins the existing highway (receivers 1, 289 and 290). The RTA believes that the noise assessment adequately applies the ENMM guidelines and that impacts have been assessed against the relevant new road and redevelopment criteria.

The potential that the noise model may be under-predicting by up to 2.4 dB(A) is noted. As identified by DECCW, additional operational noise impact assessment will be undertaken as part of detailed design. The noise model validation and calibration will be reassessed at this stage. Should the additional operational noise impact assessment identify additional noise impacts on sensitive receivers, reasonable and feasible mitigation measures would be considered at those sensitive receivers.

As outlined above, for the majority of the alignment, the project is considered a new road. Where the project would result in new noise impacts that exceed the ECRTN criteria, the RTA will consider reasonable and feasible mitigation measures in accordance with the ENMM. The project would reduce traffic on the existing Hume Highway thereby reducing noise levels for most receivers in Holbrook. While noise at some receivers from the existing highway would still be acute, once the project is operational, the existing Hume Highway would become a local/regional road and would be the responsibility of local council.

Accordingly, treatment of acute noise from traffic remaining on the existing Hume Highway is not considered as part of the proposed Holbrook bypass project.

The noise assessment prepared as part of the environmental assessment made use of the best available design information at the time it was prepared. Noise impacts were assessed using the RTA's ENMM and the ECRTN. Where the project cannot meet the ECRTN criteria, the ENMM proposes consideration of reasonable and feasible mitigation measures. As noted above, the supplementary noise study identifies an additional two receivers that would be considered for architectural mitigation and 30 receivers considered for 'at road' mitigation based on the proposed bypass design.

Treatments proposed to mitigate noise impacts in NCA 8, including the Holbrook Caravan Park include a combination of noise walls and low noise pavement (see Appendix A).

As the noise assessment in the environmental assessment indicated, some isolated receivers within NCAs 1, 2 and 4 have been identified for mitigation, this includes areas north of Wallace Road. It is not feasible or reasonable to undertake 'at road' mitigation measures at this area, and therefore architectural treatments would occur at affected receivers.

Further noise modelling will be undertaken as part of detailed design and the final number of receivers that would be considered for treatment will be determined at that stage. Development and implementation of mitigation measures for operational noise will be carried out in consultation with the DECCW, GHSC and affected sensitive receivers, including with residents where architectural treatment is proposed.

The noise catchment areas are shown in Figure 2-1.

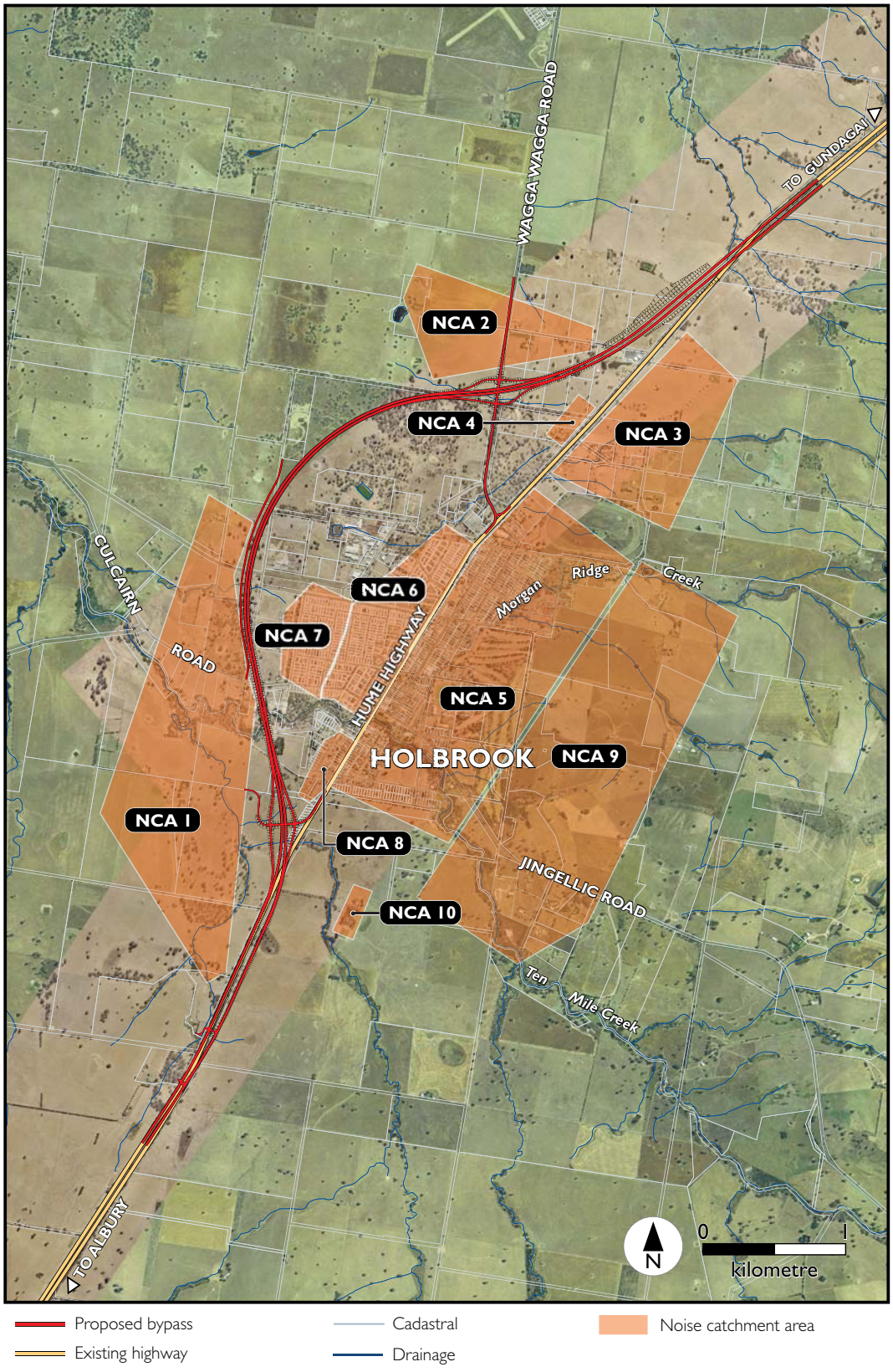

Figure 2-1 **Noise catchment areas**

2.6 Social and economic

2.6.1 Property acquisition

Submissions

LPMA, community submission

Summary of issues

- It is recommended that the land affected be acquired by Acquisition under the provisions of the *Land Acquisition (Just Terms) Compensation Act 1991*.
- The project may impact on several parcels of Crown land. An Aboriginal land claim has been lodged over one of these reserves.
- An alteration of the design to shift it around 40 metres to the west south of the southern intersection would allow the retention of an existing property access including a tree lined driveway.

Response

Property (including Crown land) would be acquired by the RTA under the *Land Acquisition (Just Terms) Compensation Act 1991*.

The RTA is investigating the Aboriginal land claim on the Crown reserve identified. Any land acquisition will be dealt with in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* or any other relevant legislation.

As outlined in Section 2.3.1, the environmental impact of the southern end of the proposed bypass was considered as part of route selection and design development. Impacts across a range of environmental issues including property, hydrology, Aboriginal heritage and flora and fauna, were considered during route selection and design development. It is acknowledged that the proposed design will result in impacts to the tree lined driveway. However these impacts were considered in the context of the whole project. Impacts to property will be considered during acquisition of property under the *Land Acquisition (Just Terms) Compensation Act 1991*.

2.6.2 Access

Submissions

LPMA, Community submission, GHSC

Summary of issues

- Public access on the Crown land should be retained and not restricted.
- The Wagga Wagga Road interchange will impact horseback riders travelling on the Holbrook-Wagga Road. It is unclear how horseback riders will cross the new highway to travel east to the racecourse and showground.
- It appears that the access to the Holbrook landfill has not been determined.

Response

The project would impact a number of Crown reserves. Those parts of Crown reserves impacted by the project would be acquired by the RTA as outlined above. Safe access to all property, including the Crown reserves, would be maintained in consultation with landowners. See revised statement of commitment SE1 in Table 4-1.

There are a series of travelling stock routes that allow livestock and horseback riders to move between agricultural areas to the west and east of Holbrook. Figure 9-9 in the environmental assessment provides details on these existing travelling stock routes. The project will impact these existing routes. However, the RTA will reinstate a travelling stock route to facilitate movement of stock from the west to the east of Holbrook. Changes to the travelling stock route will be developed during detailed design in consultation with the LPMA and other relevant stakeholders.

In addition, horseback riders that currently travel on the Holbrook-Wagga Road could divert south to Culcairn Road, via the re-aligned travelling stock route to cross the proposed bypass on this regional road under the proposed bypass.

The final arrangement for the access road to the Holbrook landfill will be subject to detailed design. RTA will undertake consultation with GHSC on this matter.

2.6.3 Economic impacts

Submissions

GHSC, Community submissions

Summary of issues

- Significant assistance must be provided to ensure the ongoing viability of the Holbrook community. This should include funding from the project to implement the proposed works identified in the Streetscape Plan for Holbrook.
- Signage should commence at least 10 kilometres away from Holbrook. The proposed signage strategy should be developed as soon as possible to garner community support and enthusiasm.
- The proposed bypass alignment will damage trade to all businesses in the town, particularly the motels and caravan park. There should be a more direct entry to encourage people to visit Holbrook.
- The southern interchange may have a dramatic impact on the future expansion of the Holbrook Caravan Park and poses a risk to the ongoing viability of the park.

Response

The environmental assessment (Section 9.4.2) indicates that there is potential for adverse impacts of the project on the amenity, viability, profitability, productivity and sustainability of highway-related businesses in Holbrook. In response, the environmental assessment identifies management and mitigation measures to be implemented prior to commencement of construction, during construction and during operation (refer to Table 9.4.3 in the environmental assessment). The RTA recognises that these management measures may include landscaping/amenity works within the township of Holbrook. While the RTA has funded the development of the Streetscape Plan, the RTA cannot at this stage commit to the funding of all identified works as part of the project. However the RTA has commenced discussions and is committed to continued consultation with GHSC throughout detailed design, construction and operation to assist in developing strategies to encourage the continued viability of Holbrook.

As part of the continued consultation with GHSC the RTA is committed to the development of a signage strategy. Development of the signage strategy will occur as a priority in conjunction with the urban design and landscape strategy.

The full diamond interchanges provided at the Wagga Wagga Road and southern interchanges provide a standard grade-separated intersection arrangement that will allow traffic on the proposed bypass two opportunities to exit the highway and enter Holbrook at a safe speed. However, and as noted above, the environmental assessment recognises the potential economic impact on businesses in Holbrook, including potential impacts on motels and the caravan park. Previous studies of the impacts of highway bypasses have indicated that accommodation facilities are likely to be the highway-related business most resilient to reductions in stopping traffic. The RTA recognises the value that towns close to the highway have in providing rest opportunities for travellers, and have proposed a range of mitigation measures to manage these impacts.

The RTA is committed to continue working with GHSC to identify works which may enhance the attractiveness of Holbrook as a rest stop. The GHSC economic development officer (partially funded by the RTA) may assist the development of appropriate strategies.

The acquisition of a portion of the Holbrook Motor Inn (caravan park) and any impacts on the business potential due to a proposed expansion would be considered through the property acquisition process. Acquisition would be carried out under the *Land Acquisition (Just Terms) Compensation Act 1991* as noted in Section 2.6.1 above.

2.6.4 Visual amenity and landscape

Submissions

GHSC

Summary of issues

- The design of the twin bridges (including any noise walls) over the Culcairn Road needs to ensure they are a focal point not a blight on the landscape.
- Noise walls provide an opportunity for the installation of public art. The RTA should engage a suitable consultant to prepare designs.
- The Holbrook landfill site will need significant screening from the proposed bypass.
- Landscaping treatments including batter slopes should consider climatic conditions, aesthetic appeal and maintenance requirements.
- It is unclear what landscape treatments are proposed for impacts on the Holbrook Caravan Park.

Response

A visual amenity and landscape assessment was completed for the environmental assessment (section 10.4) with reference to the *Hume Highway Urban Design Framework, Prestons (WM7) to Albury* (RTA 2009b) and the RTA's urban and regional design practice notes, *Beyond the Pavement* (RTA 1999a) and *Guidelines for Landscape Character and Visual Impact Assessment* (RTA 2009c). A draft urban and landscape design strategy was developed as part of the environmental assessment provided in Figure 10-8.

Further assessment on the visual amenity and proposed landscaping will be undertaken throughout the detailed design phase. This will specifically include design development of the Culcairn Road bridges, landscape screening treatments, noise walls and consideration of appropriate landscape treatments with consideration of climatic conditions. Detailed design includes the input and review of a specialist urban and landscape design consultant. Final visual amenity and landscape treatments will be developed in consultation with affected landowners and GHSC.

2.7 Hydrology

Submissions

GHSC, NOW, Community submission

Summary of issues

- The environmental assessment indicates that insufficient drainage will be provided through the woodlands area of the former Holbrook Common.
- The proposal will impact water flows in the drainage line which originates from Wallace and Bowler streets, and there will be reduced flow to a stock water dam.
- A groundwater management plan should be prepared and implemented prior to commencement of operations.

Response

The environmental assessment provided indicative locations of proposed drainage structures. The final drainage design is subject to further hydrology modelling and detailed design. The final drainage design will consider localised flows. Drainage structures such as culverts will be located and aligned to follow natural depressions, ensuring minimal change to existing flow paths. Drainage design will ensure minimal impacts to existing flow regimes and inflows to water storage dams.

Management and monitoring of groundwater will be included in the construction environmental management plan to be developed in consultation with NOW.

2.8 Project design

2.8.1 Interchanges

Submissions

GHSC, Community submissions

Summary of issues

- The Wagga Wagga Road interchange (including speed limits) should be designed in such a manner that will assist in the attraction of a service centre at that location. Further consultation with Council is requested.
- The Wagga Wagga Road interchange should be nearer to the existing Hume Highway and access to Holbrook via the Holbrook-Wagga Road should remain unchanged. Local traffic should not have to share with highway traffic.
- The southbound off-load ramp on the southern interchange provides a second opportunity for southbound vehicles to enter into Holbrook.

- The northbound on-ramp ramp on the southern interchange may not be used.

Response

The interchanges have been designed in accordance with RTA guidelines. The design of the Wagga Wagga Road interchange was mindful of the Council's desire to attract a service centre in proximity to the interchange. The proposed full diamond interchange will allow for the development of a service centre in this location. The RTA will continue to consult with GHSC during detailed design development regarding the Wagga Wagga Road interchange design.

The alignment of the new Wagga Wagga Road would generally follow the alignment of the existing Wagga Wagga Road. The Wagga Wagga Road interchange would provide an overpass crossing for traffic on Wagga Wagga Road and traffic entering or exiting the proposed bypass. Local traffic travelling on the Wagga Wagga Road into Holbrook would share the overpass with traffic exiting or entering the proposed bypass. Traffic travelling on the Wagga Wagga Road will have the right of way. The diamond interchange provides a safe separation of these traffic streams via a grade-separated interchange.

A second full diamond interchange arrangement is provided at the southern interchange. This arrangement includes ramps for traffic entering and exiting the highway on both the northbound and southbound carriageways. The full diamond interchange provides for local access needs and will accommodate any future long term increase in traffic growth. In addition, as the diamond interchange is a standard interchange arrangement it provides driver familiarity which enhances safety.

2.8.2 Bridges and drainage issues

Submissions

GHSC, NOW

Summary of issues

- The Culcairn Road bridge cross-sections shown in Figure 5-7 of the environmental assessment are drawn to scale horizontally (1:100) but not vertically. This creates a false impression of the scale of the bridges in this location.
- The Ten Mile Creek bridges do not require screens as indicated in the environmental assessment.
- Watercourse crossing design and construction and other in-stream works need to be in accordance with the relevant *Guidelines for Controlled Activities.*

Response

The environmental assessment provides details on the concept design for the Culcairn Road and Ten Mile Creek bridges. Indicative cross-sections were provided in Figure 5-7. While the cross-section provides the reader with information to visualise the bridge design, the figure is not drawn to scale.

The environmental assessment indicated that the Ten Mile Creek bridges would include a safety screen. As the project is not located in an urban area, pedestrian activity on the Ten Mile Creek bridge would likely be limited. Accordingly, the need for safety screens on the Ten Mile Creek bridges will be reviewed during detailed design.

As outlined in the environmental assessment, the final arrangement of the Culcairn Road and Ten Mile Creek bridges will be subject to detailed design.

The *Guidelines for Controlled Activities* will be considered in the design and construction works for watercourse crossings and other in-stream works.

2.8.3 Utilities and services

Submissions

GHSC

Summary of issues

- The project should include the installation of service ducts for the provision of underground utilities (electricity, water, gas etc.) north west of the bypass at the Wagga Road intersection. Council specifically seeks consultation in relation to the provision of electricity to the proposed Holbrook Service Centre.

Response

Noted. The bridges will likely be provided with two 100 millimetre ducts in the kerb. The RTA will consult with GHSC and relevant utility providers during detailed design to identify the need for the provision of service ducts for underground utilities.

2.8.4 General issues

Submissions

GHSC, Community submission

Summary of issues

- There is no reference to the condition of assets which are to be handed over to Council at the completion of construction.
- There are many unresolved issues that will need to be addressed during the design phase. Council expects ongoing consultation in relation to these matters.
- The alignment should follow existing roads on the western side of the proposed bypass to reduce impact on existing bushland and to avoid having unsightly and redundant roads.

Response

The RTA will consult with GHSC upon handover of the assets to Council at completion of the project. Handover of assets to Council will be carried out in accordance with RTA guidelines.

GHSC will continue to be consulted throughout the detailed design and construction phases of the project.

The design development process has considered impacts on environmental and social issues and has sought to minimise the impacts on native vegetation. In addition the proposed bypass has been developed to meet relevant design criteria, in accordance with RTA guidelines. In order to meet the design criteria and manage environmental impacts on the whole, the project is not able to make use of all existing roads. It should be noted that the project will not result in any existing roads becoming redundant and roads will continue to function as local residential and property access roads.

2.9 Planning and statutory requirements

2.9.1 Licences

Submissions

DECCW, NOW

Summary of issues

- A licence under the *Protection of the Environment Operations Act 1997* will be required for the establishment and operation of a quarry if more than 30,000 tonnes of material is extracted per year.
- Approvals and/or licences under the *Water Act 1912* are likely to be required.

Response

Noted. The RTA will consult with relevant agencies regarding licensing requirements. Licences will be obtained where required.

2.9.2 Quarrying

Submissions

DECCW

Summary of issues

- A new quarry location (if required) and corresponding impact assessment have not been detailed in the environmental assessment. Quarries should be subject to future detailed assessment in accordance with guidelines and legislation.

Response

At this stage of project development, the location of and need for a new quarry is still under investigation. Notwithstanding Section 6.3.1 of the environmental assessment includes earthworks volumes required for the project and environmental criteria for guiding the location of a quarry.

Schedule 1 of the Minister's Order that declared the project as subject to Part 3A includes clause (g) 'any winning or obtaining extractive material as part of the construction work for the project'.

Any quarry established or expanded to meet the needs of the project would be undertaken in accordance with all relevant environmental guidelines and legislation.

See revised statement of commitment Q1 in Table 4-1.

2.10 Monitoring

Submissions

DECCW

Summary of issues

- Appropriate environmental monitoring is required for the project. This should include on-site weather monitoring to monitor the parameters of rainfall, temperature, and wind speed/direction.

Response

Noted. The RTA will install an onsite weather station to monitor rainfall, temperature, and wind speed/direction. The weather station would remain on site for the duration of the construction works.

3 Additional assessment

3.1 Noise and vibration

As outlined in Section 2.5.4 of this report a supplementary noise study was prepared in response to submissions received. The supplementary study is provided in Appendix A and is summarised in this chapter.

3.1.1 Assessment approach

The assessment approach for the supplementary noise study is generally consistent with that detailed in Section 9.3.1 of the environmental assessment. It was carried out in accordance with the relevant DECCW and RTA guidelines as required by the Director General Requirements (as clarified). There were no changes to the identification of receivers and no additional noise monitoring was carried out.

As outlined in the environmental assessment, receivers are identified within 10 NCAs (refer to Figure 2.1 of this report and Table 9-12 of the environmental assessment). For receiver locations refer to Appendix G of Technical Paper 3 (Noise and Vibration) in the environmental assessment.

The future existing noise predictions given in the noise study for the environmental assessment were identical for the eastern and western facades at houses in NCAs 4, 6, 7 and 8. The future existing noise levels at the majority of these houses would be lower at the western facades.

The supplementary noise study also undertook a review of the noise modelling approach with respect to the proportion of traffic diverted to the bypass. In the environmental assessment the high diversion scenario predicted around 64 per cent of heavy vehicles and 54 per cent of light vehicles would use the proposed bypass (refer to Section 9.5 of the environmental assessment and Technical Paper 4 — Traffic and Transport (Volume 2)). This scenario was informed by origin-destination survey undertaken during the daytime (7am to 7pm), the stoppers survey carried out for the project and the post opening report on the Karuah bypass on the Pacific Highway. While this high diversion scenario provides a valid average across a 24 hour period, it is likely that additional vehicles would divert to the proposed bypass at night-time (due to the different travelling purpose and destination at night-time).

The supplementary noise study assessed a revised worst case diversion scenario and provides a sensitivity analysis on the noise assessment carried out for the environmental assessment. The revised noise model assumes that 90 per cent of light vehicles and 90 per cent of heavy vehicles would use the project during the night-time. This scenario is considered to be an upper limit of the likely night-time diversion scenario. A more robust quantification of the predicted night-time high diversion scenario requires an additional night-time origin-destination licence plate survey.

An additional origin-destination licence plate survey will be undertaken in early 2010 once traffic pattern have stabilised after school holidays to confirm the predicted traffic volumes that would use the proposed bypass at night-time. This information will be incorporated into the operational noise impact assessment review, to be carried out during detailed design. Refer to revised statement of commitment NV4.

3.1.2 Corrected future existing noise levels

With the exception of some houses along Culcairn Road, the future existing traffic noise would be lower at the western facades of houses in NCAs 4, 6, 7 and 8. The supplementary noise study has updated these results, with an additional seventeen receivers to be considered for mitigation after the corrections. The additional receivers are shown in bold in Table 3-1.

Table 3-1 Corrected future existing noise levels

NCA	Type of Residences	Number of receivers where mitigation considered (receiver no.)	Number of receivers exposed to acute levels
1	Isolated	5 (3, 4, 5, 6, 7)	2 (4, 5)
2	Isolated	3 (9, 10, 11)	1 (11)
3	Isolated	0	0
4	Isolated.	2 (**256,257**)	0
5	Village	0	13 (411, 419, 420, 451, 452, 453, 458, 459, 460, 461, 462, 463 & 464)
6	Village	3 (42, 43, 99)	16 (95, 96, 138, 139, 140, 141, 194, 195, 197, 198, 199, 200, 201, 202, 203 & 204)
7	Village	40(12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 46, 47, 100, 146, 285, 286, 287, 288)	0
8	Village	24 (51, 52, 53, 54, 55, 56, 57, **58**, 59, **60**, 61, **62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 74, 76**)	3 Eastern façade (73, 75) Western façade (64)
9	Isolated	0	0
10	Isolated	0	0

3.1.3 Operational road traffic noise impacts - 90 per cent night-time diversion scenario

Predicted operational road traffic noise

A total of 594 receivers in 10 catchment areas have been identified and noise levels predicted at each location 10 years after the adopted opening date for the proposed highway upgrade in accordance with guidelines set out in the ENMM.

Detailed noise predictions at individual receivers are given in Appendix A and B of the attached supplementary noise assessment for 90 per cent night-time traffic diversion scenario (Appendix A).

The supplementary noise study predicted exceedances of the noise criteria at an additional 16 receivers in NCAs 7 and 8 and a reduction of one in NCA 8. Table 3-2 below provides a summary of the 90 per cent night-time exceedances in each NCA. Those receivers that exceed the criteria that were not identified in the environmental assessment are in bold.

Note that the 90 per cent night-time diversion scenario would result in a decrease in traffic on the existing Hume Highway at night. As a result the number of receivers exposed to acute levels has reduced from 35 in the environmental assessment to three (NCAs 1, 2 &5).

Table 3-2 Operational noise impacts 2022 – 90 per cent Night Diversion with corrected future existing noise level for western facades

NCA	Impact	Number of receivers exceeding criteria (receiver numbers)	Number of receivers exposed to acute levels (receiver numbers)
1	Five receivers would require consideration of mitigation.	5 (3, 4, 5, 6, 7)	1 (5)
2	Three receivers would require consideration of mitigation, one of which with acute noise levels.	3 (9, 10, 11)	1 (11)
3	Noise levels in this catchment are found to decrease and are not predicted to be acute.	0	0
4	Two receivers would require consideration of mitigation.	2 (**256,257**)	0
5	Noise levels in this catchment are found to decrease, however 13 receivers would be exposed to acute noise levels from the existing highway.	0	1 (461)
6	Six receivers would require consideration of mitigation due to noise from the proposed bypass on their western façade. At the eastern façade, noise levels in this catchment are found generally to decrease.	6 (42, 43, 99, **102, 117,147**)	0
7	Fifty three receivers would require consideration of mitigation due to noise from the proposed bypass on their western façade. Noise levels exceed the criteria at the eastern façade at two receivers (14 & 15).	Western façade 53(12, 13, 14*, 15*, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 46, 47, **48, 49,** 100, **113**, 146, **254, 259, 260, 265, 266, 269, 274, 282, 283, 284**, 285, 286, 287, 288)	0
8	Twenty three receivers would require consideration of mitigation due to noise from the proposed bypass on their western façades.	23 (51, 52, 53, 54, 55, 56, 57, **58**, 59, **60**, 61, **62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 76**)	0
9	Noise levels in this catchment are found to decrease and are not predicted to be acute.	0	0
10	No receivers would require consideration of mitigation as noise levels are within the allowance criteria and do not generate acute levels.	0	0

* Receivers no. 14 and 15 exceed on both the western and eastern facades due to traffic on Culcairn Road.

3.1.4 Management of impacts

Operation

The environmental assessment provided indicative information on those receivers that, based on whether predicted noise levels met the objectives outlined in the ECRTN, would be considered for reasonable and feasible mitigation in accordance with the ENMM. Refer to Section 9.3.6 of the environmental assessment for detail on how these guidelines have been applied to the project.

The supplementary noise impact study identified an additional two receivers (256 & 257) that would be considered for architectural treatment. Under the 90 per cent night-time diversion scenario, the bypass is predicted to generate exceedances at a considerable number of receivers in NCA 7 and NCA 8 (refer table 3-3). These receivers would be mitigated through a combination of barriers and low noise pavement.

Table 3-2 provides a summary of the 92 receivers that would be considered for operational noise mitigation, and whether the treatment considered would be architectural or at-road mitigation. Those receivers that would be considered for operational noise mitigation that are in addition to those identified in the environmental assessment are in bold.

Table 3-3 Summary of receivers to be considered for operational noise

NCA	Receiver	Treatment type
1	3, 4, 5, 6, 7	Architectural
2	9, 10, 11	Architectural
4	**256, 257**	Architectural
6	42, 43, 99, **102, 117, 147**	At-road
7	12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 46, 47, **48, 49**, 100, **113**, 146, **254, 259, 260, 265, 266, 269, 274, 282, 283, 284**, 285, 286, 287, 288	At-road
8	51, 52, 53, 54, 55, 56, 57, **58,** 59, **60**, 61, **62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 76**	At-road

At road mitigation

Noise barriers and low noise pavements are considered 'at road' noise mitigation for groups of receivers (eg generally more than three receivers). The environmental assessment proposed consideration of at road mitigation in NCAs 7 and 8. Mitigation measures for NCA 7 would also mitigate exceedances of noise criteria at three receivers in NCA 6. The supplementary noise study included a review of the indicative operational noise treatments present in the environmental assessment. The supplementary assessment proposes the additional mitigation including extensions of the barriers for NCA 7 and 8.

The proposed at road mitigation involves a combination of low use noise pavements and noise barriers as follows:

- A low noise pavement – 2940m from chainage 114440 to 117380.
- A southbound barrier at height of 3m and length of 660m along the bypass between the southbound chainages 115080-115740.

- A 3.5m high split barrier with an overlap at the southern interchange, partly on the outside of the ramp (116060-116460) and partly between the ramp and the main carriageways (116400-116900)– total length 900m.
- The overpass at Culcairn Road should be asphaltic concrete, or surface with similar noise properties.

Architectural treatment

For small groups of receivers, generally less than three receivers, at road noise mitigation is not considered to be reasonable and feasible. If mitigation is required at isolated receivers or small groups of receivers, architectural treatment of residences may be considered. This can include provision of ventilation or air conditioning, or upgrading the glazing and doors of the building. Architectural treatment is considered for each building individually. The environmental assessment proposed consideration of architectural treatment for receivers in NCA 1 and 2. The supplementary study proposes two additional receivers (256 & 257) to be considered for architectural treatment in NCA 4.

4 Revised statement of commitments

The environmental assessment for the *Hume Highway Upgrade Holbrook bypass* identified a range of environmental outcomes and management measures that would be required to avoid or reduce the environmental impacts.

After consideration of the issues raised in the public submissions, the draft statement of commitments for the *Hume Highway Upgrade Holbrook bypass* (refer to Chapter 11 of the environmental assessment) has been revised. Should the project be approved, the revised commitments will guide the subsequent phases of the project.

The following definitions apply in relation to the revised statement of commitments:

Pre-construction	Work in respect of the project that includes design, survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, minor clearing (except where threatened species, populations or ecological communities would be affected), establishing ancillary facilities, or other relevant activities determined to have minimal environmental impact.
Construction	All work in respect of the project other than that defined as a pre-construction activity/work.
Operation	The operation of the project, but not including commissioning trials of equipment, or temporary use of parts of the project during construction.

The revised statement of commitments is provided in Table 4-1. Additional and/or modified commitments to those presented in the draft statement of commitments have been italicised in blue and deleted commitments, or parts of commitments, have been struck out.

Table 4-1 Revised statement of commitments

Outcome	Ref. number	Key action	Timing	Reference document
Environmental management				
Compliance and continuous improvement in environmental management.	EM1	An environmental management system, including an environmental performance and compliance program, will be established and maintained for the project.	Pre-construction and construction.	ISO 14001:2004 Environmental Management Systems — requirements with guidance for use. ISO 19011:2003 Guidelines for Quality and/or Environmental Management Systems Auditing. RTA QA specification G36 — environmental protection.
	EM2	The environmental management plans will be developed and implemented by suitably qualified and experienced personnel and will incorporate as a minimum the mitigation and management measures in the environmental assessment.	Pre-construction and construction.	*Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004).
Provide a consistent methodology to manage environmental issues.	EM3	Environmentally sensitive areas (such as native vegetation and cultural heritage) within the construction site boundary will be marked on sensitive area maps, demarcated and signposted where necessary. Maps will be made available during all on-site inductions to construction personnel.	Pre-construction and construction.	
	EM4	All construction personnel will receive training regarding environmental management.	Pre-construction and construction.	

Outcome	Ref. number	Key action	Timing	Reference document
Community consultation				
The community is informed about the project.	CC1	The community will be kept informed with measures such as: ▪ Letter box drops, media releases and community updates. ▪ An internet site established and maintained for the duration of the project. ▪ Variable message signs. ▪ Targeted consultation with affected individuals or groups. Information to be provided will include: ▪ Changes to access and traffic conditions. ▪ Details of future works programs. ▪ General construction progress.	Pre-construction and construction.	*Community Involvement and Communications. Draft: A resource manual for staff* (RTA 2008a).
Ensure effective management of community inquiries or complaints.	CC2	Communication management will include: ▪ A 24 hour toll-free contact telephone number. ▪ Directions on how to register a complaint or make an inquiry. ▪ Acknowledgement of complaints within 24 hours. ▪ A complaint recording and tracking system.	Pre-construction and construction.	*Community Involvement and Communications. Draft: A resource manual for staff* (RTA 2008h). AS 4269 Complaints Handling.

Outcome	Ref. number	Key action	Timing	Reference document
Flora and fauna				
Manage impacts on flora and fauna.	FF1	Areas of vegetation identified to be retained will be managed as environmentally sensitive areas.	Pre-construction.	Section 9.1 of the environmental assessment.
	FF2	A suitably qualified and experienced ecologist will conduct a pre-clearing fauna survey, including an inspection of tree hollows immediately prior to tree felling. Fauna with the potential to be harmed during clearing activities will be relocated into suitable adjacent habitat.	Pre-construction and construction.	
	FF3	A two-stage clearing process will be adopted for all felling of hollow-bearing trees.	Construction.	
	FF4	*A threatened species monitoring program will be developed in consultation with DECCW. This program will allow the effectiveness of mitigation measures targeted at threatened species to be assessed.*	*Pre-construction, construction and operation.*	
Manage the spread of weeds.	FF4*5*	*Weed control will continue until the vegetation in all revegetation areas becomes established. Techniques will vary depending on the species targeted. This will be in consultation with the* ~~Greater Hume Shire Council~~ *GHSC.* ~~Weed control will be carried out, and techniques will vary depending on the species targeted and the area to be treated. This will be in consultation with the Greater Hume Shire Council.~~	Pre-construction, *construction and operation.*	*Noxious Weeds Act 1993*.
Mitigate impacts on wildlife corridors.	FF5*6*	*Crossing treatments will be established along the project corridor, be based on clear objectives and developed in consultation with DECCW and other relevant government agencies. Treatments will target threatened species. A monitoring program to determine their effectiveness will be implemented.*	Pre-construction, construction *and operation.*	

Outcome	Ref. number	Key action	Timing	Reference document
		~~Natural and artificial crossing treatments will be developed in consultation with DECCW.~~		
Minimise impacts on fish and aquatic habitat.	FF~~6~~*7*	Waterway crossings, including temporary works, will be developed in accordance with the fish habitat classification of each waterway and in consultation *I&INSW* ~~the Department of Industry and Investment.~~	Pre-construction and construction.	*Policy and Guidelines for Aquatic Habitat Management and Fish Conservation* (NSW Fisheries 1999). *'Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings'* (Fairfull and Witheridge 2003).
	FF8	*Works within the main watercourse of Ten Mile Creek will be avoided during the breeding season of the Southern Pygmy Perch (September to January) unless mitigation measures are developed in consultation with I&INSW*	*Pre-construction and construction*	
	FF9	*Snag management will be undertaken in consultation with I&INSW and will follow the management principles of lopping as the first priority followed by realignment, then relocation with removal as the last resort.*	*Construction.*	*Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (NSW Fisheries 1999).*
Enhance existing habitat.	FF~~7~~*10*	Natural and artificial habitat features and resources (such as felled logs and nest boxes) will be placed in suitable areas to provide alternative habitat for displaced fauna.	Pre-construction and construction.	
Offset loss of vegetation and fauna habitat.	FF~~8~~*11*	A biodiversity offset package will be developed in consultation with DECCW and other relevant government agencies.	Pre-construction and construction.	

Outcome	Ref. number	Key action	Timing	Reference document
Aboriginal heritage				
Manage impacts on Aboriginal heritage.	AH1	Any Aboriginal heritage items will be managed in accordance with the Aboriginal Cultural Heritage Assessment Report (CHAR), which identifies mitigation measures, developed in consultation with Aboriginal stakeholders and DECCW.	Pre-construction and construction.	Technical Paper 2
	AH2	Aboriginal sites identified to be conserved will be managed as environmentally sensitive areas.	Pre-construction and construction.	Section 9.2 of the environmental assessment.
	AH3	If any skeletal remains are encountered, all works that would potentially impact the find will stop immediately. Works will not re-commence until appropriate clearance has been received.	Construction.	*Skeletal remains — Guidelines for the management of human skeletal remains under the Heritage Act 1977* (NSW Heritage Office 1998).
Noise and vibration				
Minimise construction noise and vibration impacts.	NV1	*Best practice mitigation and management measures will be used to minimise construction noise and vibration at sensitive receivers.* ~~Monitoring will be undertaken to determine the effectiveness of mitigation measures. Should construction noise generate complaints and the monitoring confirm noise is above predicted levels, additional feasible and reasonable mitigation measures will be implemented.~~	Construction.	Section 9.5 of the environmental assessment *Interim Construction Noise Guideline (DECC 2009).* *Assessing Vibration: A Technical Guide (DEC 2006).* *NSW Industrial Noise Policy (EPA 2000).* *Interim Construction Noise Guideline (DECC 2009).* *Environmental Noise Management Manual* (RTA 2001). ~~*NSW Government's Environmental Criteria for Road Traffic Noise* (EPA 1999).~~ ~~AS 2436-1981 Guide to noise control on construction, maintenance and demolition sites.~~
	~~NV2~~	~~Out of hours construction activities will include consultation with DECCW and affected sensitive receivers.~~	~~Construction.~~	~~*NSW Industrial Noise Policy* (EPA 2000).~~ ~~*RTA Environmental Noise Management Manual* (2001).~~ ~~*Interim Construction Noise Guidelines (DECCW 2009)*~~

Outcome	Ref. number	Key action	Timing	Reference document
Blasting	*NV2*	*Blasting will be designed and undertaken so as to comply with the recommended vibration and overpressure limits*	*Construction.*	*Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZECC 1990)*
Minimise operational noise impacts.	*NV3*	*Additional origin-destination licence plate survey will be undertaken during a period of stabilised traffic to confirm the predicted traffic volumes that would use the proposed bypass at night-time.*	*Pre-construction.*	
	NV3*4*	All reasonable and feasible mitigation measures will be developed and implemented to meet the noise criteria applicable to the project in consultation with the sensitive receiver.	Pre-construction and construction.	*NSW Government's Environmental Criteria for Road Traffic Noise* (EPA 1999). *Environmental Noise Management Manual* (RTA 2001).
	NV4*5*	Measurement of operational noise will be undertaken along the project between six months and one year after opening. Should the monitoring indicate traffic noise impacts exceeding predicted levels, further reasonable and feasible mitigation measures will be implemented in consultation with the sensitive receiver.	Construction and operation.	*NSW Government's Environmental Criteria for Road Traffic Noise* (EPA 1999). *Environmental Noise Management Manual* (RTA 2001).
Social and economic				
Property access is maintained.	SE1	~~Property access will be maintained for the duration of the construction. If required, temporary or alternative access would be provided in consultation with the affected landowner(s).~~ *Property access will be maintained in consultation with the affected landowner(s). If required, temporary or alternative access during construction will be provided.*	Construction *and operation*.	*Community Involvement and Communications. Draft: A resource manual for staff* (RTA 2008a).
Manage impacts to directly affected properties.	SE2	Negotiations for property acquisition will include consideration of property adjustments where required to maintain farm management practices.	Pre-construction and construction.	

Outcome	Ref. number	Key action	Timing	Reference document
Minimise economic impacts on Holbrook.	SE3	Appropriate signage will be provided near to interchanges.	Operation.	RTA's *Guide Signposting* (RTA 2007) and *Tourist Signposting Manual* (RTA 2009d).
	SE4	Consultation with ~~Greater Hume Shire Council~~ *GHSC* will continue through detailed design and construction regarding assistance towards the development of strategies to address the continued viability of Holbrook.	Pre-construction and construction.	
Traffic and transport				
Avoid or minimise impacts on traffic and the road network.	TT1	Pre- and post-construction road dilapidation reports will be prepared for local and/or regional roads likely to be used for construction. Any damage resulting from construction (not normal wear and tear) will be repaired unless alternative arrangements are made with the relevant road authority.	Pre-construction and operation.	
	TT2	Construction vehicle movements and works programs will incorporate traffic control measures to minimise traffic and transport impacts on local roads and the existing highway.	Pre-construction and construction.	*RTA Traffic Control at Work Sites* (RTA 2003a). RTA QA Specification G10 Control of Traffic.
Minimise impacts on the operation of travelling stock routes.	TT3	The design of the project will adopt reasonable and feasible measures in consultation with Hume Livestock Health and Pest Authority to maintain the travelling stock routes.	Pre-construction and construction.	

Outcome	Ref. number	Key action	Timing	Reference document
Surface water and groundwater				
Minimise flood impacts.	H1	The project will be designed to minimise change in peak flood levels (afflux) in the 100 year ARI event.	Pre-construction.	Section 10.1 of the environmental assessment.
Minimise the impact of groundwater extraction.	H2	Groundwater monitoring of water level and water quality will be undertaken. Where levels and/or quality indicate that the project is potentially having an adverse impact, mitigation measures will be implemented.	Construction.	
Conservation of water.	H3	Water efficient work practices, such as water reuse and recycling for road construction and revegetation irrigation will be implemented.	Construction.	
Non-Aboriginal heritage				
Minimise impacts on non-Aboriginal heritage.	NA1	Mitigation (archival record, test/salvage excavation) will be completed for impacted heritage items.	Pre-construction and construction	*How to prepare archival records of heritage items* (NSW Heritage 1998b). Section 10.2 of the environmental assessment.
	NA2	Non-Aboriginal sites identified to be conserved will be managed as environmentally sensitive areas.	Pre-construction and construction.	Section 10.2 of the environmental assessment.
	NA3	If any unknown non-Aboriginal heritage items are encountered, all works that would potentially impact the find will stop immediately. Works will not recommence until appropriate clearance has been received.	Pre-construction and construction.	
Air quality				
Minimise dust impacts to sensitive receivers.	AQ1	Standard dust and emission control measures will be implemented to manage construction air quality impacts at sensitive receivers.	Construction.	

Outcome	Ref. number	Key action	Timing	Reference document
Soils and water quality				
Minimise erosion and sedimentation.	SW1	Management measures will be designed, installed and maintained to minimise erosion and sedimentation from construction activities.	Pre-construction and construction.	*Managing Urban Stormwater: Soils and Construction Volume 1* (Landcom 2006). *Managing Urban Stormwater: Soils and Construction, Volume 2D, Main Road Construction* (DECC 2008b).
	SW2	A soil conservation specialist will be engaged to provide advice on erosion and sedimentation control.	Pre-construction and construction.	
	SW3	Stabilisation of exposed areas will be undertaken progressively.	Construction.	RTA QA Specification R178 Vegetation.
Avoid contamination of waterways.	SW4	Spills will be contained immediately. Bunded areas will be used for storage of potentially hazardous and/or contaminating materials and activities.	Construction.	AS 1940 The storage and handling of flammable and combustible liquids. *Storing and handling liquids: Environmental protection — participants manual* (DECC 2007). *Environmental compliance report: Liquid chemical storage, handling and spill management — Part B Review of best practice and regulation* (DECC 2005). *RTA Code of Practice for Water Management* (RTA 1999b).
	SW5	The project will incorporate structural and non-structural measures to control road runoff pollutants entering Ten Mile Creek.	Operation.	*Procedure for Selecting Treatment Strategies to Control Road Run-off* (RTA 2003b).
Contaminated land				
Manage contaminated sites.	CL1	Sites identified as containing a moderate to high risk of contamination will be analysed and managed in accordance with relevant guidelines.	Construction.	Section 10.7 of the environmental assessment *Waste Classification Guidelines: Parts 1 and 2* (DECC 2008a). *Contaminated Land Management Guideline* (RTA 2005).

Outcome	Ref. number	Key action	Timing	Reference document
	CL2	If any unknown contaminated sites are encountered, all works at that site will stop immediately. Works will not recommence until the material is analysed and management measures are developed.	Pre-construction and construction.	*Waste Classification Guidelines: Parts 1 and 2* (DECC 2008a). *Contaminated Land Management Guideline* (RTA 2005).
Sustainable management				
Minimise greenhouse gas emissions and energy use.	SM1	Energy efficient work practices will be implemented, including consideration of: ▪ Energy efficient design of site buildings. ▪ Design of site compounds and the batch plant to minimise unnecessary vehicle movement. ▪ Regular servicing of site plant and equipment. ▪ Training of construction personnel in energy efficient plant operation. ▪ The use of accredited GreenPower. ▪ Use of locally sourced materials where available and of suitable quality.	Pre-construction and construction.	
Minimise waste.	SM2	The waste minimisation hierarchy principles of avoid, reduce, reuse, recycle or dispose will apply to all aspects of the project.	Construction.	*Waste Avoidance and Resource Recovery Strategy* (DECC 2006). NSW Government's Waste Reduction and Purchasing Policy. *Environmental guidelines — assessment, classification and management of liquid and non-liquid waste* (DECC 1999).

Outcome	Ref. number	Key action	Timing	Reference document
Visual amenity and landscape				
Minimise visual amenity impacts.	VL1	Built elements and landscapes will be in accordance with the urban and landscape design objectives for the project. The ~~Greater Hume Shire Council~~ *GHSC* and the community will be consulted.	Pre-construction.	Section 10.4 of the environmental assessment. *Hume Highway Urban Design framework: Prestons (WM7) to Albury* (RTA 2009b). *Beyond the Pavement Urban and Regional Design Practice Notes* (RTA 1999a, 2004 update). *RTA Bridge Aesthetics* (RTA 2003c), *Noise Wall design Guideline* (RTA 2006), and *Landscape Guideline* (RTA 2008b).
	VL2	Landscaping treatments will include native plant species endemic to the local area.	Pre-construction and construction.	Section 10.3 of the environmental assessment.
Hazards and risks				
Minimise risks and hazards to the environment and community.	HR1	Hazardous materials will be stored in bunded areas within the construction site. Hazardous materials will not be stored on the floodplain below the 20 year ARI flood level.	Pre-construction and construction.	AS 1940 The Storage and Handling of Flammable and Combustible Liquids. *DEC Bunding and Spill Management Guidelines* (in DEC Environmental Protection manual for Authorised Officers). *RTA Code of Practice for Water Management* (RTA 1999b).
	HR2	Potentially hazardous and contaminating activities will be in bunded areas or in other areas where suitable containment measures are in place to prevent discharge into watercourses.	Pre-construction and construction.	AS 1940 The Storage and Handling of Flammable and Combustible Liquids.

Outcome	Ref. number	Key action	Timing	Reference document
Ancillary facilities				
Minimise impacts of ancillary facilities.	AF1	Ancillary facilities (excluding temporary stockpiles) not identified in the environmental assessment will be located in areas: ▪ More than 40 metres from waterways. ▪ Of low ecological and heritage conservation significance. ▪ Where there is no significant clearing of native vegetation beyond that already required for the project. ▪ That minimise impact on amenity of the closest sensitive receiver (unless a negotiated agreement is in place). ▪ On relatively level ground.	Pre-construction and construction.	Section 6.6 of the environmental assessment. *Interim Construction Noise Guideline (DECC 2009).*
	AF2	Temporary stockpiles will be located in areas: ▪ Of low ecological and heritage conservation significance. ▪ Constructed on the contour at least 40 metres from waterways. ▪ Outside the 10 year ARI floodplain. ▪ On relatively level ground.	Construction.	Section 6.6 of the environmental assessment. *Managing Urban Stormwater. Soils and Construction, Volume 1* (Landcom 2006).

Outcome	Ref. number	Key action	Timing	Reference document
Quarrying				
Minimise impacts of quarrying.	Q1	*Any quarry established or expanded to meet the needs of the project will be undertaken in accordance with all relevant environmental guidelines and legislation.* ~~Potential quarry locations would be guided by the following criteria:~~ ~~▪ More than 40 metres from waterways.~~ ~~▪ Areas of low ecological and heritage conservation value.~~ ~~▪ Greater than 100 metres from closest sensitive receiver (unless a negotiated agreement is in place).~~	Pre-construction and construction.	Section 6.3 of the environmental assessment. *Managing Urban Stormwater. Soils and Construction, Volume 1 (Landcom 2006)* *Managing Urban Stormwater: Soils and Construction, Volume 2E, Mines and Quarries (DECC 2008c)* *NSW Industrial Noise Policy (EPA 2000).*
Manage long-term impacts of quarrying.	Q2	If required, a site rehabilitation plan would be developed in consultation with relevant stakeholders.	Construction.	

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Wilkinson Murray 2010, *Supplementary Noise Study for 90% Traffic Diversion*, Version B

Appendix A

Supplementary Noise Study for 90 per cent Traffic Diversion

ACOUSTICS AND AIR

HOLBROOK BYPASS

SUPPLEMENTARY NOISE STUDY FOR 90% TRAFFIC DIVERSION

REPORT NO. 07277-H EA-SUP
VERSION C

WILKINSON MURRAY

HOLBROOK BYPASS

SUPPLEMENTARY NOISE STUDY FOR 90% TRAFFIC DIVERSION

REPORT NO. 07277-H EA-SUP
VERSION C

FEBRUARY 2010

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1 INTRODUCTION

As part of the Hume Highway upgrade, a bypass is proposed for the village of Holbrook.

The noise assessment component of the Environmental Assessment (EA) of the bypass was presented in Wilkinson Murray Report 07277-HEA (October 2009).

The EA was reviewed by the Department of Environment, Climate Change and Water (DECCW) who raised several issues concerning noise and traffic volumes. In particular:

- In the noise study, the "future existing" noise predictions (that is the noise level due to existing traffic at a time just before opening of the project) were identical for facades facing toward and away from the existing Hume Highway at some houses. Updated predictions are presented in this report.
- The criteria used to determine which residences would be considered for noise mitigation were not completely described in the EA report. In this report further clarification of noise criteria is given.
- The noise predictions were based on the "high diversion" traffic scenario. It has been suggested that this scenario underestimates the night time traffic on the bypass. In this report the noise is assessed based on the "90% night time heavy vehicle diversion" scenario. In this scenario the night-time noise from the bypass would be approximately 1dBA higher than assessed in the EA. Hence more extensive at-road noise mitigation would be required. The noise in Holbrook from the remaining Hume Highway traffic is significantly reduced in this scenario.

In this report only night time noise is assessed, as this is the most critical time period for assessment at residences. Changes in daytime traffic volumes would affect the assessment at non-residential receivers. In the EA some possible exceedances were predicted at schools and churches with windows open during daytime. However, as the criteria were internal, determination of exceedance would require post-operational monitoring. The slight change in daytime traffic volumes would not change this finding of the EA report, so no further analysis of daytime traffic noise was performed for the 90% night time heavy vehicle diversion scenario.

2 NOISE SENSITIVE RECEIVERS

2.1 Residential Receivers

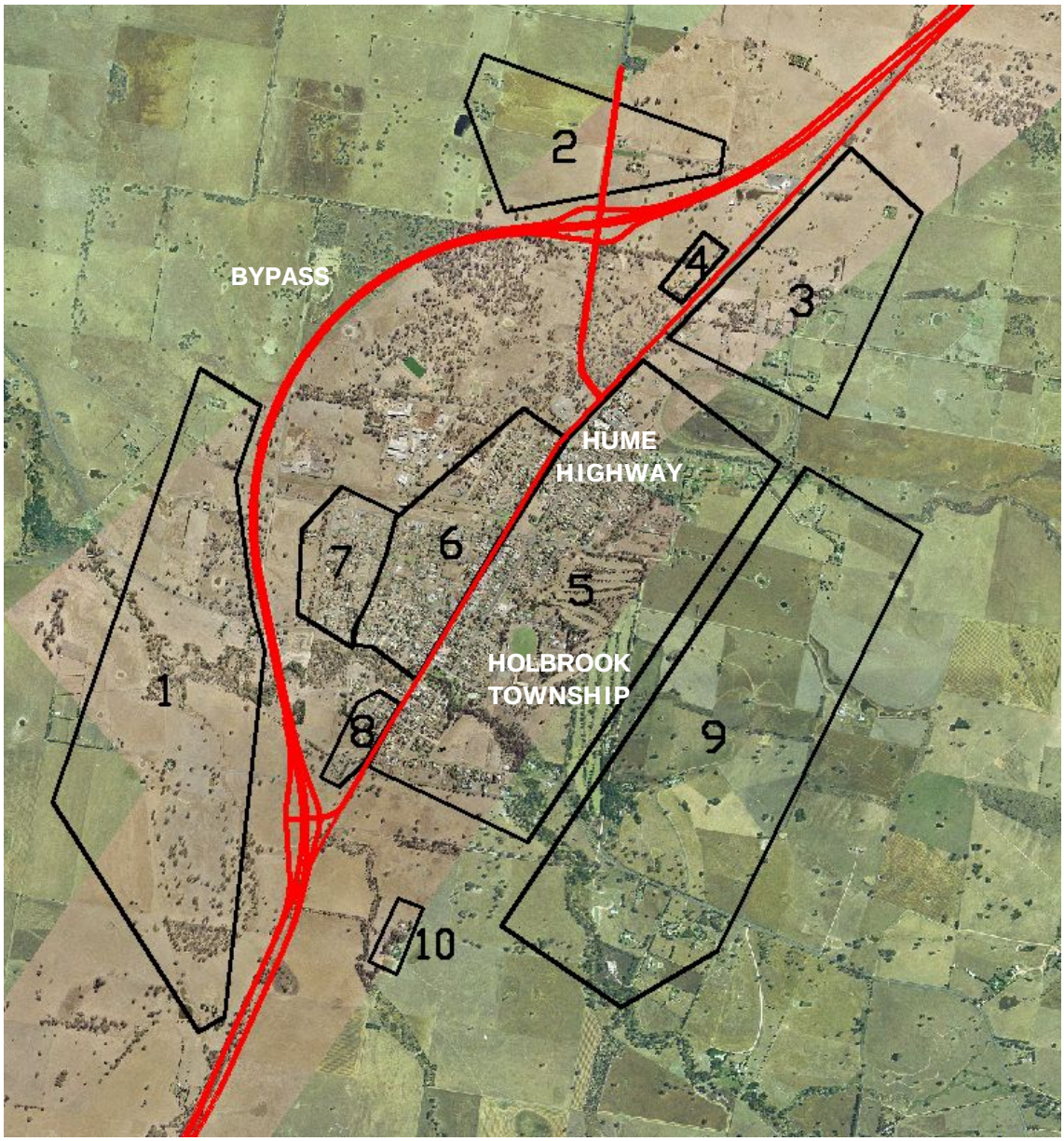
All residential locations potentially affected by the Proposal are included in the noise assessment. A total of 591 houses are included and each location is identified by a unique number. For ease of reference, specific areas of the project have been grouped together into 10 noise catchment areas (NCAs). The figures in Appendices F and G of the October 2009 Report show all location identification numbers as well as the various NCAs.

Table 2-1 describes the location of each NCA (shown in Figure 2-1).

Table 2-1 Noise Catchment Areas

NCA	Location	Receiver Numbers	Type of Residences	Non Residential Receivers
1	Western side of Bypass	1-7	Isolated	
2	Northern side of Bypass	8-11	Isolated	
3	Eastern side of Bypass, northern side of Holbrook	291-298 580-583 587	Isolated	
4	Between Bypass and Hume Highway, northern side of Holbrook	256-257	Isolated	
5	Holbrook town on eastern side of Hume Highway	299-447 449-579	Village	Holbrook Hospital Knox Uniting Church Golf Course Holbrook Public School
6	Holbrook town on western side of Hume Highway	42-43 77-99 101-112 117-145 147-148 151-251 276-281	Village	St Patrick's School Our Lady of Sorrows Church Anglican Church (Young St)
7	Holbrook rear of town, between Bypass and Hume Highway	12-41 44-49 100 113-116 146 252-254 258-288	Village	
8	Between Bypass and Hume Highway, southern side of Holbrook	50-76	Isolated	
9	Eastern side of Hume Highway, eastern side of Holbrook	448 584-586 588-589 594 596-600	Isolated	
10	Eastern side of Hume Highway, south side of Holbrook	290-291	Isolated	

Figure 2-1 Noise Catchment Areas



3 RESIDENTIAL TRAFFIC NOISE CRITERIA

This section provides a fuller explanation of the noise criteria adopted for residences in this project. The criteria themselves are unchanged from those adopted in the EA.

Criteria for assessment of road traffic noise are set out in the NSW Government's *Environmental Criteria for Road Traffic Noise (ECRTN)*. The RTA has also published the *Environmental Noise Management Manual (ENMM)* to assist in implementing the ECRTN.

Under the *Environmental Criteria for Road Traffic Noise*, road developments are classified as either "new road" or "redevelopment of an existing road". Practice note (i) of the *Environmental Noise Management Manual* describes the circumstances under which each of these applies. At most receivers, this Proposal would be classified as a "*new freeway or arterial road corridor*". Three receivers (Recs 1, 289 and 290) in the study area are south of where the bypass rejoins the Hume Highway, and at these locations the Proposal would be considered *"redevelopment of existing freeway/arterial road*". The noise level criteria set out in Table 3-1 apply.

Table 3-1 Environmental Criteria for Road Traffic Noise Criteria for Operational Traffic Noise - Receivers

Type of Development	Noise Level Criterion		Where Criteria are Already Exceeded
	Day (7.00am-10.00pm)	Night (10.00pm-7.00am)	
New freeway or arterial road corridor	$L_{Aeq,15hr}$ 55dBA	$L_{Aeq,9hr}$ 50dBA	The new road should be designed as not to increase existing noise levels by more than 0.5dB. *Where feasible and reasonable, noise levels from existing roads should be reduced to meet the noise criteria. In many instances this may be achievable only through long-term strategies.*
Redevelopment of existing freeway/arterial road	$L_{Aeq,15hr}$ 60dBA	$L_{Aeq,9hr}$ 55dBA	In all cases, the redevelopment should be designed so as not to increase existing noise levels by more than 2dB. *Where feasible and reasonable, noise levels from existing roads should be reduced to meet the noise criteria. In many instances this may be achievable only through long-term strategies.*

In applying Table 3-1, the noise level criterion applies to the predicted noise level at a time 10 years after opening of the project (design year), which in this case is the year 2022. The "existing" noise levels are described in the *Environmental Noise Management Manual* as "future existing" levels – that is, noise levels due to traffic on existing roads as predicted at a time immediately before opening of the project.

Where the "base" criteria in Table 3-1 are already exceeded, Practice Note (iv) of the *Environmental Noise Management Manual* provides further discussion of situations where provision of additional controls would be considered "feasible and reasonable". In particular, for "new freeways or arterial roads" it is generally *not* considered reasonable to take action to reduce noise levels to the target noise levels if the noise levels with the proposal, ten years

after project opening, are predicted to be:

- less than 2dBA above the "future existing" noise levels; *and*
- no more than 2dBA above the target noise levels set out in the Table 3-1.

For the three residences at which the project represents a "redevelopment of an existing freeway/arterial road", it is generally *not* considered reasonable to take action to reduce noise levels if the noise levels with the proposal, ten years after project opening, are predicted to be:

- less than 2dBA above the "future existing" noise levels; *and*
- not "acute" – i.e. the noise levels are less than 65 dBA $L_{Aeq,15hr}$ (day) or 60 dBA $L_{Aeq,9hr}$ (night).

In assessing noise at the bypasses proposed for Tarcutta, Holbrook and Woomargama, it was found that strict application of the above guidelines to residences adjoining the existing Highway would result in a requirement for noise mitigation that was not considered reasonable and feasible. Such residences may experience a significant reduction in traffic noise as a result of the project, but because the project represents a "new road" and the final noise levels still exceed the targets in Table 3-1, further mitigation of noise from the existing Highway would be indicated. This result was not considered reasonable, or in line with community expectations.

Hence, for this project a further guideline is introduced, namely that it is not considered "reasonable and feasible" to provide mitigation for facades where the noise level is dominated by noise from the existing Highway and this noise level will reduce as a result of the project.

4 TRAFFIC VOLUMES FOR ASSESSMENT

Predicted traffic volumes and Austroads vehicle classification were provided by Parsons Brinkerhoff during preparation of the traffic report for the Project, since issued as the draft *SH2 Hume Highway Holbrook Bypass Traffic Study, August* 2009. Appendix D of that document allowed traffic data to be derived for the following scenarios:

- 2012 'Do nothing' scenario (Table 4-1)
- 2022 'Design' scenario with Bypass (Table 4-2)

Predicted 2022 flows on ramps are shown in Table 8-5. In addition, predicted 2022 flows for the existing Hume Highway going through the town and on other existing roads are shown in Table 4-3.

A diagram showing the labelling of road segments of the Hume Highway and Bypass section is shown in Figure 4-1.

The "90% Night Diversion" scenario is a new scenario under which at night, 90% of both heavy and light vehicles divert to the By-Pass section. The value of 90% is considered by the traffic consultants to be a conservatively high estimate, particularly in the case of light vehicles, but serves to illustrate the sensitivity of the analysis to this parameter. The new scenario is based on the same total number of vehicles as the "High Diversion Scenario". However, due to a slightly different method of calculation of the day/night split numbers in 2022, there are very small differences in the day/night and light/heavy vehicle splits. These differences are negligible, representing a difference of no more than 0.1 dBA in noise level.)

Figure 4-1 Labelling of Road Segments Used in this Study

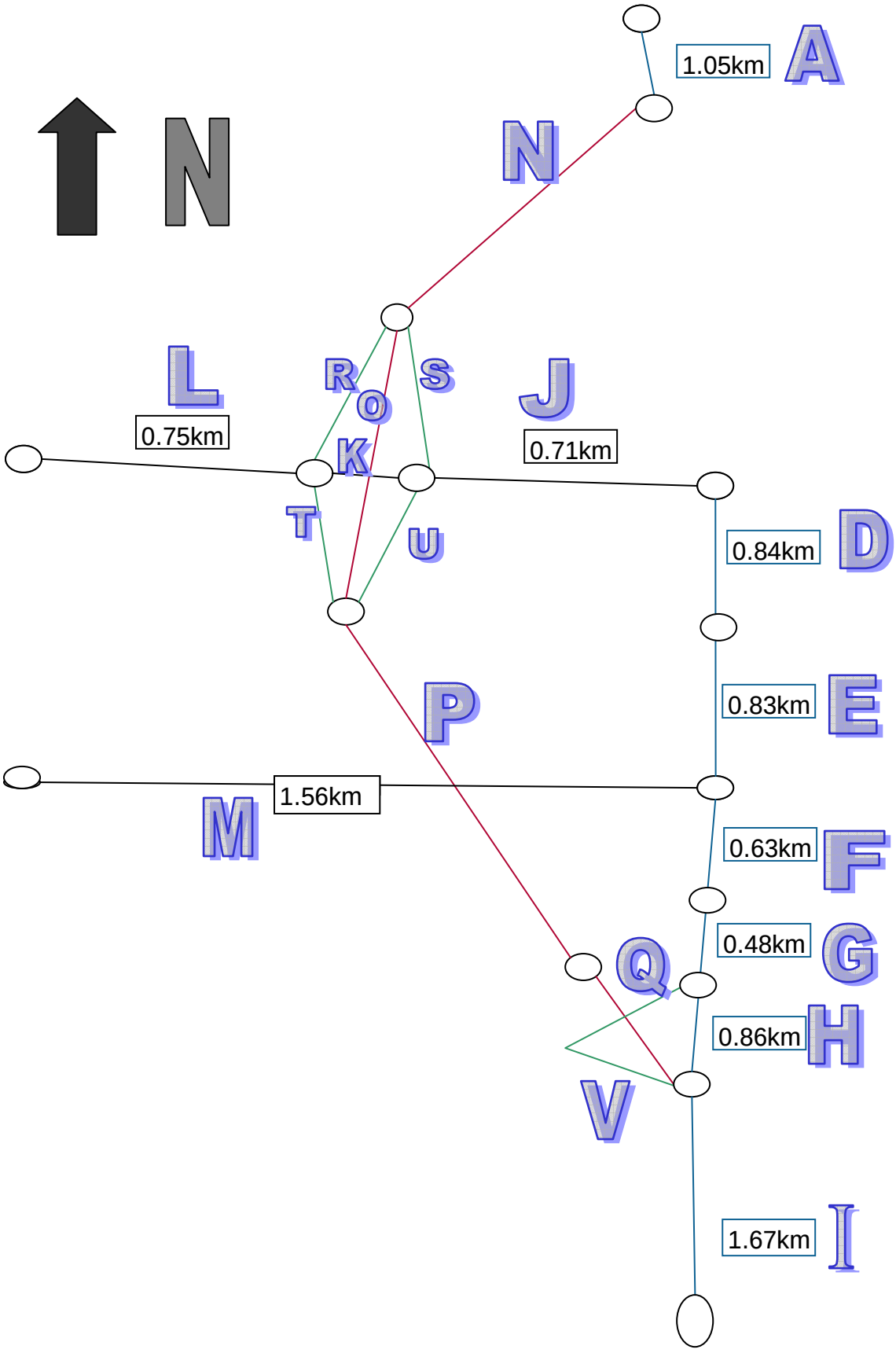


Table 4-1 Predicted 2012 Traffic Flows - Do-Nothing Scenario

Road	Direction	Day (7.00am-10.00pm)			Night (10.00pm-7.00am)			24-hr Total (2-way)
		Light	Heavy	%HV	Light	Heavy	%HV	
Hume Highway - Sections A, B & C	NB	1,476	803	35%	208	497	70%	5,932
	SB	1,459	794	35%	192	503	72%	
Hume Highway - Section D	NB	1,626	842	34%	229	521	69%	6,398
	SB	1,608	833	34%	212	527	71%	
Hume Highway - Section E	NB	2,147	877	29%	303	543	64%	7,687
	SB	2,122	867	29%	279	549	66%	
Hume Highway - Sections F, G, H & I	NB	1,582	781	33%	223	483	68%	6,101
	SB	1,564	773	33%	206	489	70%	
Holbrook Culcairn Road	Both directions	1,347	116	8%	184	182	50%	1,829
Holbrook Wagga Wagga Road	Both directions	500	115	19%	68	179	72%	862

Table 4-2 Predicted 2022 Traffic Flows - High Diversion Scenario – Bypass

Bypass Section	Direction	Day (7.00am-10.00pm)			Night (10.00pm-7.00am)			24-hr Total (2-way)
		Light	Heavy	%HV	Light	Heavy	%HV	
Section N	NB	2,218	1,002	31%	313	618	66%	8,490
	SB	1,979	1,281	39%	260	819	76%	
Section O	NB	1,204	632	34%	170	390	70%	4,932
	SB	1,075	808	43%	141	512	78%	
Sections P & Q	NB	1,286	641	33%	181	395	69%	5,140
	SB	1148	819	42%	151	519	78%	

Table 4-3 Predicted 2022 Traffic Flows – High Diversion Scenario- Existing Hume Highway going through Town and other Nearby Roads

Road	Direction	Day (7.00am-10.00pm)			Night (10.00pm-7.00am)			24-hr Total (2-way)
		Light	Heavy	%HV	Light	Heavy	%HV	
Hume Highway - Section A	NB	2,218	1,002	31%	313	618	66%	8,483
	SB	1,979	1,281	39%	260	812	76%	
Hume Highway – Section B & C[1]	NB	-	-	-	-	-	-	-
	SB	-	-	-	-	-	-	-
Hume Highway - Section D	NB	1,080	365	25%	152	225	60%	3,673
	SB	963	466	33%	126	296	70%	
Hume Highway - Section E	NB	1,689	395	19%	238	244	51%	5,097
	SB	1,508	505	25%	198	320	62%	
Hume Highway - Sections F & G	NB	1,090	334	23%	154	206	57%	3,583
	SB	973	427	31%	128	271	68%	
Hume Highway - Section I	NB	2,377	975	29%	335	601	64%	8,723
	SB	2,121	1,246	37%	278	790	74%	
Holbrook Culcairn Road	Both directions	1678	145	8%	229	227	33%	2279
Holbrook Wagga Wagga Road – Section J	Both directions	2043	527	17%	279	825	43%	3674
Holbrook Wagga Wagga Road – Section K	Both directions	1256	327	17%	171	512	43%	2266
Holbrook Wagga Wagga Road – Section L	Both directions	623	143	16%	85	223	42%	1074

Note 1: Traffic on the cul-de-sac section will be insignificant.

Table 4-4 Predicted 2022 Traffic Flows – 90% Night Diversion Scenario – Bypass

Bypass Section	Direction	Day (7.00am-10.00pm)			Night (10.00pm-7.00am)			24-hr Total (2-way)
		Light	Heavy	%HV	Light	Heavy	%HV	
Section N	Both	4156	2251	35	619	1464	70	8490
Section O	Both	2049	1056	34	541	1286	70	4932
Section P & Q	Both	2214	1083	33	552	1291	70	5140

Table 4-5 Predicted 2022 Traffic Flows – 90% Night Diversion Scenario – Existing Hume Highway going through Town and other Nearby Roads

Road	Direction	Day (7.00am-10.00pm)			Night (10.00pm-7.00am)			24-hr Total (2-way)
		Light	Heavy	%HV	Light	Heavy	%HV	
Hume Highway - Section A	Both directions	4151	2250	35	619	1463	70	8,483
Hume Highway - Section D	Both directions	2213	1126	34	108	226	68	3,673
Hume Highway - Section E	Both directions	3381	1230	27	252	235	48	5,097
Hume Highway - Sections F & G	Both directions	2273	1090	32	72	148	67	3,583
Hume Highway - Section I	Both directions	4487	2173	33	624	1439	70	8,723
Holbrook Culcairn Road	Both directions	1703	262	13	205	109	35	2,279
Holbrook Wagga Wagga Road – Section J	Both directions	2214	1126	34	108	226	68	3,674
Holbrook Wagga Wagga Road – Section K	Both directions	1343	662	33	84	177	68	2,266
Holbrook Wagga Wagga Road – Section L	Both directions	649	262	29	59	104	64	1,074

5 RESULTS

5.1 Noise Modelling

Noise modelling was done using the model described in the EA report using updated traffic information.

Noise prediction used the *Calculation of Road Traffic Noise (CORTN)* algorithms, with assumptions as given in the EA report.

5.2 Corrected Future Existing Noise Levels

In the noise study, the future existing noise predictions (that is, the noise level of existing traffic just before opening of the project) were identical for facades facing toward and away from the existing Hume Highway at houses in NCAs 4, 6, 7 and 8. The future existing traffic noise at these houses would in fact be lower at the western facades, so this has been corrected.

There are exceptions at houses along Culcairn Road where the future existing noise level depends on noise from Culcairn Road. At these houses the future existing noise was predicted to be identical at the east and west facades.

Updated results are presented in this report in Table 5-1 which shows the number of receivers where noise is predicted to exceed the criteria. Using the new future existing noise levels, 17 extra receivers would be considered for noise mitigation. Two isolated residences (Receivers 256 and 257 in NCA 4) may be considered for architectural treatment. Fifteen others in NCA 8 are part of the group where at-road mitigation would now be considered. However, in fact the mitigation measures proposed in the EA report would provide sufficient mitigation for these residences, so the design of this mitigation would not be altered. Receivers not previously considered for mitigation are listed in red in Table 5-1.

Appendix A gives updated predictions for this scenario.

Table 5-1 Operational Noise Impacts 2022 – High Diversion Scenario with Corrected Future Existing Noise Level for Western Facades

		EA Report		Corrected values	
NCA	Type of Residences	Receivers where mitigation considered	Receivers exposed to acute levels	Receivers where mitigation considered	Receivers exposed to acute levels
1	Isolated	5	2	No Change	No Change
2	Isolated	3	1	No Change	No Change
3	Isolated	0	0	No Change	No Change
4	Isolated	0	0	2 (Recs 256, 257)	No Change
5	Village	0	13	No Change	No Change
6	Village	3	16	No Change	No Change
7	Village	40	0	No Change	No Change
8	Village	9	3	24 (Include Recs 58, 60, 62, 63, 64, 65, 66. 67, 68, 69, 70, 71, 72, 74, 76)	No Change
9	Isolated	0	0	No Change	No Change
10	Isolated	0	0	No Change	No Change

5.3 Results for 90% Night Time Traffic Diversion

As discussed in the EA report, mitigation of traffic noise from the bypass will be determined by night time noise emissions – that is, the night time noise will never be more than 5dBA below the daytime noise.

Table 5-2 shows a comparison between the number of receivers requiring consideration of mitigation (under the guidelines in Section 3) under the previous "High Diversion" and the "90% Night Diversion" scenarios. The table also shows a comparison of the number of residences for which noise levels would be considered "acute" under each scenario. Note that the numbers shown under "High Diversion" are the corrected values from Table 5-1.

Table 5-3 shows a summary of exceedances for both scenarios.

Under the "90% Night Diversion" scenario, a total of 92 residences require consideration for mitigation, compared with 77 under the "High Diversion" scenario. On the other hand, due to the reduction in noise from the existing Highway, the number of residences exposed to "acute" night-time noise would be significantly lower under the "90% Night Diversion"– 2, compared with 35 under the "High Diversion" scenario.

Complete noise predictions for the "90% Night Diversion" scenario are given in Appendix B.

Table 5-2 Details of Night-Time Exceedances in Each NCA

	High Diversion		90% Night Diversion	
NCA	Receivers considered for mitigation	Number of receivers exposed to acute levels (receiver numbers)	Revised receivers considered for mitigation	Revised receivers exposed to acute levels (receiver numbers)
1	5 (3, 4, 5, 6, 7)	2 (4, 5)	No change	1 (5)
2	3 (9, 10, 11)	1 (11)	No change	No change
3	0	0	No change	No change
4	2 (256, 257)	0	No change	No change
5	0	13 (411, 419, 420, 451, 452, 453, 458, 459, 460, 461, 462, 463 & 464)	No change	1 (461)
6	3 (42, 43, 99)	16 (95, 96, 138, 139, 140, 141, 194, 195, 197, 198, 199, 200, 201, 202, 203 & 204)	Extra 3 (102, 117, 147) **(Total 6)**	0
7	Western façade 40(12, 13, 14, 15[1], 16[1], 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 46, 47, 100, 146, 285, 286, 287, 288)	0	Extra 13 (48, 49, 113, 254, 259, 260, 265, 266, 269, 274, 282, 283, 284) **(Total 53)**	No change
8	24 (51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 74, 76)	Eastern facade 2 (73, 75) Western facade 1 (64)	23 (51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 76) **(Reduced by 1)**	0
9	0	0	No change	No change
10	0	0	No change	No change

Note 1 – 15 and 16 exceed on both western and eastern façades due to traffic on Culcairn Road

Table 5-3 Operational Noise Impacts 2022 – High Diversion Scenario compared with 90% night diversion with Corrected Future Existing Noise Levels for Western Facades

		High Diversion		90% Night Diversion	
NCA	**Type of Residences**	**Receivers where mitigation considered**	**Receiver Exposed to Acute Levels**	**Receivers where mitigation considered**	**Receiver Exposed to Acute Levels**
1	Isolated	5	2	5	1
2	Isolated	3	1	3	1
3	Isolated	0	0	0	0
4	Isolated	2	0	2	0
5	Village	0	13	0	1
6	Village	3	16	6	0
7	Village	40	0	53	0
8	Village	24	3	23	0
9	Isolated	0	0	0	0
10	Isolated	0	0	0	0

6 NOISE MITIGATION

Mitigation of noise for the "High Diversion" Scenario was discussed in the EA report. Mitigation of noise from the "90% Night Diversion" scenario has been considered as an extension of the previously recommended measures.

The recommended reasonable and feasible noise mitigations for the "High Diversion" scenario have not changed as a result of the modified prediction of future existing noise levels, except for the addition of two extra receivers that would be considered for acoustic architectural treatment (receivers 256 and 257).

Under the "90% Night Diversion" scenario, the bypass is predicted to generate exceedances at a considerable number of receivers in NCA 7 and NCA 8.

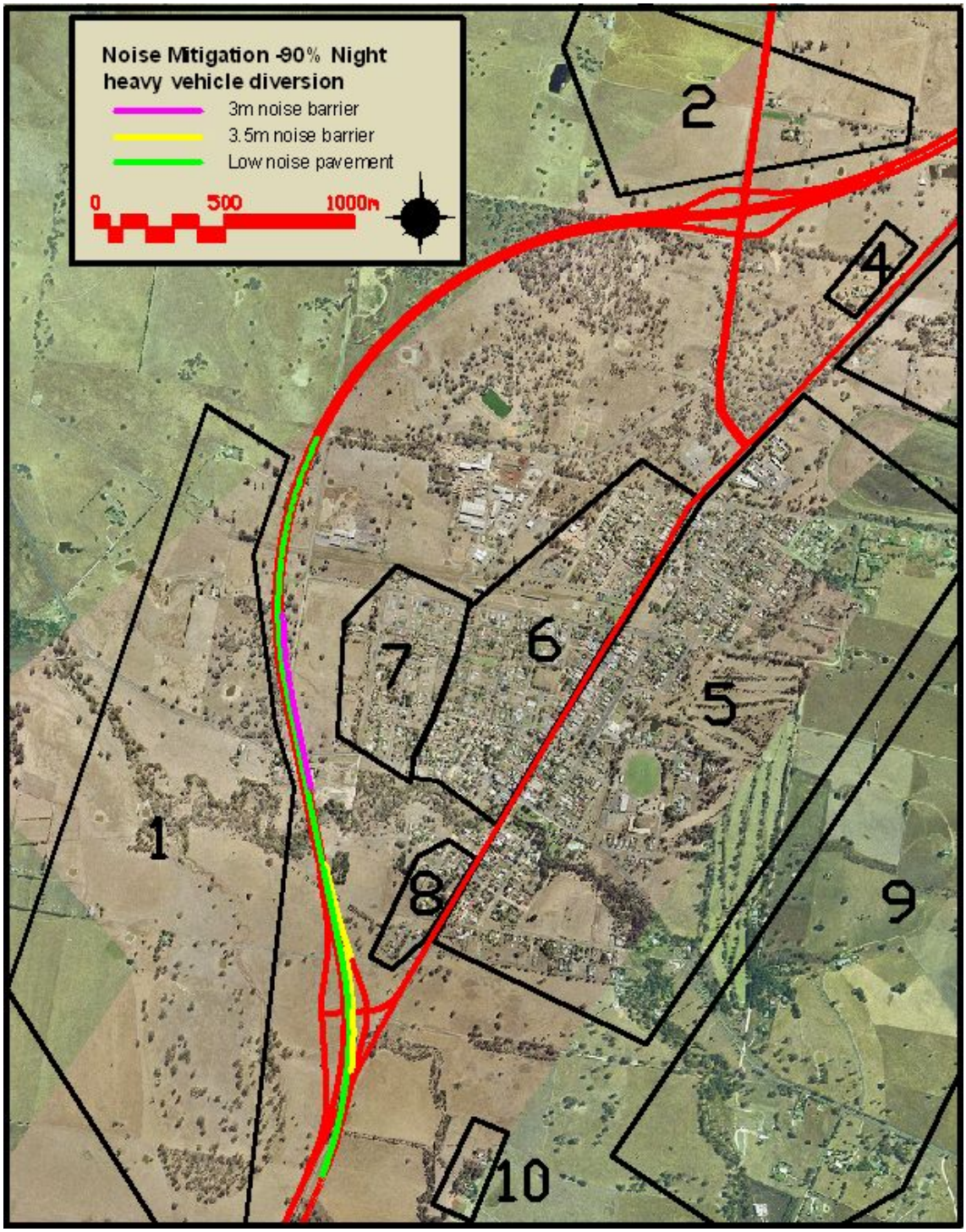
Whereas under the "High Diversion" scenario there was a choice of mitigation available - i.e. barriers, low noise pavement or a combination of both - with the 90% Night Diversion scenario only a combination of low noise pavement and barriers will achieve the required performance. For comparison, if low-noise pavement were adopted as a mitigation strategy for the "High Diversion" scenario, then under the "90% Night Diversion" scenario the following **additional** barriers would be required:

- 660m of 3m barrier near NCA 7; and
- Barrier for NCA 8 extended 250m further south at a height of 3.5m.

The noise mitigation is shown in Figure 6-1. It would achieve compliance at all non-isolated receivers. The mitigation consists of:

- low noise pavement – 2940m from chainage 114440 to 117380;
- a southbound barrier at a height of 3m and length of 660m along the bypass between southbound chainages 115080-115740;
- a 3.5m high split barrier with an overlap at the southern interchange, partly on the outside of the ramp (116060-116460) and partly between the ramp and the main carriageways (116400-116900)– total length 900m; and
- the Culcairn Road overpass should be dense grade asphaltic concrete, or a surface with similar noise properties.

Figure 6-1 Mitigations for 90% Night Diversion Scenario



7 CONCLUSION

This report is supplementary to the noise assessment for the proposed Holbrook Bypass, as contained in the Environmental Assessment (EA) report for that project. It provides updated noise predictions and recommended mitigation measures, taking account of two factors.

1. In the EA assessment, "future existing" noise levels for the western side of residences adjacent to the Pacific Highway were set equal to those on the eastern side. This is incorrect, and has been altered. The revised assessment shows that 15 additional residences in Noise Catchment Area (NCA) 8, and two in NCA 4, should have been shown as requiring mitigation to achieve required noise levels. For the 15 residences in NCA 8, the mitigation measures recommended in the EA would also achieve compliance at these residences, so no additional mitigation would be necessary. The two isolated residences in NCA 4 may be considered for architectural treatment.

2. A revision of traffic flow predictions was supplied, corresponding to a new "90% Night Diversion" scenario under which 90% of all night-time traffic would use the Bypass. This is an increase over the numbers projected under the "High Diversion" scenario considered in the EA. The results of analysis of the new scenario are:

   - reduced traffic on the Hume Highway in Holbrook would result in reduced traffic noise impact through the town at night;
   - predicted noise levels exceed recommended criteria at an additional 15 receivers, principally in NCA 7, due to extra heavy vehicles on the Bypass; and
   - noise levels at all residences can be reduced to within the goals recommended by the DECCW. However this would require additional mitigation compared with that considered in the EA, specifically an additional 660m of 3m high noise barrier and 250m of 3.5m high noise barrier. Details of the required mitigation are provided in Section 6 of this report.

Version	Status	Date	Prepared by	Checked by
A	Draft	11 January 2009	George Jenner	Rob Bullen
B	Draft	12 January 2009	George Jenner	Rob Bullen
B	Final	20 January 2009	George Jenner	Rob Bullen
C	Final	19 February 2009	George Jenner	Rob Bullen

APPENDIX A

NIGHT TIME PREDICTIONS AT RECEIVERS 2022
HIGH DIVERSION SCENARIO (UPDATE TO EA APPENDIX D)

Tables in this appendix present noise levels at all receivers identified in the noise catchment areas. Because the traffic noise from the bypass will come from different directions for different receivers, noise is assessed at different facades in different NCAs.

Noise values used for the assessment of mitigation requirements are Future Existing levels, and the Combined level at the relevant façade 10 years after opening. These values are shown in italics.

Where noise is to be assessed on the western façade (NCAs 4, 6, 7 & 8), see Table A1.

Where noise is to be assessed on the eastern façade (NCAs 4, 6, 7 & 8) see Table A2.

Where noise is only assesed at one façade (NCAs 1, 2, 3, 5, 9 & 10) see Table A3.

Table A1 - Night Time Noise Predictions – Western Façade (NCAs 4, 6, 7 & 8) - $L_{eq,9hr}$ (dBA)

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (> = 60dBA)?
NCA 4	256	*52*	62	37	54	52	*54*	50	62	Y	N
	257	*51*	61	37	55	53	*55*	50	61	Y	N
NCA 6	42	*47*	49	36	50	49	*51*	50	49	Y	N
	43	*39*	49	36	51	49	*51*	50	49	Y	N
	77	*45*	55	42	49	48	*50*	50	55	N	N
	78	*53*	55	42	49	48	*50*	50	55	N	N
	79	*43*	53	40	50	48	*50*	50	53	N	N
	80	*52*	54	40	49	47	*49*	50	54	N	N
	81	*51*	53	40	48	47	*49*	50	53	N	N
	82	*49*	51	38	49	48	*50*	50	51	N	N
	83	*48*	50	37	49	47	*49*	50	50	N	N
	84	*45*	47	35	50	48	*50*	50	47	N	N
	85	*47*	49	35	49	47	*49*	50	49	N	N
	86	*44*	46	32	48	46	*48*	50	46	N	N
	87	*48*	50	36	48	46	*48*	50	50	N	N
	88	*49*	51	37	49	47	*49*	50	51	N	N
	89	*41*	51	37	49	47	*49*	50	51	N	N
	90	*50*	52	39	48	47	*49*	50	52	N	N
	91	*51*	53	40	48	47	*49*	50	53	N	N
	92	*52*	54	41	48	47	*49*	50	54	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	93	*49*	59	46	48	48	*50*	50	59	N	N
	94	*48*	58	45	47	48	*50*	50	58	N	N
	95	*57*	67	55	47	53	*55*	50	67	N	N
	96	*57*	67	55	47	53	*55*	50	67	N	N
	97	*47*	57	44	47	46	*48*	50	57	N	N
	98	*41*	43	30	50	48	*50*	50	43	N	N
	99	*43*	45	31	51	49	*51*	50	45	Y	N
	101	*36*	46	33	49	48	*50*	50	46	N	N
	102	*38*	48	35	50	48	*50*	50	48	N	N
	103	*36*	46	32	48	47	*49*	50	46	N	N
	104	*40*	50	36	48	47	*49*	50	50	N	N
	105	*41*	51	37	49	47	*49*	50	51	N	N
	106	*40*	50	37	48	47	*49*	50	50	N	N
	107	*39*	49	36	49	47	*49*	50	49	N	N
	108	*40*	50	37	48	46	*48*	50	50	N	N
	109	*39*	49	36	49	47	*49*	50	49	N	N
	110	*39*	49	36	49	47	*49*	50	49	N	N
	111	*39*	49	36	49	47	*49*	50	49	N	N
	112	*36*	46	34	49	48	*50*	50	46	N	N
	117	*39*	49	36	50	48	*50*	50	49	N	N
	118	*40*	50	37	49	47	*49*	50	50	N	N
	119	*37*	47	34	47	46	*48*	50	47	N	N
	120	*41*	51	37	47	45	*47*	50	51	N	N
	121	*43*	53	40	47	46	*48*	50	53	N	N
	122	*41*	51	38	47	45	*47*	50	51	N	N
	123	*44*	54	41	45	45	*47*	50	54	N	N
	124	*43*	53	40	48	46	*48*	50	53	N	N
	125	*43*	53	40	47	46	*48*	50	53	N	N
	126	*45*	55	42	47	46	*48*	50	55	N	N
	127	*44*	54	41	48	46	*48*	50	54	N	N
	128	*45*	55	42	48	47	*49*	50	55	N	N
	129	*46*	56	43	48	47	*49*	50	56	N	N
	130	*45*	55	42	48	47	*49*	50	55	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	131	*42*	52	39	48	47	*49*	50	52	N	N
	132	*42*	52	39	48	47	*49*	50	52	N	N
	133	*41*	51	38	48	46	*48*	50	51	N	N
	134	*45*	55	42	47	46	*48*	50	55	N	N
	135	*45*	55	42	47	46	*48*	50	55	N	N
	136	*44*	54	41	46	45	*47*	50	54	N	N
	137	*47*	57	44	46	46	*48*	50	57	N	N
	138	*57*	67	54	47	53	*55*	50	67	N	N
	139	*55*	65	52	47	51	*53*	50	65	N	N
	140	*55*	65	52	47	51	*53*	50	65	N	N
	141	*56*	66	53	47	52	*54*	50	66	N	N
	142	*42*	52	39	47	46	*48*	50	52	N	N
	143	*42*	52	39	47	46	*48*	50	52	N	N
	144	*39*	49	35	49	47	*49*	50	49	N	N
	145	*41*	51	38	48	46	*48*	50	51	N	N
	147	*48*	50	37	50	48	*50*	50	50	N	N
	148	*45*	55	42	47	46	*48*	50	55	N	N
	151	*42*	52	39	47	46	*48*	50	52	N	N
	152	*40*	50	37	48	46	*48*	50	50	N	N
	153	*40*	50	37	47	46	*48*	50	50	N	N
	154	*41*	51	39	47	46	*48*	50	51	N	N
	155	*41*	51	38	48	46	*48*	50	51	N	N
	156	*40*	50	37	48	46	*48*	50	50	N	N
	157	*40*	50	37	47	46	*48*	50	50	N	N
	158	*40*	50	36	47	46	*48*	50	50	N	N
	159	*40*	50	37	47	46	*48*	50	50	N	N
	160	*44*	54	41	47	46	*48*	50	54	N	N
	161	*44*	54	41	47	46	*48*	50	54	N	N
	162	*44*	54	41	47	46	*48*	50	54	N	N
	163	*43*	53	40	47	46	*48*	50	53	N	N
	164	*43*	53	40	47	46	*48*	50	53	N	N
	165	*43*	53	40	47	46	*48*	50	53	N	N
	166	*40*	50	37	47	45	*47*	50	50	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	167	*40*	50	37	47	45	*47*	50	50	N	N
	168	*42*	52	39	46	45	*47*	50	52	N	N
	169	*42*	52	39	46	45	*47*	50	52	N	N
	170	*44*	54	41	46	45	*47*	50	54	N	N
	171	*43*	53	40	44	44	*46*	50	53	N	N
	172	*41*	51	38	45	44	*46*	50	51	N	N
	173	*42*	52	39	45	44	*46*	50	52	N	N
	174	*44*	54	41	46	45	*47*	50	54	N	N
	175	*47*	57	44	46	46	*48*	50	57	N	N
	176	*38*	48	35	48	46	*48*	50	48	N	N
	177	*38*	48	35	48	46	*48*	50	48	N	N
	178	*38*	48	35	48	46	*48*	50	48	N	N
	179	*38*	48	35	48	46	*48*	50	48	N	N
	180	*40*	50	37	48	46	*48*	50	50	N	N
	181	*43*	53	40	47	46	*48*	50	53	N	N
	182	*41*	51	38	47	46	*48*	50	51	N	N
	183	*42*	52	39	48	46	*48*	50	52	N	N
	184	*43*	53	40	48	46	*48*	50	53	N	N
	185	*42*	52	39	48	46	*48*	50	52	N	N
	186	*42*	52	39	48	47	*49*	50	52	N	N
	187	*43*	53	40	48	46	*48*	50	53	N	N
	188	*42*	52	39	48	47	*49*	50	52	N	N
	189	*42*	52	39	49	47	*49*	50	52	N	N
	190	*42*	52	39	49	47	*49*	50	52	N	N
	191	*44*	54	41	49	47	*49*	50	54	N	N
	192	*46*	56	43	48	48	*50*	50	56	N	N
	193	*50*	60	47	49	49	*51*	50	60	N	N
	194	*55*	65	52	47	51	*53*	50	65	N	N
	195	*55*	65	52	47	51	*53*	50	65	N	N
	196	*54*	64	51	47	51	*53*	50	64	N	N
	197	*57*	67	53	47	52	*54*	50	67	N	N
	198	*57*	67	54	47	53	*55*	50	67	N	N
	199	*57*	67	54	47	53	*55*	50	67	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	200	*56*	66	53	47	52	*54*	50	66	N	N
	201	*56*	66	53	47	52	*54*	50	66	N	N
	202	*55*	65	52	47	51	*53*	50	65	N	N
	203	*56*	66	53	47	52	*54*	50	66	N	N
	204	*57*	67	54	47	53	*55*	50	67	N	N
	205	*48*	58	45	47	47	*49*	50	58	N	N
	206	*45*	55	42	47	46	*48*	50	55	N	N
	207	*47*	57	44	47	47	*49*	50	57	N	N
	208	*45*	55	42	47	46	*48*	50	55	N	N
	209	*45*	55	42	47	46	*48*	50	55	N	N
	210	*44*	54	41	47	46	*48*	50	54	N	N
	211	*44*	54	41	47	46	*48*	50	54	N	N
	212	*42*	52	39	48	47	*49*	50	52	N	N
	213	*43*	53	40	47	46	*48*	50	53	N	N
	214	*46*	56	43	48	47	*49*	50	56	N	N
	215	*43*	53	40	47	46	*48*	50	53	N	N
	216	*46*	56	43	47	46	*48*	50	56	N	N
	217	*45*	55	42	47	46	*48*	50	55	N	N
	218	*46*	56	43	47	46	*48*	50	56	N	N
	219	*47*	57	44	47	47	*49*	50	57	N	N
	220	*48*	58	45	45	46	*48*	50	58	N	N
	221	*45*	55	42	45	45	*47*	50	55	N	N
	222	*43*	53	40	45	44	*46*	50	53	N	N
	223	*43*	53	40	47	45	*47*	50	53	N	N
	224	*44*	54	41	46	45	*47*	50	54	N	N
	225	*41*	51	38	46	44	*46*	50	51	N	N
	226	*43*	53	40	47	46	*48*	50	53	N	N
	227	*40*	50	37	47	45	*47*	50	50	N	N
	228	*38*	48	35	48	46	*48*	50	48	N	N
	229	*39*	49	36	47	45	*47*	50	49	N	N
	230	*41*	51	38	46	44	*46*	50	51	N	N
	231	*38*	48	35	46	45	*47*	50	48	N	N
	232	*39*	49	36	46	44	*46*	50	49	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	233	*37*	47	34	46	44	*46*	50	47	N	N
	234	*38*	48	35	47	45	*47*	50	48	N	N
	235	*39*	49	36	47	45	*47*	50	49	N	N
	236	*35*	45	32	47	45	*47*	50	45	N	N
	237	*35*	45	32	47	45	*47*	50	45	N	N
	238	*38*	48	35	47	45	*47*	50	48	N	N
	239	*38*	48	34	48	46	*48*	50	48	N	N
	240	*38*	48	35	48	46	*48*	50	48	N	N
	241	*38*	48	35	47	46	*48*	50	48	N	N
	242	*38*	48	35	47	46	*48*	50	48	N	N
	243	*38*	48	35	49	47	*49*	50	48	N	N
	244	*37*	47	34	49	47	*49*	50	47	N	N
	245	*37*	47	34	49	47	*49*	50	47	N	N
	246	*37*	47	34	49	47	*49*	50	47	N	N
	247	*37*	47	34	48	47	*49*	50	47	N	N
	248	*37*	47	34	49	47	*49*	50	47	N	N
	249	*38*	48	35	48	46	*48*	50	48	N	N
	250	*35*	45	32	49	47	*49*	50	45	N	N
	251	*37*	47	34	47	45	*47*	50	47	N	N
	276	*38*	48	35	49	47	*49*	50	48	N	N
	277	*39*	49	36	49	47	*49*	50	49	N	N
	278	*38*	48	35	49	47	*49*	50	48	N	N
	279	*41*	51	38	47	45	*47*	50	51	N	N
	280	*40*	50	37	48	46	*48*	50	50	N	N
	281	*40*	50	37	48	46	*48*	50	50	N	N
NCA 7	12	*39*	49	36	53	51	*53*	50	49	Y	N
	13	*46*	48	34	52	50	*52*	50	48	Y	N
	14	*46*	48	36	53	51	*53*	50	48	Y	N
	15	*54*	56	47	58	56	*58*	50	56	Y	N
	16	*55*	57	47	59	57	*59*	50	57	Y	N
	17	*40*	50	40	55	53	*55*	50	50	Y	N
	18	*40*	50	40	57	55	*57*	50	50	Y	N
	19	*37*	47	36	56	54	*56*	50	47	Y	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	20	*39*	49	38	54	52	*54*	50	49	Y	N
	21	*37*	47	36	54	52	*54*	50	47	Y	N
	22	*37*	47	35	54	52	*54*	50	47	Y	N
	23	*36*	46	33	53	51	*53*	50	46	Y	N
	24	*31*	41	29	53	51	*53*	50	41	Y	N
	25	*36*	46	33	52	50	*52*	50	46	Y	N
	26	*36*	46	33	52	50	*52*	50	46	Y	N
	27	*35*	45	33	55	53	*55*	50	45	Y	N
	28	*36*	46	33	53	51	*53*	50	46	Y	N
	29	*36*	46	33	53	51	*53*	50	46	Y	N
	30	*35*	45	32	53	51	*53*	50	45	Y	N
	31	*35*	45	32	52	50	*52*	50	45	Y	N
	32	*36*	46	33	51	49	*51*	50	46	Y	N
	33	*36*	46	34	51	49	*51*	50	46	Y	N
	34	*36*	46	33	51	49	*51*	50	46	Y	N
	35	*36*	46	32	51	49	*51*	50	46	Y	N
	36	*36*	46	33	51	49	*51*	50	46	Y	N
	37	*35*	45	32	51	49	*51*	50	45	Y	N
	38	*37*	47	35	51	50	*52*	50	47	Y	N
	39	*37*	47	34	52	50	*52*	50	47	Y	N
	40	*38*	48	36	53	51	*53*	50	48	Y	N
	41	*39*	49	38	54	52	*54*	50	49	Y	N
	44	*35*	45	36	50	50	*52*	50	45	Y	N
	45	*35*	45	36	51	51	*53*	50	45	Y	N
	46	*35*	45	32	52	49	*51*	50	45	Y	N
	47	*35*	45	33	53	49	*51*	50	45	Y	N
	48	*35*	45	32	51	48	*50*	50	45	N	N
	49	*36*	46	33	51	48	*50*	50	46	N	N
	100	*38*	48	35	51	49	*51*	50	48	Y	N
	113	*38*	48	35	50	48	*50*	50	48	N	N
	114	*33*	43	30	50	48	*50*	50	43	N	N
	115	*36*	46	33	49	47	*49*	50	46	N	N
	116	*38*	48	35	49	47	*49*	50	48	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	146	*36*	46	34	51	49	*51*	50	46	Y	N
	252	*37*	47	34	49	47	*49*	50	47	N	N
	253	*37*	47	34	49	47	*49*	50	47	N	N
	254	*36*	46	34	49	47	*49*	50	46	N	N
	258	*36*	46	33	49	47	*49*	50	46	N	N
	259	*36*	46	33	49	48	*50*	50	46	N	N
	260	*36*	46	33	50	48	*50*	50	46	N	N
	261	*37*	47	34	49	47	*49*	50	47	N	N
	262	*36*	46	33	48	47	*49*	50	46	N	N
	263	*35*	45	32	48	47	*49*	50	45	N	N
	264	*35*	45	32	49	47	*49*	50	45	N	N
	265	*35*	45	32	49	47	*49*	50	45	N	N
	266	*35*	45	33	50	48	*50*	50	45	N	N
	267	*36*	46	33	49	47	*49*	50	46	N	N
	268	*37*	47	34	49	47	*49*	50	47	N	N
	269	*37*	47	34	49	48	*50*	50	47	N	N
	270	*37*	47	34	49	47	*49*	50	47	N	N
	271	*37*	47	34	49	47	*49*	50	47	N	N
	272	*38*	48	35	49	47	*49*	50	48	N	N
	273	*38*	48	34	49	47	*49*	50	48	N	N
	274	*37*	47	34	50	48	*50*	50	47	N	N
	275	*38*	48	35	49	47	*49*	50	48	N	N
	282	*36*	46	33	50	48	*50*	50	46	N	N
	283	*36*	46	33	50	48	*50*	50	46	N	N
	284	*36*	46	33	50	48	*50*	50	46	N	N
	285	*37*	47	33	51	49	*51*	50	47	Y	N
	286	*37*	47	34	51	49	*51*	50	47	Y	N
	287	*38*	48	35	51	50	*52*	50	48	Y	N
	288	*38*	48	36	52	50	*52*	50	48	Y	N
NCA 8	50	*48*	58	36	55	53	*55*	50	58	N	N
	51	*47*	57	35	56	54	*56*	50	57	Y	N
	52	*47*	57	34	57	55	*57*	50	57	Y	N
	53	*43*	53	33	57	55	*57*	50	53	Y	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	54	*43*	53	33	58	56	*58*	50	53	Y	N
	55	*43*	53	33	57	55	*57*	50	53	Y	N
	56	*46*	56	33	56	54	*56*	50	56	Y	N
	57	*47*	57	33	56	54	*56*	50	57	Y	N
	58	*48*	58	34	56	54	*56*	50	58	Y	N
	59	*43*	53	34	55	53	*55*	50	53	Y	N
	60	*48*	58	35	55	53	*55*	50	58	Y	N
	61	*43*	53	38	56	54	*56*	50	53	Y	N
	62	*50*	60	39	55	53	*55*	50	60	Y	N
	63	*50*	60	39	55	53	*55*	50	60	Y	N
	64	*55*	65	42	60	58	*60*	50	65	Y	Y
	65	*52*	62	47	56	55	*57*	50	62	Y	N
	66	*50*	60	44	56	54	*56*	50	60	Y	N
	67	*49*	59	44	54	53	*55*	50	59	Y	N
	68	*53*	63	49	54	54	*56*	50	63	Y	N
	69	*45*	55	41	53	51	*53*	50	55	Y	N
	70	*46*	56	41	52	51	*53*	50	56	Y	N
	71	*48*	58	44	51	50	*52*	50	58	Y	N
	72	*48*	58	45	51	50	*52*	50	58	Y	N
	73	*55*	65	52	51	52	*54*	50	65	N	N
	74	*45*	55	42	50	49	*51*	50	55	Y	N
	75	*55*	65	52	50	52	*54*	50	65	N	N
	76	*48*	58	44	51	50	*52*	50	58	Y	N

Table A2 - Night Time Noise Predictions – Eastern Façade (NCAs 4, 6, 7 & 8)

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
NCA 4	256	*60*	62	45	46	47	*49*	50	62	N	N
	257	*59*	61	45	47	47	*49*	50	61	N	N
NCA 6	42	*47*	49	44	42	44	*46*	50	49	N	N
	43	*47*	49	44	43	44	*46*	50	49	N	N
	77	*53*	55	50	41	48	*50*	50	55	N	N
	78	*53*	55	50	41	49	*51*	50	55	N	N
	79	*51*	53	48	42	47	*49*	50	53	N	N
	80	*52*	54	48	41	47	*49*	50	54	N	N
	81	*51*	53	48	40	47	*49*	50	53	N	N
	82	*49*	51	46	41	45	*47*	50	51	N	N
	83	*48*	50	45	41	44	*46*	50	50	N	N
	84	*45*	47	43	42	43	*45*	50	47	N	N
	85	*47*	49	43	41	43	*45*	50	49	N	N
	86	*44*	46	40	40	41	*43*	50	46	N	N
	87	*48*	50	44	40	44	*46*	50	50	N	N
	88	*49*	51	45	41	45	*47*	50	51	N	N
	89	*49*	51	45	41	45	*47*	50	51	N	N
	90	*50*	52	47	40	46	*48*	50	52	N	N
	91	*51*	53	48	40	47	*49*	50	53	N	N
	92	*52*	54	49	40	47	*49*	50	54	N	N
	93	*57*	59	54	40	52	*54*	50	59	N	N
	94	*56*	58	53	39	52	*54*	50	58	N	N
	95	*65*	67	63	39	61	*63*	50	67	N	Y
	96	*65*	67	63	39	61	*63*	50	67	N	Y
	97	*55*	57	52	39	50	*52*	50	57	N	N
	98	*41*	43	38	42	41	*43*	50	43	N	N
	99	*43*	45	39	43	42	*44*	50	45	N	N
	101	*44*	46	41	41	42	*44*	50	46	N	N
	102	*46*	48	43	42	43	*45*	50	48	N	N
	103	*44*	46	40	40	41	*43*	50	46	N	N
	104	*48*	50	44	40	44	*46*	50	50	N	N
	105	*49*	51	45	41	45	*47*	50	51	N	N
	106	*48*	50	45	40	44	*46*	50	50	N	N
	107	*47*	49	44	41	44	*46*	50	49	N	N
	108	*48*	50	45	40	44	*46*	50	50	N	N
	109	*47*	49	44	41	44	*46*	50	49	N	N
	110	*47*	49	44	41	44	*46*	50	49	N	N
	111	*47*	49	44	41	43	*45*	50	49	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	112	*44*	46	42	41	42	*44*	50	46	N	N
	117	*47*	49	44	42	44	*46*	50	49	N	N
	118	*48*	50	45	41	44	*46*	50	50	N	N
	119	*45*	47	42	39	42	*44*	50	47	N	N
	120	*49*	51	45	39	44	*46*	50	51	N	N
	121	*51*	53	48	39	46	*48*	50	53	N	N
	122	*49*	51	46	39	44	*46*	50	51	N	N
	123	*52*	54	49	37	47	*49*	50	54	N	N
	124	*51*	53	48	40	47	*49*	50	53	N	N
	125	*51*	53	48	39	46	*48*	50	53	N	N
	126	*53*	55	50	39	48	*50*	50	55	N	N
	127	*52*	54	49	40	48	*50*	50	54	N	N
	128	*53*	55	50	40	49	*51*	50	55	N	N
	129	*54*	56	51	40	49	*51*	50	56	N	N
	130	*53*	55	50	40	49	*51*	50	55	N	N
	131	*50*	52	47	40	46	*48*	50	52	N	N
	132	*50*	52	47	40	46	*48*	50	52	N	N
	133	*49*	51	46	40	45	*47*	50	51	N	N
	134	*53*	55	50	39	48	*50*	50	55	N	N
	135	*53*	55	50	39	48	*50*	50	55	N	N
	136	*52*	54	49	38	48	*50*	50	54	N	N
	137	*55*	57	52	38	50	*52*	50	57	N	N
	138	*65*	67	62	39	61	*63*	50	67	N	Y
	139	*63*	65	60	39	58	*60*	50	65	N	Y
	140	*63*	65	60	39	58	*60*	50	65	N	Y
	141	*64*	66	61	39	59	*61*	50	66	N	Y
	142	*50*	52	47	39	46	*48*	50	52	N	N
	143	*50*	52	47	39	46	*48*	50	52	N	N
	144	*47*	49	43	41	43	*45*	50	49	N	N
	145	*49*	51	46	40	45	*47*	50	51	N	N
	147	*48*	50	45	42	44	*46*	50	50	N	N
	148	*53*	55	50	39	49	*51*	50	55	N	N
	151	*50*	52	47	39	46	*48*	50	52	N	N
	152	*48*	50	45	40	44	*46*	50	50	N	N
	153	*48*	50	45	39	44	*46*	50	50	N	N
	154	*49*	51	47	39	45	*47*	50	51	N	N
	155	*49*	51	46	40	45	*47*	50	51	N	N
	156	*48*	50	45	40	44	*46*	50	50	N	N
	157	*48*	50	45	39	44	*46*	50	50	N	N
	158	*48*	50	44	39	44	*46*	50	50	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	159	*48*	50	45	39	44	*46*	50	50	N	N
	160	*52*	54	49	39	48	*50*	50	54	N	N
	161	*52*	54	49	39	48	*50*	50	54	N	N
	162	*52*	54	49	39	47	*49*	50	54	N	N
	163	*51*	53	48	39	47	*49*	50	53	N	N
	164	*51*	53	48	39	47	*49*	50	53	N	N
	165	*51*	53	48	39	47	*49*	50	53	N	N
	166	*48*	50	45	39	44	*46*	50	50	N	N
	167	*48*	50	45	39	44	*46*	50	50	N	N
	168	*50*	52	47	38	45	*47*	50	52	N	N
	169	*50*	52	47	38	45	*47*	50	52	N	N
	170	*52*	54	49	38	47	*49*	50	54	N	N
	171	*51*	53	48	36	46	*48*	50	53	N	N
	172	*49*	51	46	37	44	*46*	50	51	N	N
	173	*50*	52	47	37	45	*47*	50	52	N	N
	174	*52*	54	49	38	48	*50*	50	54	N	N
	175	*55*	57	52	38	50	*52*	50	57	N	N
	176	*46*	48	43	40	43	*45*	50	48	N	N
	177	*46*	48	43	40	43	*45*	50	48	N	N
	178	*46*	48	43	40	43	*45*	50	48	N	N
	179	*46*	48	43	40	43	*45*	50	48	N	N
	180	*48*	50	45	40	45	*47*	50	50	N	N
	181	*51*	53	48	39	46	*48*	50	53	N	N
	182	*49*	51	46	39	45	*47*	50	51	N	N
	183	*50*	52	47	40	46	*48*	50	52	N	N
	184	*51*	53	48	40	47	*49*	50	53	N	N
	185	*50*	52	47	40	46	*48*	50	52	N	N
	186	*50*	52	47	40	46	*48*	50	52	N	N
	187	*51*	53	48	40	46	*48*	50	53	N	N
	188	*50*	52	47	40	46	*48*	50	52	N	N
	189	*50*	52	47	41	46	*48*	50	52	N	N
	190	*50*	52	47	41	46	*48*	50	52	N	N
	191	*52*	54	49	41	48	*50*	50	54	N	N
	192	*54*	56	51	40	50	*52*	50	56	N	N
	193	*58*	60	55	41	53	*55*	50	60	N	N
	194	*63*	65	60	39	58	*60*	50	65	N	Y
	195	*63*	65	60	39	58	*60*	50	65	N	Y
	196	*62*	64	59	39	57	*59*	50	64	N	N
	197	*65*	67	61	39	59	*61*	50	67	N	Y
	198	*65*	67	62	39	60	*62*	50	67	N	Y

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	199	*65*	67	62	39	60	*62*	50	67	N	Y
	200	*64*	66	61	39	59	*61*	50	66	N	Y
	201	*64*	66	61	39	59	*61*	50	66	N	Y
	202	*63*	65	60	39	58	*60*	50	65	N	Y
	203	*64*	66	61	39	59	*61*	50	66	N	Y
	204	*65*	67	62	39	60	*62*	50	67	N	Y
	205	*56*	58	53	39	51	*53*	50	58	N	N
	206	*53*	55	50	39	49	*51*	50	55	N	N
	207	*55*	57	52	39	50	*52*	50	57	N	N
	208	*53*	55	50	39	48	*50*	50	55	N	N
	209	*53*	55	50	39	48	*50*	50	55	N	N
	210	*52*	54	49	39	47	*49*	50	54	N	N
	211	*52*	54	49	39	48	*50*	50	54	N	N
	212	*50*	52	47	40	46	*48*	50	52	N	N
	213	*51*	53	48	39	46	*48*	50	53	N	N
	214	*54*	56	51	40	49	*51*	50	56	N	N
	215	*51*	53	48	39	47	*49*	50	53	N	N
	216	*54*	56	51	39	49	*51*	50	56	N	N
	217	*53*	55	50	39	49	*51*	50	55	N	N
	218	*54*	56	51	39	49	*51*	50	56	N	N
	219	*55*	57	52	39	51	*53*	50	57	N	N
	220	*56*	58	53	37	51	*53*	50	58	N	N
	221	*53*	55	50	37	48	*50*	50	55	N	N
	222	*51*	53	48	37	46	*48*	50	53	N	N
	223	*51*	53	48	39	46	*48*	50	53	N	N
	224	*52*	54	49	38	48	*50*	50	54	N	N
	225	*49*	51	46	38	44	*46*	50	51	N	N
	226	*51*	53	48	39	46	*48*	50	53	N	N
	227	*48*	50	45	39	44	*46*	50	50	N	N
	228	*46*	48	43	40	43	*45*	50	48	N	N
	229	*47*	49	44	39	43	*45*	50	49	N	N
	230	*49*	51	46	38	44	*46*	50	51	N	N
	231	*46*	48	43	38	42	*44*	50	48	N	N
	232	*47*	49	44	38	43	*45*	50	49	N	N
	233	*45*	47	42	38	41	*43*	50	47	N	N
	234	*46*	48	43	39	42	*44*	50	48	N	N
	235	*47*	49	44	39	43	*45*	50	49	N	N
	236	*43*	45	40	39	40	*42*	50	45	N	N
	237	*43*	45	40	39	41	*43*	50	45	N	N
	238	*46*	48	43	39	42	*44*	50	48	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	239	*46*	48	42	40	42	*44*	50	48	N	N
	240	*46*	48	43	40	43	*45*	50	48	N	N
	241	*46*	48	43	39	42	*44*	50	48	N	N
	242	*46*	48	43	39	43	*45*	50	48	N	N
	243	*46*	48	43	41	43	*45*	50	48	N	N
	244	*45*	47	42	41	43	*45*	50	47	N	N
	245	*45*	47	42	41	42	*44*	50	47	N	N
	246	*45*	47	42	41	42	*44*	50	47	N	N
	247	*45*	47	42	40	42	*44*	50	47	N	N
	248	*45*	47	42	41	42	*44*	50	47	N	N
	249	*46*	48	43	40	43	*45*	50	48	N	N
	250	*43*	45	40	41	41	*43*	50	45	N	N
	251	*45*	47	42	39	42	*44*	50	47	N	N
	276	*46*	48	43	41	43	*45*	50	48	N	N
	277	*47*	49	44	41	44	*46*	50	49	N	N
	278	*46*	48	43	41	43	*45*	50	48	N	N
	279	*49*	51	46	39	45	*47*	50	51	N	N
	280	*48*	50	45	40	44	*46*	50	50	N	N
	281	*48*	50	45	40	44	*46*	50	50	N	N
NCA 7	12	*47*	49	44	45	45	*47*	50	49	N	N
	13	*46*	48	42	44	44	*46*	50	48	N	N
	14	*46*	48	44	45	45	*47*	50	48	N	N
	15	*54*	56	55	50	54	*56*	50	56	Y	N
	16	*55*	57	55	51	55	*57*	50	57	Y	N
	17	*48*	50	48	47	48	*50*	50	50	N	N
	18	*48*	50	48	49	49	*51*	50	50	N	N
	19	*45*	47	44	48	47	*49*	50	47	N	N
	20	*47*	49	46	46	47	*49*	50	49	N	N
	21	*45*	47	44	46	46	*48*	50	47	N	N
	22	*45*	47	43	46	46	*48*	50	47	N	N
	23	*44*	46	41	45	45	*47*	50	46	N	N
	24	*39*	41	37	45	44	*46*	50	41	N	N
	25	*44*	46	41	44	44	*46*	50	46	N	N
	26	*44*	46	41	44	44	*46*	50	46	N	N
	27	*43*	45	41	47	46	*48*	50	45	N	N
	28	*44*	46	41	45	44	*46*	50	46	N	N
	29	*44*	46	41	45	44	*46*	50	46	N	N
	30	*43*	45	40	45	44	*46*	50	45	N	N
	31	*43*	45	40	44	44	*46*	50	45	N	N
	32	*44*	46	41	43	43	*45*	50	46	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	33	*44*	46	42	43	44	*46*	50	46	N	N
	34	*44*	46	41	43	43	*45*	50	46	N	N
	35	*44*	46	40	43	43	*45*	50	46	N	N
	36	*44*	46	41	43	43	*45*	50	46	N	N
	37	*43*	45	40	43	43	*45*	50	45	N	N
	38	*45*	47	43	43	44	*46*	50	47	N	N
	39	*45*	47	42	44	44	*46*	50	47	N	N
	40	*46*	48	44	45	45	*47*	50	48	N	N
	41	*47*	49	46	46	47	*49*	50	49	N	N
	44	*43*	45	40	44	44	*46*	50	45	N	N
	45	*43*	45	41	45	44	*46*	50	45	N	N
	46	*43*	45	40	43	43	*45*	50	45	N	N
	47	*43*	45	41	43	43	*45*	50	45	N	N
	48	*43*	45	40	42	42	*44*	50	45	N	N
	49	*44*	46	41	42	42	*44*	50	46	N	N
	100	*46*	48	43	43	44	*46*	50	48	N	N
	113	*46*	48	43	42	44	*46*	50	48	N	N
	114	*41*	43	38	42	41	*43*	50	43	N	N
	115	*44*	46	41	41	42	*44*	50	46	N	N
	116	*46*	48	43	41	43	*45*	50	48	N	N
	146	*44*	46	42	43	43	*45*	50	46	N	N
	252	*45*	47	42	41	42	*44*	50	47	N	N
	253	*45*	47	42	41	42	*44*	50	47	N	N
	254	*44*	46	42	41	42	*44*	50	46	N	N
	258	*44*	46	41	41	42	*44*	50	46	N	N
	259	*44*	46	41	41	42	*44*	50	46	N	N
	260	*44*	46	41	42	42	*44*	50	46	N	N
	261	*45*	47	42	41	42	*44*	50	47	N	N
	262	*44*	46	41	40	42	*44*	50	46	N	N
	263	*43*	45	40	40	41	*43*	50	45	N	N
	264	*43*	45	40	41	41	*43*	50	45	N	N
	265	*43*	45	40	41	42	*44*	50	45	N	N
	266	*43*	45	41	42	42	*44*	50	45	N	N
	267	*44*	46	41	41	42	*44*	50	46	N	N
	268	*45*	47	42	41	42	*44*	50	47	N	N
	269	*45*	47	42	41	43	*45*	50	47	N	N
	270	*45*	47	42	41	42	*44*	50	47	N	N
	271	*45*	47	42	41	42	*44*	50	47	N	N
	272	*46*	48	43	41	43	*45*	50	48	N	N
	273	*46*	48	42	41	43	*45*	50	48	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	274	*45*	47	42	42	43	*45*	50	47	N	N
	275	*46*	48	43	41	43	*45*	50	48	N	N
	282	*44*	46	41	42	42	*44*	50	46	N	N
	283	*44*	46	41	42	43	*45*	50	46	N	N
	284	*44*	46	41	42	43	*45*	50	46	N	N
	285	*45*	47	41	43	43	*45*	50	47	N	N
	286	*45*	47	42	43	44	*46*	50	47	N	N
	287	*46*	48	43	43	44	*46*	50	48	N	N
	288	*46*	48	44	44	45	*47*	50	48	N	N
NCA 8	50	*56*	58	44	47	47	*49*	50	58	N	N
	51	*55*	57	43	48	47	*49*	50	57	N	N
	52	*55*	57	42	49	47	*49*	50	57	N	N
	53	*51*	53	41	49	48	*50*	50	53	N	N
	54	*51*	53	41	50	48	*50*	50	53	N	N
	55	*51*	53	41	49	48	*50*	50	53	N	N
	56	*54*	56	41	48	47	*49*	50	56	N	N
	57	*55*	57	41	48	47	*49*	50	57	N	N
	58	*56*	58	42	48	47	*49*	50	58	N	N
	59	*51*	53	42	47	46	*48*	50	53	N	N
	60	*56*	58	43	47	46	*48*	50	58	N	N
	61	*51*	53	46	48	48	*50*	50	53	N	N
	62	*58*	60	47	47	48	*50*	50	60	N	N
	63	*58*	60	47	47	48	*50*	50	60	N	N
	64	*63*	65	50	52	52	*54*	50	65	N	N
	65	*60*	62	55	48	53	*55*	50	62	N	N
	66	*58*	60	52	48	51	*53*	50	60	N	N
	67	*57*	59	52	46	51	*53*	50	59	N	N
	68	*61*	63	57	46	56	*58*	50	63	N	N
	69	*53*	55	49	45	48	*50*	50	55	N	N
	70	*54*	56	49	44	49	*51*	50	56	N	N
	71	*56*	58	52	43	51	*53*	50	58	N	N
	72	*56*	58	53	43	51	*53*	50	58	N	N
	73	*63*	65	60	43	58	*60*	50	65	N	Y
	74	*53*	55	50	42	49	*51*	50	55	N	N
	75	*63*	65	60	42	58	*60*	50	65	N	Y
	76	*56*	58	52	43	51	*53*	50	58	N	N

Table A3 - Night Time Noise Predictions – NCAs 1, 2, 3, 5, 9 & 10

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (> = 60dBA)?
NCA 1	1	*57*	59	59	24	57	*59*	55	59	N	N
	2	*42*	44	48	35	47	*49*	50	44	N	N
	3	*44*	46	51	35	49	*51*	50	46	Y	N
	4	*54*	56	58	55	58	*60*	50	56	Y	Y
	5	*50*	52	62	51	60	*62*	50	52	Y	Y
	6	*41*	43	56	40	54	*56*	50	43	Y	N
	7	*37*	39	55	36	53	*55*	50	39	Y	N
NCA 2	8	*42*	44	48	40	47	*49*	50	44	N	N
	9	*50*	52	57	49	56	*58*	50	52	Y	N
	10	*53*	55	56	53	56	*58*	50	55	Y	N
	11	*52*	54	62	42	60	*62*	50	54	Y	Y
NCA 3	291	*57*	59	54	40	52	*54*	50	59	N	N
	292	*55*	57	51	41	49	*51*	50	57	N	N
	293	*53*	55	51	39	49	*51*	50	55	N	N
	294	*53*	55	50	41	48	*50*	50	55	N	N
	295	*52*	54	49	40	48	*50*	50	54	N	N
	296	*50*	52	49	39	47	*49*	50	52	N	N
	297	*50*	52	48	40	47	*49*	50	52	N	N
	298	*50*	52	48	40	47	*49*	50	52	N	N
	580	*60*	62	51	45	50	*52*	50	62	N	N
	581	*51*	53	50	38	48	*50*	50	53	N	N
	582	*49*	51	48	37	47	*49*	50	51	N	N
	583	*48*	50	47	38	45	*47*	50	50	N	N
	587	*52*	54	51	39	49	*51*	50	54	N	N
NCA 5	299	*45*	47	44	39	43	*45*	50	47	N	N
	300	*46*	48	44	40	43	*45*	50	48	N	N
	301	*46*	48	45	41	44	*46*	50	48	N	N
	302	*47*	49	45	42	45	*47*	50	49	N	N
	303	*47*	49	45	41	44	*46*	50	49	N	N
	304	*46*	48	44	41	44	*46*	50	48	N	N
	305	*45*	47	43	40	43	*45*	50	47	N	N
	306	*45*	47	42	41	42	*44*	50	47	N	N
	307	*46*	48	44	42	44	*46*	50	48	N	N
	308	*48*	50	46	44	46	*48*	50	50	N	N
	309	*48*	50	45	43	45	*47*	50	50	N	N
	310	*47*	49	45	43	45	*47*	50	49	N	N
	311	*47*	49	45	43	45	*47*	50	49	N	N
	312	*45*	47	44	39	43	*45*	50	47	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	313	*45*	47	43	41	43	*45*	50	47	N	N
	314	*45*	47	43	40	43	*45*	50	47	N	N
	315	*45*	47	43	41	43	*45*	50	47	N	N
	316	*46*	48	43	42	43	*45*	50	48	N	N
	317	*47*	49	44	43	44	*46*	50	49	N	N
	318	*46*	48	44	43	45	*47*	50	48	N	N
	319	*47*	49	44	44	45	*47*	50	49	N	N
	320	*47*	49	44	43	45	*47*	50	49	N	N
	321	*47*	49	44	44	45	*47*	50	49	N	N
	322	*47*	49	44	44	45	*47*	50	49	N	N
	323	*47*	49	44	43	45	*47*	50	49	N	N
	324	*47*	49	44	44	45	*47*	50	49	N	N
	325	*48*	50	44	45	46	*48*	50	50	N	N
	326	*48*	50	44	44	45	*47*	50	50	N	N
	327	*50*	52	45	47	47	*49*	50	52	N	N
	328	*50*	52	45	47	47	*49*	50	52	N	N
	329	*52*	54	45	49	48	*50*	50	54	N	N
	330	*49*	51	45	46	46	*48*	50	51	N	N
	331	*49*	51	45	46	46	*48*	50	51	N	N
	332	*49*	51	45	46	46	*48*	50	51	N	N
	333	*48*	50	44	45	46	*48*	50	50	N	N
	334	*48*	50	44	44	45	*47*	50	50	N	N
	335	*48*	50	44	45	45	*47*	50	50	N	N
	336	*50*	52	45	47	47	*49*	50	52	N	N
	337	*50*	52	45	47	47	*49*	50	52	N	N
	338	*50*	52	45	47	47	*49*	50	52	N	N
	339	*49*	51	44	46	46	*48*	50	51	N	N
	340	*49*	51	44	46	46	*48*	50	51	N	N
	341	*49*	51	45	45	46	*48*	50	51	N	N
	342	*50*	52	45	47	47	*49*	50	52	N	N
	343	*52*	54	45	49	48	*50*	50	54	N	N
	344	*52*	54	45	49	49	*51*	50	54	N	N
	345	*52*	54	45	49	49	*51*	50	54	N	N
	346	*51*	53	45	48	48	*50*	50	53	N	N
	347	*50*	52	45	47	47	*49*	50	52	N	N
	348	*48*	50	43	45	45	*47*	50	50	N	N
	349	*47*	49	43	43	44	*46*	50	49	N	N
	350	*47*	49	42	43	44	*46*	50	49	N	N
	351	*46*	48	43	43	44	*46*	50	48	N	N
	352	*48*	50	44	45	45	*47*	50	50	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	353	*46*	48	43	43	44	*46*	50	48	N	N
	354	*46*	48	43	42	43	*45*	50	48	N	N
	355	*45*	47	43	42	43	*45*	50	47	N	N
	356	*45*	47	41	41	42	*44*	50	47	N	N
	357	*45*	47	42	41	42	*44*	50	47	N	N
	358	*45*	47	43	41	43	*45*	50	47	N	N
	359	*45*	47	44	41	44	*46*	50	47	N	N
	360	*45*	47	42	41	43	*45*	50	47	N	N
	361	*45*	47	42	41	43	*45*	50	47	N	N
	362	*45*	47	43	41	43	*45*	50	47	N	N
	363	*46*	48	45	42	45	*47*	50	48	N	N
	364	*47*	49	45	44	46	*48*	50	49	N	N
	365	*46*	48	45	42	45	*47*	50	48	N	N
	366	*43*	45	41	39	41	*43*	50	45	N	N
	367	*44*	46	44	39	43	*45*	50	46	N	N
	368	*44*	46	42	40	42	*44*	50	46	N	N
	369	*43*	45	40	39	41	*43*	50	45	N	N
	370	*51*	53	46	47	48	*50*	50	53	N	N
	371	*50*	52	45	46	47	*49*	50	52	N	N
	372	*50*	52	45	46	47	*49*	50	52	N	N
	373	*49*	51	45	46	47	*49*	50	51	N	N
	374	*49*	51	45	45	46	*48*	50	51	N	N
	375	*49*	51	46	45	46	*48*	50	51	N	N
	376	*49*	51	46	45	46	*48*	50	51	N	N
	377	*50*	52	46	47	47	*49*	50	52	N	N
	378	*51*	53	46	48	48	*50*	50	53	N	N
	379	*50*	52	46	47	47	*49*	50	52	N	N
	380	*48*	50	44	44	45	*47*	50	50	N	N
	381	*52*	54	46	49	49	*51*	50	54	N	N
	382	*53*	55	46	50	49	*51*	50	55	N	N
	383	*53*	55	46	50	50	*52*	50	55	N	N
	384	*51*	53	46	48	48	*50*	50	53	N	N
	385	*51*	53	46	48	48	*50*	50	53	N	N
	386	*51*	53	46	48	48	*50*	50	53	N	N
	387	*51*	53	46	48	48	*50*	50	53	N	N
	388	*52*	54	46	49	49	*51*	50	54	N	N
	389	*52*	54	45	49	49	*51*	50	54	N	N
	390	*51*	53	44	48	47	*49*	50	53	N	N
	391	*51*	53	45	47	47	*49*	50	53	N	N
	392	*48*	50	45	45	46	*48*	50	50	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	393	*48*	50	44	45	45	*47*	50	50	N	N
	394	*49*	51	45	46	46	*48*	50	51	N	N
	395	*52*	54	45	49	49	*51*	50	54	N	N
	396	*53*	55	46	50	49	*51*	50	55	N	N
	397	*53*	55	46	50	50	*52*	50	55	N	N
	398	*54*	56	46	51	50	*52*	50	56	N	N
	399	*51*	53	47	48	49	*51*	50	53	N	N
	400	*51*	53	48	47	48	*50*	50	53	N	N
	401	*51*	53	48	47	48	*50*	50	53	N	N
	402	*51*	53	48	47	48	*50*	50	53	N	N
	403	*52*	54	49	48	49	*51*	50	54	N	N
	404	*51*	53	48	46	48	*50*	50	53	N	N
	405	*49*	51	48	44	47	*49*	50	51	N	N
	406	*50*	52	48	45	48	*50*	50	52	N	N
	407	*49*	51	49	44	48	*50*	50	51	N	N
	408	*51*	53	50	45	49	*51*	50	53	N	N
	409	*52*	54	50	48	50	*52*	50	54	N	N
	410	*53*	55	51	48	51	*53*	50	55	N	N
	411	*65*	67	50	62	60	*62*	50	67	N	Y
	412	*62*	64	50	58	57	*59*	50	64	N	N
	413	*56*	58	50	52	52	*54*	50	58	N	N
	414	*55*	57	49	51	51	*53*	50	57	N	N
	415	*55*	57	49	52	52	*54*	50	57	N	N
	416	*53*	55	49	49	50	*52*	50	55	N	N
	417	*55*	57	47	51	51	*53*	50	57	N	N
	418	*54*	56	47	50	50	*52*	50	56	N	N
	419	*63*	65	51	60	59	*61*	50	65	N	Y
	420	*64*	66	52	61	59	*61*	50	66	N	Y
	421	*55*	57	50	51	52	*54*	50	57	N	N
	422	*56*	58	51	51	52	*54*	50	58	N	N
	423	*53*	55	51	47	51	*53*	50	55	N	N
	424	*50*	52	50	41	49	*51*	50	52	N	N
	425	*51*	53	50	46	49	*51*	50	53	N	N
	426	*50*	52	50	43	49	*51*	50	52	N	N
	427	*49*	51	49	43	48	*50*	50	51	N	N
	428	*48*	50	48	43	47	*49*	50	50	N	N
	429	*48*	50	48	42	47	*49*	50	50	N	N
	430	*47*	49	47	41	46	*48*	50	49	N	N
	431	*44*	46	43	40	43	*45*	50	46	N	N
	432	*46*	48	45	41	44	*46*	50	48	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	433	*48*	50	49	42	48	*50*	50	50	N	N
	434	*54*	56	53	46	52	*54*	50	56	N	N
	435	*47*	49	48	42	47	*49*	50	49	N	N
	436	*46*	48	47	40	46	*48*	50	48	N	N
	437	*45*	47	47	39	45	*47*	50	47	N	N
	438	*45*	47	46	39	45	*47*	50	47	N	N
	439	*45*	47	46	39	45	*47*	50	47	N	N
	440	*45*	47	47	40	45	*47*	50	47	N	N
	441	*45*	47	46	40	45	*47*	50	47	N	N
	442	*45*	47	45	40	45	*47*	50	47	N	N
	443	*44*	46	44	39	43	*45*	50	46	N	N
	444	*45*	47	46	39	45	*47*	50	47	N	N
	445	*45*	47	46	39	45	*47*	50	47	N	N
	446	*45*	47	46	39	45	*47*	50	47	N	N
	447	*43*	45	44	37	43	*45*	50	45	N	N
	449	*45*	47	46	38	45	*47*	50	47	N	N
	450	*43*	45	45	37	43	*45*	50	45	N	N
	451	*63*	65	49	60	58	*60*	50	65	N	Y
	452	*63*	65	49	60	58	*60*	50	65	N	Y
	453	*64*	66	49	61	59	*61*	50	66	N	Y
	454	*56*	58	48	53	52	*54*	50	58	N	N
	455	*54*	56	48	51	51	*53*	50	56	N	N
	456	*53*	55	48	49	49	*51*	50	55	N	N
	457	*55*	57	47	52	51	*53*	50	57	N	N
	458	*64*	66	47	61	60	*62*	50	66	N	Y
	459	*64*	66	47	62	60	*62*	50	66	N	Y
	460	*66*	68	47	63	61	*63*	50	68	N	Y
	461	*66*	68	46	63	62	*64*	50	68	N	Y
	462	*65*	67	46	62	61	*63*	50	67	N	Y
	463	*65*	67	46	62	60	*62*	50	67	N	Y
	464	*64*	66	46	61	60	*62*	50	66	N	Y
	465	*54*	56	46	51	51	*53*	50	56	N	N
	466	*54*	56	46	51	51	*53*	50	56	N	N
	467	*54*	56	46	51	51	*53*	50	56	N	N
	468	*54*	56	46	51	50	*52*	50	56	N	N
	469	*54*	56	47	51	50	*52*	50	56	N	N
	470	*56*	58	47	53	52	*54*	50	58	N	N
	471	*55*	57	46	53	51	*53*	50	57	N	N
	472	*56*	58	46	53	52	*54*	50	58	N	N
	473	*56*	58	46	53	52	*54*	50	58	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	474	*56*	58	46	53	52	*54*	50	58	N	N
	475	*56*	58	46	53	52	*54*	50	58	N	N
	476	*56*	58	46	53	52	*54*	50	58	N	N
	477	*56*	58	46	53	52	*54*	50	58	N	N
	478	*56*	58	46	53	52	*54*	50	58	N	N
	479	*56*	58	45	54	52	*54*	50	58	N	N
	480	*58*	60	46	55	54	*56*	50	60	N	N
	481	*53*	55	46	50	50	*52*	50	55	N	N
	482	*53*	55	46	50	49	*51*	50	55	N	N
	483	*53*	55	46	50	49	*51*	50	55	N	N
	484	*53*	55	46	50	49	*51*	50	55	N	N
	485	*54*	56	46	51	50	*52*	50	56	N	N
	486	*54*	56	46	51	50	*52*	50	56	N	N
	487	*54*	56	46	51	50	*52*	50	56	N	N
	488	*53*	55	46	50	49	*51*	50	55	N	N
	489	*53*	55	46	50	50	*52*	50	55	N	N
	490	*51*	53	45	48	48	*50*	50	53	N	N
	491	*49*	51	45	46	46	*48*	50	51	N	N
	492	*50*	52	45	47	47	*49*	50	52	N	N
	493	*50*	52	45	47	47	*49*	50	52	N	N
	494	*49*	51	45	46	47	*49*	50	51	N	N
	495	*49*	51	45	46	47	*49*	50	51	N	N
	496	*49*	51	45	46	47	*49*	50	51	N	N
	497	*48*	50	44	44	45	*47*	50	50	N	N
	498	*48*	50	44	44	45	*47*	50	50	N	N
	499	*48*	50	44	45	45	*47*	50	50	N	N
	500	*48*	50	44	44	45	*47*	50	50	N	N
	501	*48*	50	44	44	45	*47*	50	50	N	N
	502	*48*	50	44	44	45	*47*	50	50	N	N
	503	*50*	52	46	47	47	*49*	50	52	N	N
	504	*51*	53	46	47	48	*50*	50	53	N	N
	505	*49*	51	46	46	47	*49*	50	51	N	N
	506	*52*	54	45	49	49	*51*	50	54	N	N
	507	*56*	58	46	54	52	*54*	50	58	N	N
	509	*51*	53	46	47	48	*50*	50	53	N	N
	510	*50*	52	46	46	47	*49*	50	52	N	N
	511	*50*	52	46	46	47	*49*	50	52	N	N
	512	*50*	52	46	46	47	*49*	50	52	N	N
	513	*50*	52	46	46	47	*49*	50	52	N	N
	514	*50*	52	46	46	47	*49*	50	52	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	515	*49*	51	46	45	47	*49*	50	51	N	N
	516	*49*	51	46	45	46	*48*	50	51	N	N
	517	*48*	50	45	45	46	*48*	50	50	N	N
	518	*49*	51	45	45	46	*48*	50	51	N	N
	519	*48*	50	45	45	46	*48*	50	50	N	N
	520	*48*	50	45	44	46	*48*	50	50	N	N
	521	*48*	50	45	45	46	*48*	50	50	N	N
	522	*49*	51	45	46	46	*48*	50	51	N	N
	523	*48*	50	45	44	45	*47*	50	50	N	N
	524	*48*	50	45	44	45	*47*	50	50	N	N
	525	*48*	50	45	44	45	*47*	50	50	N	N
	526	*47*	49	45	44	45	*47*	50	49	N	N
	527	*47*	49	44	44	45	*47*	50	49	N	N
	528	*47*	49	44	44	45	*47*	50	49	N	N
	529	*48*	50	45	45	46	*48*	50	50	N	N
	530	*47*	49	44	43	44	*46*	50	49	N	N
	531	*47*	49	44	43	45	*47*	50	49	N	N
	532	*46*	48	44	43	44	*46*	50	48	N	N
	533	*47*	49	44	43	45	*47*	50	49	N	N
	534	*47*	49	44	43	45	*47*	50	49	N	N
	535	*47*	49	44	43	44	*46*	50	49	N	N
	536	*47*	49	45	44	45	*47*	50	49	N	N
	537	*47*	49	44	43	45	*47*	50	49	N	N
	538	*46*	48	43	42	43	*45*	50	48	N	N
	539	*47*	49	44	43	45	*47*	50	49	N	N
	540	*50*	52	47	46	47	*49*	50	52	N	N
	541	*51*	53	47	48	49	*51*	50	53	N	N
	542	*50*	52	47	46	47	*49*	50	52	N	N
	543	*50*	52	46	45	47	*49*	50	52	N	N
	544	*48*	50	46	45	46	*48*	50	50	N	N
	545	*49*	51	46	45	46	*48*	50	51	N	N
	546	*49*	51	46	45	46	*48*	50	51	N	N
	547	*50*	52	46	46	47	*49*	50	52	N	N
	548	*49*	51	47	45	47	*49*	50	51	N	N
	549	*52*	54	48	49	49	*51*	50	54	N	N
	550	*51*	53	47	47	48	*50*	50	53	N	N
	551	*50*	52	47	47	48	*50*	50	52	N	N
	552	*51*	53	47	48	48	*50*	50	53	N	N
	553	*54*	56	47	50	50	*52*	50	56	N	N
	554	*53*	55	48	50	50	*52*	50	55	N	N

NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Hwy 2022 (with Bypass)	Bypass 2022	Combined Hume Hwy and Bypass 2012	Combined Hume Hwy and Bypass 2022	Night Base Criteria	Future Existing Level 2012 + 2dBA	Does the Receiver need Mitigation according to *ENMM* guidelines?	Design Noise 2022 Acute (>=60dBA)?
	555	*53*	55	47	50	50	*52*	50	55	N	N
	556	*53*	55	47	50	50	*52*	50	55	N	N
	557	*53*	55	47	50	50	*52*	50	55	N	N
	558	*53*	55	47	50	50	*52*	50	55	N	N
	559	*53*	55	47	50	50	*52*	50	55	N	N
	560	*53*	55	47	50	49	*51*	50	55	N	N
	561	*54*	56	47	51	50	*52*	50	56	N	N
	562	*53*	55	46	51	50	*52*	50	55	N	N
	563	*53*	55	46	50	49	*51*	50	55	N	N
	564	*57*	59	48	54	53	*55*	50	59	N	N
	565	*56*	58	48	53	52	*54*	50	58	N	N
	566	*56*	58	48	53	52	*54*	50	58	N	N
	567	*47*	49	45	44	45	*47*	50	49	N	N
	568	*48*	50	45	43	45	*47*	50	50	N	N
	569	*48*	50	45	43	45	*47*	50	50	N	N
	570	*48*	50	45	43	45	*47*	50	50	N	N
	571	*48*	50	46	43	46	*48*	50	50	N	N
	572	*49*	51	46	44	46	*48*	50	51	N	N
	573	*49*	51	47	45	47	*49*	50	51	N	N
	574	*60*	62	49	57	55	*57*	50	62	N	N
	575	*57*	59	49	54	53	*55*	50	59	N	N
	576	*58*	60	50	55	55	*57*	50	60	N	N
	577	*59*	61	52	52	53	*55*	50	61	N	N
	578	*60*	62	52	50	52	*54*	50	62	N	N
	579	*56*	58	50	47	50	*52*	50	58	N	N
NCA 9	448	*42*	44	41	38	41	*43*	50	44	N	N
	584	*43*	45	41	37	41	*43*	50	45	N	N
	585	*40*	42	40	35	39	*41*	50	42	N	N
	586	*40*	42	41	34	39	*41*	50	42	N	N
	588	*42*	44	34	36	36	*38*	50	44	N	N
	589	*38*	40	39	31	38	*40*	50	40	N	N
	594	*37*	39	38	27	36	*38*	50	39	N	N
	596	*37*	39	35	29	34	*36*	50	39	N	N
	597	*32*	34	28	27	28	*30*	50	34	N	N
	598	*30*	32	26	24	26	*28*	50	32	N	N
	599	*39*	41	41	31	39	*41*	50	41	N	N
	600	*38*	40	40	30	38	*40*	50	40	N	N
NCA 10	289	*48*	50	52	33	50	*52*	55	50	N	N
	290	*48*	50	51	34	49	*51*	55	50	N	N

APPENDIX B

NIGHT TIME PREDICTIONS AT RECEIVERS 2022
90% NIGHT DIVERSION SCENARIO

Tables in this appendix present noise levels at all receivers identified in the noise catchment areas. Because the traffic noise from the bypass will come from different directions for different receivers, noise is assessed at different facades in different NCAs.

Noise values used for the assessment of mitigation requirements are Future Existing levels, and the Combined level at the relevant façade 10 years after opening. These values are shown in italics.

Where noise is to be assessed on the western façade (NCAs 4, 6, 7 & 8), see Table B1.

Where noise is to be assessed on the eastern façade (NCAs 4, 6, 7 & 8) see Table B2.

Where noise is only assesed at one façade (NCAs 1, 2, 3, 5, 9 & 10) see Table B3.

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
NCA 4	256	52	54	37	54	54	50	Y	N	30	54	54	50	Y	N
	257	51	53	37	55	55	50	Y	N	29	55	55	50	Y	N
NCA 6	42	47	49	36	50	51	50	Y	N	31	51	51	50	Y	N
	43	39	41	36	51	51	50	Y	N	31	51	51	50	Y	N
	77	45	47	42	49	50	50	N	N	37	50	50	50	N	N
	78	53	55	42	49	50	50	N	N	37	49	49	50	N	N
	79	43	45	40	50	50	50	N	N	35	50	50	50	N	N
	80	52	54	40	49	49	50	N	N	36	50	50	50	N	N
	81	51	53	40	48	49	50	N	N	36	49	49	50	N	N
	82	49	51	38	49	50	50	N	N	34	50	50	50	N	N
	83	48	50	37	49	49	50	N	N	32	50	50	50	N	N
	84	45	47	35	50	50	50	N	N	31	50	50	50	N	N
	85	47	49	35	49	49	50	N	N	30	50	50	50	N	N
	86	44	46	32	48	48	50	N	N	28	49	49	50	N	N
	87	48	50	36	48	48	50	N	N	32	49	49	50	N	N
	88	49	51	37	49	49	50	N	N	33	50	50	50	N	N
	89	41	43	37	49	49	50	N	N	33	50	50	50	N	N
	90	50	52	39	48	49	50	N	N	35	49	49	50	N	N
	91	51	53	40	48	49	50	N	N	36	49	49	50	N	N
	92	52	54	41	48	49	50	N	N	36	49	49	50	N	N
	93	49	51	46	48	50	50	N	N	42	48	49	50	N	N
	94	48	50	45	47	50	50	N	N	42	48	49	50	N	N
	95	57	59	55	47	55	50	N	N	51	47	52	50	N	N
	96	57	59	55	47	55	50	N	N	51	47	52	50	N	N
	97	47	49	44	47	48	50	N	N	40	47	48	50	N	N
	98	41	43	30	50	50	50	N	N	25	50	50	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	99	43	45	31	51	51	50	Y	N	26	52	52	50	Y	N
	101	36	38	33	49	50	50	N	N	28	50	50	50	N	N
	102	38	40	35	50	50	50	N	N	31	51	51	50	Y	N
	103	36	38	32	48	49	50	N	N	27	49	49	50	N	N
	104	40	42	36	48	49	50	N	N	32	49	49	50	N	N
	105	41	43	37	49	49	50	N	N	33	50	50	50	N	N
	106	40	42	37	48	49	50	N	N	33	49	49	50	N	N
	107	39	41	36	49	49	50	N	N	32	50	50	50	N	N
	108	40	42	37	48	48	50	N	N	33	49	49	50	N	N
	109	39	41	36	49	49	50	N	N	32	50	50	50	N	N
	110	39	41	36	49	49	50	N	N	32	50	50	50	N	N
	111	39	41	36	49	49	50	N	N	31	50	50	50	N	N
	112	36	38	34	49	50	50	N	N	29	50	50	50	N	N
	117	39	41	36	50	50	50	N	N	32	51	51	50	Y	N
	118	40	42	37	49	49	50	N	N	33	50	50	50	N	N
	119	37	39	34	47	48	50	N	N	30	48	48	50	N	N
	120	41	43	37	47	47	50	N	N	34	48	48	50	N	N
	121	43	45	40	47	48	50	N	N	36	48	48	50	N	N
	122	41	43	38	47	47	50	N	N	34	47	47	50	N	N
	123	44	46	41	45	47	50	N	N	37	46	47	50	N	N
	124	43	45	40	48	48	50	N	N	37	49	49	50	N	N
	125	43	45	40	47	48	50	N	N	36	48	48	50	N	N
	126	45	47	42	47	48	50	N	N	38	48	48	50	N	N
	127	44	46	41	48	48	50	N	N	37	48	48	50	N	N
	128	45	47	42	48	49	50	N	N	39	49	49	50	N	N
	129	46	48	43	48	49	50	N	N	39	49	49	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	130	45	47	42	48	49	50	N	N	39	49	49	50	N	N
	131	42	44	39	48	49	50	N	N	35	49	49	50	N	N
	132	42	44	39	48	49	50	N	N	35	49	49	50	N	N
	133	41	43	38	48	48	50	N	N	34	49	49	50	N	N
	134	45	47	42	47	48	50	N	N	38	48	48	50	N	N
	135	45	47	42	47	48	50	N	N	38	48	48	50	N	N
	136	44	46	41	46	47	50	N	N	38	47	48	50	N	N
	137	47	49	44	46	48	50	N	N	40	47	48	50	N	N
	138	57	59	54	47	55	50	N	N	51	47	52	50	N	N
	139	55	57	52	47	53	50	N	N	49	47	51	50	N	N
	140	55	57	52	47	53	50	N	N	49	48	52	50	N	N
	141	56	58	53	47	54	50	N	N	50	48	52	50	N	N
	142	42	44	39	47	48	50	N	N	35	48	48	50	N	N
	143	42	44	39	47	48	50	N	N	36	48	48	50	N	N
	144	39	41	35	49	49	50	N	N	32	50	50	50	N	N
	145	41	43	38	48	48	50	N	N	34	49	49	50	N	N
	147	48	50	37	50	50	50	N	N	32	51	51	50	Y	N
	148	45	47	42	47	48	50	N	N	39	48	49	50	N	N
	151	42	44	39	47	48	50	N	N	35	48	48	50	N	N
	152	40	42	37	48	48	50	N	N	33	49	49	50	N	N
	153	40	42	37	47	48	50	N	N	33	48	48	50	N	N
	154	41	43	39	47	48	50	N	N	35	48	48	50	N	N
	155	41	43	38	48	48	50	N	N	35	49	49	50	N	N
	156	40	42	37	48	48	50	N	N	33	49	49	50	N	N
	157	40	42	37	47	48	50	N	N	33	49	49	50	N	N
	158	40	42	36	47	48	50	N	N	33	48	48	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	159	40	42	37	47	48	50	N	N	33	48	48	50	N	N
	160	44	46	41	47	48	50	N	N	38	48	48	50	N	N
	161	44	46	41	47	48	50	N	N	38	48	48	50	N	N
	162	44	46	41	47	48	50	N	N	37	48	48	50	N	N
	163	43	45	40	47	48	50	N	N	37	48	48	50	N	N
	164	43	45	40	47	48	50	N	N	36	48	48	50	N	N
	165	43	45	40	47	48	50	N	N	37	48	48	50	N	N
	166	40	42	37	47	47	50	N	N	33	48	48	50	N	N
	167	40	42	37	47	47	50	N	N	33	48	48	50	N	N
	168	42	44	39	46	47	50	N	N	35	47	47	50	N	N
	169	42	44	39	46	47	50	N	N	35	47	47	50	N	N
	170	44	46	41	46	47	50	N	N	37	47	47	50	N	N
	171	43	45	40	44	46	50	N	N	36	45	46	50	N	N
	172	41	43	38	45	46	50	N	N	34	46	46	50	N	N
	173	42	44	39	45	46	50	N	N	35	46	46	50	N	N
	174	44	46	41	46	47	50	N	N	38	47	48	50	N	N
	175	47	49	44	46	48	50	N	N	41	47	48	50	N	N
	176	38	40	35	48	48	50	N	N	31	49	49	50	N	N
	177	38	40	35	48	48	50	N	N	30	49	49	50	N	N
	178	38	40	35	48	48	50	N	N	31	49	49	50	N	N
	179	38	40	35	48	48	50	N	N	31	49	49	50	N	N
	180	40	42	37	48	48	50	N	N	34	49	49	50	N	N
	181	43	45	40	47	48	50	N	N	36	48	48	50	N	N
	182	41	43	38	47	48	50	N	N	34	49	49	50	N	N
	183	42	44	39	48	48	50	N	N	36	49	49	50	N	N
	184	43	45	40	48	48	50	N	N	36	49	49	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	185	42	44	39	48	48	50	N	N	35	49	49	50	N	N
	186	42	44	39	48	49	50	N	N	35	49	49	50	N	N
	187	43	45	40	48	48	50	N	N	36	49	49	50	N	N
	188	42	44	39	48	49	50	N	N	35	49	49	50	N	N
	189	42	44	39	49	49	50	N	N	35	49	49	50	N	N
	190	42	44	39	49	49	50	N	N	35	49	49	50	N	N
	191	44	46	41	49	49	50	N	N	37	49	49	50	N	N
	192	46	48	43	48	50	50	N	N	39	48	49	50	N	N
	193	50	52	47	49	51	50	N	N	43	48	49	50	N	N
	194	55	57	52	47	53	50	N	N	49	47	51	50	N	N
	195	55	57	52	47	53	50	N	N	49	47	51	50	N	N
	196	54	56	51	47	53	50	N	N	48	47	51	50	N	N
	197	57	59	53	47	54	50	N	N	50	47	52	50	N	N
	198	57	59	54	47	55	50	N	N	51	47	52	50	N	N
	199	57	59	54	47	55	50	N	N	50	47	52	50	N	N
	200	56	58	53	47	54	50	N	N	50	47	52	50	N	N
	201	56	58	53	47	54	50	N	N	49	47	51	50	N	N
	202	55	57	52	47	53	50	N	N	49	47	51	50	N	N
	203	56	58	53	47	54	50	N	N	49	47	51	50	N	N
	204	57	59	54	47	55	50	N	N	50	47	52	50	N	N
	205	48	50	45	47	49	50	N	N	42	48	49	50	N	N
	206	45	47	42	47	48	50	N	N	39	47	48	50	N	N
	207	47	49	44	47	49	50	N	N	41	48	49	50	N	N
	208	45	47	42	47	48	50	N	N	38	48	48	50	N	N
	209	45	47	42	47	48	50	N	N	38	47	48	50	N	N
	210	44	46	41	47	48	50	N	N	37	48	48	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	211	44	46	41	47	48	50	N	N	37	48	48	50	N	N
	212	42	44	39	48	49	50	N	N	35	48	48	50	N	N
	213	43	45	40	47	48	50	N	N	36	48	48	50	N	N
	214	46	48	43	48	49	50	N	N	39	48	49	50	N	N
	215	43	45	40	47	48	50	N	N	37	48	48	50	N	N
	216	46	48	43	47	48	50	N	N	39	48	49	50	N	N
	217	45	47	42	47	48	50	N	N	39	48	49	50	N	N
	218	46	48	43	47	48	50	N	N	39	48	49	50	N	N
	219	47	49	44	47	49	50	N	N	41	48	49	50	N	N
	220	48	50	45	45	48	50	N	N	42	47	48	50	N	N
	221	45	47	42	45	47	50	N	N	39	46	47	50	N	N
	222	43	45	40	45	46	50	N	N	36	46	46	50	N	N
	223	43	45	40	47	47	50	N	N	36	48	48	50	N	N
	224	44	46	41	46	47	50	N	N	38	47	48	50	N	N
	225	41	43	38	46	46	50	N	N	34	46	46	50	N	N
	226	43	45	40	47	48	50	N	N	36	48	48	50	N	N
	227	40	42	37	47	47	50	N	N	33	48	48	50	N	N
	228	38	40	35	48	48	50	N	N	31	49	49	50	N	N
	229	39	41	36	47	47	50	N	N	32	48	48	50	N	N
	230	41	43	38	46	46	50	N	N	34	47	47	50	N	N
	231	38	40	35	46	47	50	N	N	31	47	47	50	N	N
	232	39	41	36	46	46	50	N	N	32	47	47	50	N	N
	233	37	39	34	46	46	50	N	N	29	47	47	50	N	N
	234	38	40	35	47	47	50	N	N	30	48	48	50	N	N
	235	39	41	36	47	47	50	N	N	32	48	48	50	N	N
	236	35	37	32	47	47	50	N	N	28	48	48	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	237	35	37	32	47	47	50	N	N	28	48	48	50	N	N
	238	38	40	35	47	47	50	N	N	30	48	48	50	N	N
	239	38	40	34	48	48	50	N	N	30	49	49	50	N	N
	240	38	40	35	48	48	50	N	N	31	49	49	50	N	N
	241	38	40	35	47	48	50	N	N	31	48	48	50	N	N
	242	38	40	35	47	48	50	N	N	31	49	49	50	N	N
	243	38	40	35	49	49	50	N	N	31	50	50	50	N	N
	244	37	39	34	49	49	50	N	N	30	50	50	50	N	N
	245	37	39	34	49	49	50	N	N	30	50	50	50	N	N
	246	37	39	34	49	49	50	N	N	30	50	50	50	N	N
	247	37	39	34	48	49	50	N	N	30	50	50	50	N	N
	248	37	39	34	49	49	50	N	N	30	50	50	50	N	N
	249	38	40	35	48	48	50	N	N	31	49	49	50	N	N
	250	35	37	32	49	49	50	N	N	27	50	50	50	N	N
	251	37	39	34	47	47	50	N	N	30	48	48	50	N	N
	276	38	40	35	49	49	50	N	N	31	50	50	50	N	N
	277	39	41	36	49	49	50	N	N	32	50	50	50	N	N
	278	38	40	35	49	49	50	N	N	31	50	50	50	N	N
	279	41	43	38	47	47	50	N	N	34	47	47	50	N	N
	280	40	42	37	48	48	50	N	N	33	48	48	50	N	N
	281	40	42	37	48	48	50	N	N	33	49	49	50	N	N
NCA 7	12	39	41	36	53	53	50	Y	N	31	53	53	50	Y	N
	13	46	48	34	52	52	50	Y	N	30	53	53	50	Y	N
	14	46	48	36	53	53	50	Y	N	31	54	54	50	Y	N
	15	54	56	47	58	58	50	Y	N	41	57	57	50	Y	N
	16	55	57	47	59	59	50	Y	N	42	58	58	50	Y	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	17	40	42	40	55	55	50	Y	N	34	56	56	50	Y	N
	18	40	42	40	57	57	50	Y	N	34	57	57	50	Y	N
	19	37	39	36	56	56	50	Y	N	30	57	57	50	Y	N
	20	39	41	38	54	54	50	Y	N	33	55	55	50	Y	N
	21	37	39	36	54	54	50	Y	N	31	55	55	50	Y	N
	22	37	39	35	54	54	50	Y	N	30	55	55	50	Y	N
	23	36	38	33	53	53	50	Y	N	29	54	54	50	Y	N
	24	31	33	29	53	53	50	Y	N	24	54	54	50	Y	N
	25	36	38	33	52	52	50	Y	N	28	53	53	50	Y	N
	26	36	38	33	52	52	50	Y	N	29	53	53	50	Y	N
	27	35	37	33	55	55	50	Y	N	28	56	56	50	Y	N
	28	36	38	33	53	53	50	Y	N	29	54	54	50	Y	N
	29	36	38	33	53	53	50	Y	N	28	54	54	50	Y	N
	30	35	37	32	53	53	50	Y	N	27	54	54	50	Y	N
	31	35	37	32	52	52	50	Y	N	28	53	53	50	Y	N
	32	36	38	33	51	51	50	Y	N	29	52	52	50	Y	N
	33	36	38	34	51	51	50	Y	N	29	53	53	50	Y	N
	34	36	38	33	51	51	50	Y	N	28	52	52	50	Y	N
	35	36	38	32	51	51	50	Y	N	28	52	52	50	Y	N
	36	36	38	33	51	51	50	Y	N	28	52	52	50	Y	N
	37	35	37	32	51	51	50	Y	N	28	53	53	50	Y	N
	38	37	39	35	51	52	50	Y	N	30	52	52	50	Y	N
	39	37	39	34	52	52	50	Y	N	30	53	53	50	Y	N
	40	38	40	36	53	53	50	Y	N	31	54	54	50	Y	N
	41	39	41	38	54	54	50	Y	N	33	55	55	50	Y	N
	44	35	37	36	50	52	50	Y	N	28	54	54	50	Y	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	45	35	37	36	51	53	50	Y	N	28	54	54	50	Y	N
	46	35	37	32	52	51	50	Y	N	28	52	52	50	Y	N
	47	35	37	33	53	51	50	Y	N	28	52	52	50	Y	N
	48	35	37	32	51	50	50	N	N	28	51	51	50	Y	N
	49	36	38	33	51	50	50	N	N	29	51	51	50	Y	N
	100	38	40	35	51	51	50	Y	N	31	52	52	50	Y	N
	113	38	40	35	50	50	50	N	N	31	51	51	50	Y	N
	114	33	35	30	50	50	50	N	N	26	51	51	50	Y	N
	115	36	38	33	49	49	50	N	N	29	50	50	50	N	N
	116	38	40	35	49	49	50	N	N	31	50	50	50	N	N
	146	36	38	34	51	51	50	Y	N	29	52	52	50	Y	N
	252	37	39	34	49	49	50	N	N	29	50	50	50	N	N
	253	37	39	34	49	49	50	N	N	29	50	50	50	N	N
	254	36	38	34	49	49	50	N	N	41	51	51	50	Y	N
	258	36	38	33	49	49	50	N	N	29	50	50	50	N	N
	259	36	38	33	49	50	50	N	N	29	51	51	50	Y	N
	260	36	38	33	50	50	50	N	N	29	51	51	50	Y	N
	261	37	39	34	49	49	50	N	N	29	50	50	50	N	N
	262	36	38	33	48	49	50	N	N	28	50	50	50	N	N
	263	35	37	32	48	49	50	N	N	27	50	50	50	N	N
	264	35	37	32	49	49	50	N	N	28	50	50	50	N	N
	265	35	37	32	49	49	50	N	N	28	51	51	50	Y	N
	266	35	37	33	50	50	50	N	N	28	51	51	50	Y	N
	267	36	38	33	49	49	50	N	N	29	50	50	50	N	N
	268	37	39	34	49	49	50	N	N	29	50	50	50	N	N
	269	37	39	34	49	50	50	N	N	29	51	51	50	Y	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	270	37	39	34	49	49	50	N	N	29	50	50	50	N	N
	271	37	39	34	49	49	50	N	N	30	50	50	50	N	N
	272	38	40	35	49	49	50	N	N	31	50	50	50	N	N
	273	38	40	34	49	49	50	N	N	30	50	50	50	N	N
	274	37	39	34	50	50	50	N	N	30	51	51	50	Y	N
	275	38	40	35	49	49	50	N	N	30	50	50	50	N	N
	282	36	38	33	50	50	50	N	N	29	51	51	50	Y	N
	283	36	38	33	50	50	50	N	N	29	51	51	50	Y	N
	284	36	38	33	50	50	50	N	N	29	51	51	50	Y	N
	285	37	39	33	51	51	50	Y	N	29	52	52	50	Y	N
	286	37	39	34	51	51	50	Y	N	30	52	52	50	Y	N
	287	38	40	35	51	52	50	Y	N	30	52	52	50	Y	N
	288	38	40	36	52	52	50	Y	N	31	53	53	50	Y	N
NCA 8	50	48	50	36	55	55	50	N	N	31	55	55	50	Y	N
	51	47	49	35	56	56	50	Y	N	30	55	55	50	Y	N
	52	47	49	34	57	57	50	Y	N	29	56	56	50	Y	N
	53	43	45	33	57	57	50	Y	N	27	58	58	50	Y	N
	54	43	45	33	58	58	50	Y	N	28	58	58	50	Y	N
	55	43	45	33	57	57	50	Y	N	28	58	58	50	Y	N
	56	46	48	33	56	56	50	Y	N	27	57	57	50	Y	N
	57	47	49	33	56	56	50	Y	N	28	57	57	50	Y	N
	58	48	50	34	56	56	50	Y	N	29	56	56	50	Y	N
	59	43	45	34	55	55	50	Y	N	28	56	56	50	Y	N
	60	48	50	35	55	55	50	Y	N	30	55	55	50	Y	N
	61	43	45	38	56	56	50	Y	N	33	56	56	50	Y	N
	62	50	52	39	55	55	50	Y	N	34	54	54	50	Y	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (> =60dBA) Design Noise 2022
	63	50	52	39	55	55	50	Y	N	34	53	53	50	Y	N
	64	55	57	42	60	60	50	Y	Y	37	58	58	50	Y	N
	65	52	54	47	56	57	50	Y	N	41	54	54	50	Y	N
	66	50	52	44	56	56	50	Y	N	38	55	55	50	Y	N
	67	49	51	44	54	55	50	Y	N	38	54	54	50	Y	N
	68	53	55	49	54	56	50	Y	N	44	53	54	50	Y	N
	69	45	47	41	53	53	50	Y	N	36	54	54	50	Y	N
	70	46	48	41	52	53	50	Y	N	36	53	53	50	Y	N
	71	48	50	44	51	52	50	Y	N	39	52	52	50	Y	N
	72	48	50	45	51	52	50	Y	N	39	51	51	50	Y	N
	73	55	57	52	51	54	50	N	N	46	51	52	50	N	N
	74	45	47	42	50	51	50	Y	N	37	50	50	50	N	N
	75	55	57	52	50	54	50	N	N	46	50	51	50	N	N
	76	48	50	44	51	52	50	Y	N	39	51	51	50	Y	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022
NCA 4	256	60	62	46	47	49	50	N	N	38	46	47	50	N	N
	257	59	61	47	47	49	50	N	N	37	47	47	50	N	N
NCA 6	42	47	49	42	44	46	50	N	N	39	43	44	50	N	N
	43	47	49	43	44	46	50	N	N	39	43	44	50	N	N
	77	53	55	41	48	50	50	N	N	45	42	47	50	N	N
	78	53	55	41	49	51	50	N	N	45	41	46	50	N	N
	79	51	53	42	47	49	50	N	N	43	42	46	50	N	N
	80	52	54	41	47	49	50	N	N	44	42	46	50	N	N
	81	51	53	40	47	49	50	N	N	44	41	46	50	N	N
	82	49	51	41	45	47	50	N	N	42	42	45	50	N	N
	83	48	50	41	44	46	50	N	N	40	42	44	50	N	N
	84	45	47	42	43	45	50	N	N	39	42	44	50	N	N
	85	47	49	41	43	45	50	N	N	38	42	43	50	N	N
	86	44	46	40	41	43	50	N	N	36	41	42	50	N	N
	87	48	50	40	44	46	50	N	N	40	41	44	50	N	N
	88	49	51	41	45	47	50	N	N	41	42	45	50	N	N
	89	49	51	41	45	47	50	N	N	41	42	45	50	N	N
	90	50	52	40	46	48	50	N	N	43	41	45	50	N	N
	91	51	53	40	47	49	50	N	N	44	41	46	50	N	N
	92	52	54	40	47	49	50	N	N	44	41	46	50	N	N
	93	57	59	40	52	54	50	N	N	50	40	50	50	N	N
	94	56	58	39	52	54	50	N	N	50	40	50	50	N	N
	95	65	67	39	61	63	50	N	Y	59	39	59	50	N	N
	96	65	67	39	61	63	50	N	Y	59	39	59	50	N	N
	97	55	57	39	50	52	50	N	N	48	39	49	50	N	N
	98	41	43	42	41	43	50	N	N	33	42	43	50	N	N
	99	43	45	43	42	44	50	N	N	34	44	44	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022
	101	44	46	41	42	44	50	N	N	36	42	43	50	N	N
	102	46	48	42	43	45	50	N	N	39	43	44	50	N	N
	103	44	46	40	41	43	50	N	N	35	41	42	50	N	N
	104	48	50	40	44	46	50	N	N	40	41	44	50	N	N
	105	49	51	41	45	47	50	N	N	41	42	45	50	N	N
	106	48	50	40	44	46	50	N	N	41	41	44	50	N	N
	107	47	49	41	44	46	50	N	N	40	42	44	50	N	N
	108	48	50	40	44	46	50	N	N	41	41	44	50	N	N
	109	47	49	41	44	46	50	N	N	40	42	44	50	N	N
	110	47	49	41	44	46	50	N	N	40	42	44	50	N	N
	111	47	49	41	43	45	50	N	N	39	42	44	50	N	N
	112	44	46	41	42	44	50	N	N	37	42	43	50	N	N
	117	47	49	42	44	46	50	N	N	40	43	45	50	N	N
	118	48	50	41	44	46	50	N	N	41	42	45	50	N	N
	119	45	47	39	42	44	50	N	N	38	40	42	50	N	N
	120	49	51	39	44	46	50	N	N	42	40	44	50	N	N
	121	51	53	39	46	48	50	N	N	44	40	45	50	N	N
	122	49	51	39	44	46	50	N	N	42	39	44	50	N	N
	123	52	54	37	47	49	50	N	N	45	38	46	50	N	N
	124	51	53	40	47	49	50	N	N	45	41	46	50	N	N
	125	51	53	39	46	48	50	N	N	44	40	45	50	N	N
	126	53	55	39	48	50	50	N	N	46	40	47	50	N	N
	127	52	54	40	48	50	50	N	N	45	40	46	50	N	N
	128	53	55	40	49	51	50	N	N	47	41	48	50	N	N
	129	54	56	40	49	51	50	N	N	47	41	48	50	N	N
	130	53	55	40	49	51	50	N	N	47	41	48	50	N	N
	131	50	52	40	46	48	50	N	N	43	41	45	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022
	132	50	52	40	46	48	50	N	N	43	41	45	50	N	N
	133	49	51	40	45	47	50	N	N	42	41	45	50	N	N
	134	53	55	39	48	50	50	N	N	46	40	47	50	N	N
	135	53	55	39	48	50	50	N	N	46	40	47	50	N	N
	136	52	54	38	48	50	50	N	N	46	39	47	50	N	N
	137	55	57	38	50	52	50	N	N	48	39	49	50	N	N
	138	65	67	39	61	63	50	N	Y	59	39	59	50	N	N
	139	63	65	39	58	60	50	N	Y	57	39	57	50	N	N
	140	63	65	39	58	60	50	N	Y	57	40	57	50	N	N
	141	64	66	39	59	61	50	N	Y	58	40	58	50	N	N
	142	50	52	39	46	48	50	N	N	43	40	45	50	N	N
	143	50	52	39	46	48	50	N	N	44	40	45	50	N	N
	144	47	49	41	43	45	50	N	N	40	42	44	50	N	N
	145	49	51	40	45	47	50	N	N	42	41	45	50	N	N
	147	48	50	42	44	46	50	N	N	40	43	45	50	N	N
	148	53	55	39	49	51	50	N	N	47	40	48	50	N	N
	151	50	52	39	46	48	50	N	N	43	40	45	50	N	N
	152	48	50	40	44	46	50	N	N	41	41	44	50	N	N
	153	48	50	39	44	46	50	N	N	41	40	44	50	N	N
	154	49	51	39	45	47	50	N	N	43	40	45	50	N	N
	155	49	51	40	45	47	50	N	N	43	41	45	50	N	N
	156	48	50	40	44	46	50	N	N	41	41	44	50	N	N
	157	48	50	39	44	46	50	N	N	41	41	44	50	N	N
	158	48	50	39	44	46	50	N	N	41	40	44	50	N	N
	159	48	50	39	44	46	50	N	N	41	40	44	50	N	N
	160	52	54	39	48	50	50	N	N	46	40	47	50	N	N
	161	52	54	39	48	50	50	N	N	46	40	47	50	N	N

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	162	52	54	39	47	49	50	N	N	45	40	46	50	N	N
	163	51	53	39	47	49	50	N	N	45	40	46	50	N	N
	164	51	53	39	47	49	50	N	N	44	40	45	50	N	N
	165	51	53	39	47	49	50	N	N	45	40	46	50	N	N
	166	48	50	39	44	46	50	N	N	41	40	44	50	N	N
	167	48	50	39	44	46	50	N	N	41	40	44	50	N	N
	168	50	52	38	45	47	50	N	N	43	39	44	50	N	N
	169	50	52	38	45	47	50	N	N	43	39	44	50	N	N
	170	52	54	38	47	49	50	N	N	45	39	46	50	N	N
	171	51	53	36	46	48	50	N	N	44	37	45	50	N	N
	172	49	51	37	44	46	50	N	N	42	38	43	50	N	N
	173	50	52	37	45	47	50	N	N	43	38	44	50	N	N
	174	52	54	38	48	50	50	N	N	46	39	47	50	N	N
	175	55	57	38	50	52	50	N	N	49	39	49	50	N	N
	176	46	48	40	43	45	50	N	N	39	41	43	50	N	N
	177	46	48	40	43	45	50	N	N	38	41	43	50	N	N
	178	46	48	40	43	45	50	N	N	39	41	43	50	N	N
	179	46	48	40	43	45	50	N	N	39	41	43	50	N	N
	180	48	50	40	45	47	50	N	N	42	41	45	50	N	N
	181	51	53	39	46	48	50	N	N	44	40	45	50	N	N
	182	49	51	39	45	47	50	N	N	42	41	45	50	N	N
	183	50	52	40	46	48	50	N	N	44	41	46	50	N	N
	184	51	53	40	47	49	50	N	N	44	41	46	50	N	N
	185	50	52	40	46	48	50	N	N	43	41	45	50	N	N
	186	50	52	40	46	48	50	N	N	43	41	45	50	N	N
	187	51	53	40	46	48	50	N	N	44	41	46	50	N	N
	188	50	52	40	46	48	50	N	N	43	41	45	50	N	N

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	189	50	52	41	46	48	50	N	N	43	41	45	50	N	N
	190	50	52	41	46	48	50	N	N	43	41	45	50	N	N
	191	52	54	41	48	50	50	N	N	45	41	46	50	N	N
	192	54	56	40	50	52	50	N	N	47	40	48	50	N	N
	193	58	60	41	53	55	50	N	N	51	40	51	50	N	N
	194	63	65	39	58	60	50	N	Y	57	39	57	50	N	N
	195	63	65	39	58	60	50	N	Y	57	39	57	50	N	N
	196	62	64	39	57	59	50	N	N	56	39	56	50	N	N
	197	65	67	39	59	61	50	N	Y	58	39	58	50	N	N
	198	65	67	39	60	62	50	N	Y	59	39	59	50	N	N
	199	65	67	39	60	62	50	N	Y	58	39	58	50	N	N
	200	64	66	39	59	61	50	N	Y	58	39	58	50	N	N
	201	64	66	39	59	61	50	N	Y	57	39	57	50	N	N
	202	63	65	39	58	60	50	N	Y	57	39	57	50	N	N
	203	64	66	39	59	61	50	N	Y	57	39	57	50	N	N
	204	65	67	39	60	62	50	N	Y	58	39	58	50	N	N
	205	56	58	39	51	53	50	N	N	50	40	50	50	N	N
	206	53	55	39	49	51	50	N	N	47	39	48	50	N	N
	207	55	57	39	50	52	50	N	N	49	40	50	50	N	N
	208	53	55	39	48	50	50	N	N	46	40	47	50	N	N
	209	53	55	39	48	50	50	N	N	46	39	47	50	N	N
	210	52	54	39	47	49	50	N	N	45	40	46	50	N	N
	211	52	54	39	48	50	50	N	N	45	40	46	50	N	N
	212	50	52	40	46	48	50	N	N	43	40	45	50	N	N
	213	51	53	39	46	48	50	N	N	44	40	45	50	N	N
	214	54	56	40	49	51	50	N	N	47	40	48	50	N	N
	215	51	53	39	47	49	50	N	N	45	40	46	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022
	216	54	56	39	49	51	50	N	N	47	40	48	50	N	N
	217	53	55	39	49	51	50	N	N	47	40	48	50	N	N
	218	54	56	39	49	51	50	N	N	47	40	48	50	N	N
	219	55	57	39	51	53	50	N	N	49	40	50	50	N	N
	220	56	58	37	51	53	50	N	N	50	39	50	50	N	N
	221	53	55	37	48	50	50	N	N	47	38	48	50	N	N
	222	51	53	37	46	48	50	N	N	44	38	45	50	N	N
	223	51	53	39	46	48	50	N	N	44	40	45	50	N	N
	224	52	54	38	48	50	50	N	N	46	39	47	50	N	N
	225	49	51	38	44	46	50	N	N	42	38	43	50	N	N
	226	51	53	39	46	48	50	N	N	44	40	45	50	N	N
	227	48	50	39	44	46	50	N	N	41	40	44	50	N	N
	228	46	48	40	43	45	50	N	N	39	41	43	50	N	N
	229	47	49	39	43	45	50	N	N	40	40	43	50	N	N
	230	49	51	38	44	46	50	N	N	42	39	44	50	N	N
	231	46	48	38	42	44	50	N	N	39	39	42	50	N	N
	232	47	49	38	43	45	50	N	N	40	39	43	50	N	N
	233	45	47	38	41	43	50	N	N	37	39	41	50	N	N
	234	46	48	39	42	44	50	N	N	38	40	42	50	N	N
	235	47	49	39	43	45	50	N	N	40	40	43	50	N	N
	236	43	45	39	40	42	50	N	N	36	40	41	50	N	N
	237	43	45	39	41	43	50	N	N	36	40	41	50	N	N
	238	46	48	39	42	44	50	N	N	38	40	42	50	N	N
	239	46	48	40	42	44	50	N	N	38	41	43	50	N	N
	240	46	48	40	43	45	50	N	N	39	41	43	50	N	N
	241	46	48	39	42	44	50	N	N	39	40	43	50	N	N
	242	46	48	39	43	45	50	N	N	39	41	43	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022
	243	46	48	41	43	45	50	N	N	39	42	44	50	N	N
	244	45	47	41	43	45	50	N	N	38	42	43	50	N	N
	245	45	47	41	42	44	50	N	N	38	42	43	50	N	N
	246	45	47	41	42	44	50	N	N	38	42	43	50	N	N
	247	45	47	40	42	44	50	N	N	38	42	43	50	N	N
	248	45	47	41	42	44	50	N	N	38	42	43	50	N	N
	249	46	48	40	43	45	50	N	N	39	41	43	50	N	N
	250	43	45	41	41	43	50	N	N	35	42	43	50	N	N
	251	45	47	39	42	44	50	N	N	38	40	42	50	N	N
	276	46	48	41	43	45	50	N	N	39	42	44	50	N	N
	277	47	49	41	44	46	50	N	N	40	42	44	50	N	N
	278	46	48	41	43	45	50	N	N	39	42	44	50	N	N
	279	49	51	39	45	47	50	N	N	42	39	44	50	N	N
	280	48	50	40	44	46	50	N	N	41	40	44	50	N	N
	281	48	50	40	44	46	50	N	N	41	41	44	50	N	N
NCA 7	12	47	49	45	45	47	50	N	N	39	45	46	50	N	N
	13	46	48	44	44	46	50	N	N	38	45	46	50	N	N
	14	46	48	45	45	47	50	N	N	39	46	47	50	N	N
	15	54	56	50	54	56	50	Y	N	49	49	52	50	N	N
	16	55	57	51	55	57	50	Y	N	50	50	53	50	N	N
	17	48	50	47	48	50	50	N	N	42	48	49	50	N	N
	18	48	50	49	49	51	50	N	N	42	49	50	50	N	N
	19	45	47	48	47	49	50	N	N	38	49	49	50	N	N
	20	47	49	46	47	49	50	N	N	41	47	48	50	N	N
	21	45	47	46	46	48	50	N	N	39	47	48	50	N	N
	22	45	47	46	46	48	50	N	N	38	47	48	50	N	N
	23	44	46	45	45	47	50	N	N	37	46	47	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022
	24	39	41	45	44	46	50	N	N	32	46	46	50	N	N
	25	44	46	44	44	46	50	N	N	36	45	46	50	N	N
	26	44	46	44	44	46	50	N	N	37	45	46	50	N	N
	27	43	45	47	46	48	50	N	N	36	48	48	50	N	N
	28	44	46	45	44	46	50	N	N	37	46	47	50	N	N
	29	44	46	45	44	46	50	N	N	36	46	46	50	N	N
	30	43	45	45	44	46	50	N	N	35	46	46	50	N	N
	31	43	45	44	44	46	50	N	N	36	45	46	50	N	N
	32	44	46	43	43	45	50	N	N	37	44	45	50	N	N
	33	44	46	43	44	46	50	N	N	37	45	46	50	N	N
	34	44	46	43	43	45	50	N	N	36	44	45	50	N	N
	35	44	46	43	43	45	50	N	N	36	44	45	50	N	N
	36	44	46	43	43	45	50	N	N	36	44	45	50	N	N
	37	43	45	43	43	45	50	N	N	36	45	46	50	N	N
	38	45	47	43	44	46	50	N	N	38	44	45	50	N	N
	39	45	47	44	44	46	50	N	N	38	45	46	50	N	N
	40	46	48	45	45	47	50	N	N	39	46	47	50	N	N
	41	47	49	46	47	49	50	N	N	41	47	48	50	N	N
	44	43	45	44	44	46	50	N	N	36	46	46	50	N	N
	45	43	45	45	44	46	50	N	N	36	46	46	50	N	N
	46	43	45	43	43	45	50	N	N	36	44	45	50	N	N
	47	43	45	43	43	45	50	N	N	36	44	45	50	N	N
	48	43	45	42	42	44	50	N	N	36	43	44	50	N	N
	49	44	46	42	42	44	50	N	N	37	43	44	50	N	N
	100	46	48	43	44	46	50	N	N	39	44	45	50	N	N
	113	46	48	42	44	46	50	N	N	39	43	44	50	N	N
	114	41	43	42	41	43	50	N	N	34	43	44	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022
	115	44	46	41	42	44	50	N	N	37	42	43	50	N	N
	116	46	48	41	43	45	50	N	N	39	42	44	50	N	N
	146	44	46	43	43	45	50	N	N	37	44	45	50	N	N
	252	45	47	41	42	44	50	N	N	37	42	43	50	N	N
	253	45	47	41	42	44	50	N	N	37	42	43	50	N	N
	254	44	46	41	42	44	50	N	N	49	43	50	50	N	N
	258	44	46	41	42	44	50	N	N	37	42	43	50	N	N
	259	44	46	41	42	44	50	N	N	37	43	44	50	N	N
	260	44	46	42	42	44	50	N	N	37	43	44	50	N	N
	261	45	47	41	42	44	50	N	N	37	42	43	50	N	N
	262	44	46	40	42	44	50	N	N	36	42	43	50	N	N
	263	43	45	40	41	43	50	N	N	35	42	43	50	N	N
	264	43	45	41	41	43	50	N	N	36	42	43	50	N	N
	265	43	45	41	42	44	50	N	N	36	43	44	50	N	N
	266	43	45	42	42	44	50	N	N	36	43	44	50	N	N
	267	44	46	41	42	44	50	N	N	37	42	43	50	N	N
	268	45	47	41	42	44	50	N	N	37	42	43	50	N	N
	269	45	47	41	43	45	50	N	N	37	43	44	50	N	N
	270	45	47	41	42	44	50	N	N	37	42	43	50	N	N
	271	45	47	41	42	44	50	N	N	38	42	43	50	N	N
	272	46	48	41	43	45	50	N	N	39	42	44	50	N	N
	273	46	48	41	43	45	50	N	N	38	42	43	50	N	N
	274	45	47	42	43	45	50	N	N	38	43	44	50	N	N
	275	46	48	41	43	45	50	N	N	38	42	43	50	N	N
	282	44	46	42	42	44	50	N	N	37	43	44	50	N	N
	283	44	46	42	43	45	50	N	N	37	43	44	50	N	N
	284	44	46	42	43	45	50	N	N	37	43	44	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022
	285	45	47	43	43	45	50	N	N	37	44	45	50	N	N
	286	45	47	43	44	46	50	N	N	38	44	45	50	N	N
	287	46	48	43	44	46	50	N	N	38	44	45	50	N	N
	288	46	48	44	45	47	50	N	N	39	45	46	50	N	N
NCA 8	50	56	58	47	47	49	50	N	N	39	47	48	50	N	N
	51	55	57	48	47	49	50	N	N	38	47	48	50	N	N
	52	55	57	49	47	49	50	N	N	37	48	48	50	N	N
	53	51	53	49	48	50	50	N	N	35	50	50	50	N	N
	54	51	53	50	48	50	50	N	N	36	50	50	50	N	N
	55	51	53	49	48	50	50	N	N	36	50	50	50	N	N
	56	54	56	48	47	49	50	N	N	35	49	49	50	N	N
	57	55	57	48	47	49	50	N	N	36	49	49	50	N	N
	58	56	58	48	47	49	50	N	N	37	48	48	50	N	N
	59	51	53	47	46	48	50	N	N	36	48	48	50	N	N
	60	56	58	47	46	48	50	N	N	38	47	48	50	N	N
	61	51	53	48	48	50	50	N	N	41	48	49	50	N	N
	62	58	60	47	48	50	50	N	N	42	46	47	50	N	N
	63	58	60	47	48	50	50	N	N	42	45	47	50	N	N
	64	63	65	52	52	54	50	N	N	45	50	51	50	N	N
	65	60	62	48	53	55	50	N	N	49	46	51	50	N	N
	66	58	60	48	51	53	50	N	N	46	47	50	50	N	N
	67	57	59	46	51	53	50	N	N	46	46	49	50	N	N
	68	61	63	46	56	58	50	N	N	52	45	53	50	N	N
	69	53	55	45	48	50	50	N	N	44	46	48	50	N	N
	70	54	56	44	49	51	50	N	N	44	45	48	50	N	N
	71	56	58	43	51	53	50	N	N	47	44	49	50	N	N
	72	56	58	43	51	53	50	N	N	47	43	48	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y/N?	Acute? (>=60dBA) Design Noise 2022
	73	63	65	43	58	60	50	N	Y	54	43	54	50	N	N
	74	53	55	42	49	51	50	N	N	45	42	47	50	N	N
	75	63	65	42	58	60	50	N	Y	54	42	54	50	N	N
	76	56	58	43	51	53	50	N	N	47	43	48	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
NCA 1	1	57	59	24	57	59	55	N	N	19	59	59	55	N	N
	2	42	44	35	47	49	50	N	N	30	49	49	50	N	N
	3	44	46	35	49	51	50	Y	N	30	51	51	50	Y	N
	4	54	56	55	58	60	50	Y	Y	49	58	59	50	Y	N
	5	50	52	51	60	62	50	Y	Y	45	63	63	50	Y	Y
	6	41	43	40	54	56	50	Y	N	35	57	57	50	Y	N
	7	37	39	36	53	55	50	Y	N	31	56	56	50	Y	N
NCA 2	8	42	44	40	47	49	50	N	N	33	49	49	50	N	N
	9	50	52	49	56	58	50	Y	N	42	57	56	50	Y	N
	10	53	55	53	56	58	50	Y	N	47	55	55	50	Y	N
	11	52	54	42	60	62	50	Y	Y	35	62	62	50	Y	Y
NCA 3	291	57	59	40	52	54	50	N	N	33	54	53	50	N	N
	292	55	57	41	49	51	50	N	N	35	51	50	50	N	N
	293	53	55	39	49	51	50	N	N	33	51	50	50	N	N
	294	53	55	41	48	50	50	N	N	34	50	50	50	N	N
	295	52	54	40	48	50	50	N	N	33	49	49	50	N	N
	296	50	52	39	47	49	50	N	N	32	49	49	50	N	N
	297	50	52	40	47	49	50	N	N	33	48	48	50	N	N
	298	50	52	40	47	49	50	N	N	34	48	48	50	N	N
	580	60	62	45	50	52	50	N	N	38	51	50	50	N	N
	581	51	53	38	48	50	50	N	N	31	50	49	50	N	N
	582	49	51	37	47	49	50	N	N	31	48	48	50	N	N
	583	48	50	38	45	47	50	N	N	32	47	46	50	N	N
	587	52	54	39	49	51	50	N	N	37	51	51	50	N	N
NCA 5	299	45	47	39	43	45	50	N	N	34	43	44	50	N	N
	300	46	48	40	43	45	50	N	N	34	44	44	50	N	N
	301	46	48	41	44	46	50	N	N	35	44	45	50	N	N
	302	47	49	42	45	47	50	N	N	37	45	46	50	N	N
	303	47	49	41	44	46	50	N	N	36	45	45	50	N	N
	304	46	48	41	44	46	50	N	N	36	44	45	50	N	N
	305	45	47	40	43	45	50	N	N	36	42	43	50	N	N
	306	45	47	41	42	44	50	N	N	36	41	42	50	N	N
	307	46	48	42	44	46	50	N	N	38	44	45	50	N	N
	308	48	50	44	46	48	50	N	N	39	46	46	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
	309	48	50	43	45	47	50	N	N	38	45	46	50	N	N
	310	47	49	43	45	47	50	N	N	38	45	46	50	N	N
	311	47	49	43	45	47	50	N	N	38	45	45	50	N	N
	312	45	47	39	43	45	50	N	N	34	44	44	50	N	N
	313	45	47	41	43	45	50	N	N	36	43	43	50	N	N
	314	45	47	40	43	45	50	N	N	35	43	43	50	N	N
	315	45	47	41	43	45	50	N	N	36	43	43	50	N	N
	316	46	48	42	43	45	50	N	N	38	43	44	50	N	N
	317	47	49	43	44	46	50	N	N	38	44	45	50	N	N
	318	46	48	43	45	47	50	N	N	39	44	45	50	N	N
	319	47	49	44	45	47	50	N	N	40	44	45	50	N	N
	320	47	49	43	45	47	50	N	N	39	44	45	50	N	N
	321	47	49	44	45	47	50	N	N	40	44	45	50	N	N
	322	47	49	44	45	47	50	N	N	40	44	45	50	N	N
	323	47	49	43	45	47	50	N	N	39	44	45	50	N	N
	324	47	49	44	45	47	50	N	N	40	45	45	50	N	N
	325	48	50	45	46	48	50	N	N	41	45	46	50	N	N
	326	48	50	44	45	47	50	N	N	40	44	45	50	N	N
	327	50	52	47	47	49	50	N	N	43	45	47	50	N	N
	328	50	52	47	47	49	50	N	N	43	45	47	50	N	N
	329	52	54	49	48	50	50	N	N	45	46	48	50	N	N
	330	49	51	46	46	48	50	N	N	42	45	47	50	N	N
	331	49	51	46	46	48	50	N	N	42	45	47	50	N	N
	332	49	51	46	46	48	50	N	N	42	45	47	50	N	N
	333	48	50	45	46	48	50	N	N	42	45	47	50	N	N
	334	48	50	44	45	47	50	N	N	41	44	46	50	N	N
	335	48	50	45	45	47	50	N	N	41	45	46	50	N	N
	336	50	52	47	47	49	50	N	N	44	46	48	50	N	N
	337	50	52	47	47	49	50	N	N	44	46	48	50	N	N
	338	50	52	47	47	49	50	N	N	44	45	48	50	N	N
	339	49	51	46	46	48	50	N	N	43	45	47	50	N	N
	340	49	51	46	46	48	50	N	N	42	45	47	50	N	N
	341	49	51	45	46	48	50	N	N	42	45	47	50	N	N
	342	50	52	47	47	49	50	N	N	44	45	48	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
	343	52	54	49	48	50	50	N	N	45	46	49	50	N	N
	344	52	54	49	49	51	50	N	N	46	46	49	50	N	N
	345	52	54	49	49	51	50	N	N	46	46	49	50	N	N
	346	51	53	48	48	50	50	N	N	44	46	48	50	N	N
	347	50	52	47	47	49	50	N	N	43	46	47	50	N	N
	348	48	50	45	45	47	50	N	N	42	44	46	50	N	N
	349	47	49	43	44	46	50	N	N	39	44	45	50	N	N
	350	47	49	43	44	46	50	N	N	39	43	44	50	N	N
	351	46	48	43	44	46	50	N	N	39	43	44	50	N	N
	352	48	50	45	45	47	50	N	N	41	44	46	50	N	N
	353	46	48	43	44	46	50	N	N	39	44	44	50	N	N
	354	46	48	42	43	45	50	N	N	38	43	44	50	N	N
	355	45	47	42	43	45	50	N	N	38	43	44	50	N	N
	356	45	47	41	42	44	50	N	N	36	42	42	50	N	N
	357	45	47	41	42	44	50	N	N	37	42	42	50	N	N
	358	45	47	41	43	45	50	N	N	37	44	44	50	N	N
	359	45	47	41	44	46	50	N	N	37	44	45	50	N	N
	360	45	47	41	43	45	50	N	N	37	42	43	50	N	N
	361	45	47	41	43	45	50	N	N	37	43	44	50	N	N
	362	45	47	41	43	45	50	N	N	37	43	44	50	N	N
	363	46	48	42	45	47	50	N	N	37	45	46	50	N	N
	364	47	49	44	46	48	50	N	N	39	46	46	50	N	N
	365	46	48	42	45	47	50	N	N	37	45	46	50	N	N
	366	43	45	39	41	43	50	N	N	35	42	42	50	N	N
	367	44	46	39	43	45	50	N	N	34	44	44	50	N	N
	368	44	46	40	42	44	50	N	N	36	42	43	50	N	N
	369	43	45	39	41	43	50	N	N	36	40	41	50	N	N
	370	51	53	47	48	50	50	N	N	43	47	48	50	N	N
	371	50	52	46	47	49	50	N	N	42	45	47	50	N	N
	372	50	52	46	47	49	50	N	N	43	46	48	50	N	N
	373	49	51	46	47	49	50	N	N	42	46	47	50	N	N
	374	49	51	45	46	48	50	N	N	41	46	47	50	N	N
	375	49	51	45	46	48	50	N	N	41	46	47	50	N	N
	376	49	51	45	46	48	50	N	N	41	46	47	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
	377	50	52	47	47	49	50	N	N	43	46	48	50	N	N
	378	51	53	48	48	50	50	N	N	44	46	48	50	N	N
	379	50	52	47	47	49	50	N	N	42	46	47	50	N	N
	380	48	50	44	45	47	50	N	N	40	43	45	50	N	N
	381	52	54	49	49	51	50	N	N	45	47	49	50	N	N
	382	53	55	50	49	51	50	N	N	46	47	50	50	N	N
	383	53	55	50	50	52	50	N	N	46	47	50	50	N	N
	384	51	53	48	48	50	50	N	N	44	47	48	50	N	N
	385	51	53	48	48	50	50	N	N	44	46	48	50	N	N
	386	51	53	48	48	50	50	N	N	44	46	48	50	N	N
	387	51	53	48	48	50	50	N	N	44	46	48	50	N	N
	388	52	54	49	49	51	50	N	N	45	46	49	50	N	N
	389	52	54	49	49	51	50	N	N	45	46	49	50	N	N
	390	51	53	48	47	49	50	N	N	44	45	48	50	N	N
	391	51	53	47	47	49	50	N	N	44	45	48	50	N	N
	392	48	50	45	46	48	50	N	N	41	45	46	50	N	N
	393	48	50	45	45	47	50	N	N	41	44	46	50	N	N
	394	49	51	46	46	48	50	N	N	42	46	47	50	N	N
	395	52	54	49	49	51	50	N	N	45	46	49	50	N	N
	396	53	55	50	49	51	50	N	N	46	46	49	50	N	N
	397	53	55	50	50	52	50	N	N	47	47	50	50	N	N
	398	54	56	51	50	52	50	N	N	47	46	50	50	N	N
	399	51	53	48	49	51	50	N	N	43	48	48	50	N	N
	400	51	53	47	48	50	50	N	N	42	48	48	50	N	N
	401	51	53	47	48	50	50	N	N	42	48	49	50	N	N
	402	51	53	47	48	50	50	N	N	42	48	48	50	N	N
	403	52	54	48	49	51	50	N	N	43	49	49	50	N	N
	404	51	53	46	48	50	50	N	N	41	48	49	50	N	N
	405	49	51	44	47	49	50	N	N	39	48	49	50	N	N
	406	50	52	45	48	50	50	N	N	40	48	49	50	N	N
	407	49	51	44	48	50	50	N	N	39	49	49	50	N	N
	408	51	53	45	49	51	50	N	N	40	49	50	50	N	N
	409	52	54	48	50	52	50	N	N	42	49	50	50	N	N
	410	53	55	48	51	53	50	N	N	43	50	51	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
	411	65	67	62	60	62	50	N	Y	57	50	58	50	N	N
	412	62	64	58	57	59	50	N	N	53	50	55	50	N	N
	413	56	58	52	52	54	50	N	N	47	50	51	50	N	N
	414	55	57	51	51	53	50	N	N	46	49	51	50	N	N
	415	55	57	52	52	54	50	N	N	46	49	51	50	N	N
	416	53	55	49	50	52	50	N	N	44	49	49	50	N	N
	417	55	57	51	51	53	50	N	N	46	48	50	50	N	N
	418	54	56	50	50	52	50	N	N	45	48	50	50	N	N
	419	63	65	60	59	61	50	N	Y	55	51	56	50	N	N
	420	64	66	61	59	61	50	N	Y	56	51	57	50	N	N
	421	55	57	51	52	54	50	N	N	45	50	51	50	N	N
	422	56	58	51	52	54	50	N	N	46	51	51	50	N	N
	423	53	55	47	51	53	50	N	N	42	51	51	50	N	N
	424	50	52	41	49	51	50	N	N	36	49	49	50	N	N
	425	51	53	46	49	51	50	N	N	41	50	50	50	N	N
	426	50	52	43	49	51	50	N	N	38	49	49	50	N	N
	427	49	51	43	48	50	50	N	N	38	49	49	50	N	N
	428	48	50	43	47	49	50	N	N	38	48	48	50	N	N
	429	48	50	42	47	49	50	N	N	37	48	47	50	N	N
	430	47	49	41	46	48	50	N	N	37	47	47	50	N	N
	431	44	46	40	43	45	50	N	N	35	43	44	50	N	N
	432	46	48	41	44	46	50	N	N	36	46	46	50	N	N
	433	48	50	42	48	50	50	N	N	37	49	49	50	N	N
	434	54	56	46	52	54	50	N	N	41	52	52	50	N	N
	435	47	49	42	47	49	50	N	N	37	48	48	50	N	N
	436	46	48	40	46	48	50	N	N	36	47	46	50	N	N
	437	45	47	39	45	47	50	N	N	35	46	46	50	N	N
	438	45	47	39	45	47	50	N	N	35	46	46	50	N	N
	439	45	47	39	45	47	50	N	N	35	46	46	50	N	N
	440	45	47	40	45	47	50	N	N	35	47	46	50	N	N
	441	45	47	40	45	47	50	N	N	35	46	46	50	N	N
	442	45	47	40	45	47	50	N	N	36	46	46	50	N	N
	443	44	46	39	43	45	50	N	N	34	45	44	50	N	N
	444	45	47	39	45	47	50	N	N	35	46	46	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
	445	45	47	39	45	47	50	N	N	35	46	45	50	N	N
	446	45	47	39	45	47	50	N	N	34	46	46	50	N	N
	447	43	45	37	43	45	50	N	N	33	44	44	50	N	N
	449	45	47	38	45	47	50	N	N	34	46	46	50	N	N
	450	43	45	37	43	45	50	N	N	32	44	44	50	N	N
	451	63	65	60	58	60	50	N	Y	54	49	55	50	N	N
	452	63	65	60	58	60	50	N	Y	54	49	55	50	N	N
	453	64	66	61	59	61	50	N	Y	55	49	56	50	N	N
	454	56	58	53	52	54	50	N	N	48	49	51	50	N	N
	455	54	56	51	51	53	50	N	N	46	48	50	50	N	N
	456	53	55	49	49	51	50	N	N	44	48	49	50	N	N
	457	55	57	52	51	53	50	N	N	47	48	50	50	N	N
	458	64	66	61	60	62	50	N	Y	58	48	58	50	N	N
	459	64	66	62	60	62	50	N	Y	58	47	58	50	N	N
	460	66	68	63	61	63	50	N	Y	59	47	59	50	N	N
	461	66	68	63	62	64	50	N	Y	60	46	60	50	N	Y
	462	65	67	62	61	63	50	N	Y	59	47	59	50	N	N
	463	65	67	62	60	62	50	N	Y	59	47	59	50	N	N
	464	64	66	61	60	62	50	N	Y	58	47	58	50	N	N
	465	54	56	51	51	53	50	N	N	48	47	50	50	N	N
	466	54	56	51	51	53	50	N	N	48	47	50	50	N	N
	467	54	56	51	51	53	50	N	N	47	47	50	50	N	N
	468	54	56	51	50	52	50	N	N	47	47	50	50	N	N
	469	54	56	51	50	52	50	N	N	47	47	50	50	N	N
	470	56	58	53	52	54	50	N	N	48	48	51	50	N	N
	471	55	57	53	51	53	50	N	N	49	47	51	50	N	N
	472	56	58	53	52	54	50	N	N	49	47	51	50	N	N
	473	56	58	53	52	54	50	N	N	49	47	51	50	N	N
	474	56	58	53	52	54	50	N	N	50	47	51	50	N	N
	475	56	58	53	52	54	50	N	N	50	47	51	50	N	N
	476	56	58	53	52	54	50	N	N	50	47	51	50	N	N
	477	56	58	53	52	54	50	N	N	50	47	51	50	N	N
	478	56	58	53	52	54	50	N	N	49	47	51	50	N	N
	479	56	58	54	52	54	50	N	N	50	45	51	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
	480	58	60	55	54	56	50	N	N	52	47	53	50	N	N
	481	53	55	50	50	52	50	N	N	47	46	50	50	N	N
	482	53	55	50	49	51	50	N	N	46	46	49	50	N	N
	483	53	55	50	49	51	50	N	N	46	46	49	50	N	N
	484	53	55	50	49	51	50	N	N	46	46	49	50	N	N
	485	54	56	51	50	52	50	N	N	47	46	50	50	N	N
	486	54	56	51	50	52	50	N	N	47	46	50	50	N	N
	487	54	56	51	50	52	50	N	N	47	46	50	50	N	N
	488	53	55	50	49	51	50	N	N	46	46	49	50	N	N
	489	53	55	50	50	52	50	N	N	47	47	50	50	N	N
	490	51	53	48	48	50	50	N	N	44	46	48	50	N	N
	491	49	51	46	46	48	50	N	N	42	45	47	50	N	N
	492	50	52	47	47	49	50	N	N	43	45	47	50	N	N
	493	50	52	47	47	49	50	N	N	43	45	47	50	N	N
	494	49	51	46	47	49	50	N	N	42	45	47	50	N	N
	495	49	51	46	47	49	50	N	N	42	45	47	50	N	N
	496	49	51	46	47	49	50	N	N	42	45	47	50	N	N
	497	48	50	44	45	47	50	N	N	40	44	45	50	N	N
	498	48	50	44	45	47	50	N	N	40	44	45	50	N	N
	499	48	50	45	45	47	50	N	N	41	44	46	50	N	N
	500	48	50	44	45	47	50	N	N	40	44	45	50	N	N
	501	48	50	44	45	47	50	N	N	40	44	45	50	N	N
	502	48	50	44	45	47	50	N	N	40	45	45	50	N	N
	503	50	52	47	47	49	50	N	N	43	46	47	50	N	N
	504	51	53	47	48	50	50	N	N	43	46	48	50	N	N
	505	49	51	46	47	49	50	N	N	42	46	47	50	N	N
	506	52	54	49	49	51	50	N	N	46	46	49	50	N	N
	507	56	58	54	52	54	50	N	N	50	47	51	50	N	N
	509	51	53	47	48	50	50	N	N	43	46	48	50	N	N
	510	50	52	46	47	49	50	N	N	42	46	47	50	N	N
	511	50	52	46	47	49	50	N	N	42	46	47	50	N	N
	512	50	52	46	47	49	50	N	N	42	46	47	50	N	N
	513	50	52	46	47	49	50	N	N	42	46	47	50	N	N
	514	50	52	46	47	49	50	N	N	42	46	47	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
	515	49	51	45	47	49	50	N	N	41	46	46	50	N	N
	516	49	51	45	46	48	50	N	N	41	46	46	50	N	N
	517	48	50	45	46	48	50	N	N	41	45	46	50	N	N
	518	49	51	45	46	48	50	N	N	41	45	46	50	N	N
	519	48	50	45	46	48	50	N	N	40	45	46	50	N	N
	520	48	50	44	46	48	50	N	N	40	45	46	50	N	N
	521	48	50	45	46	48	50	N	N	41	45	46	50	N	N
	522	49	51	46	46	48	50	N	N	42	45	47	50	N	N
	523	48	50	44	45	47	50	N	N	40	45	46	50	N	N
	524	48	50	44	45	47	50	N	N	39	45	46	50	N	N
	525	48	50	44	45	47	50	N	N	40	45	46	50	N	N
	526	47	49	44	45	47	50	N	N	40	45	46	50	N	N
	527	47	49	44	45	47	50	N	N	39	45	45	50	N	N
	528	47	49	44	45	47	50	N	N	39	45	45	50	N	N
	529	48	50	45	46	48	50	N	N	41	45	46	50	N	N
	530	47	49	43	44	46	50	N	N	39	44	45	50	N	N
	531	47	49	43	45	47	50	N	N	39	44	45	50	N	N
	532	46	48	43	44	46	50	N	N	39	44	45	50	N	N
	533	47	49	43	45	47	50	N	N	39	45	45	50	N	N
	534	47	49	43	45	47	50	N	N	39	45	45	50	N	N
	535	47	49	43	44	46	50	N	N	38	44	45	50	N	N
	536	47	49	44	45	47	50	N	N	39	45	46	50	N	N
	537	47	49	43	45	47	50	N	N	39	44	45	50	N	N
	538	46	48	42	43	45	50	N	N	37	43	43	50	N	N
	539	47	49	43	45	47	50	N	N	39	44	45	50	N	N
	540	50	52	46	47	49	50	N	N	41	47	47	50	N	N
	541	51	53	48	49	51	50	N	N	43	47	48	50	N	N
	542	50	52	46	47	49	50	N	N	41	46	47	50	N	N
	543	50	52	45	47	49	50	N	N	41	46	47	50	N	N
	544	48	50	45	46	48	50	N	N	41	45	46	50	N	N
	545	49	51	45	46	48	50	N	N	40	46	47	50	N	N
	546	49	51	45	46	48	50	N	N	40	46	47	50	N	N
	547	50	52	46	47	49	50	N	N	41	46	47	50	N	N
	548	49	51	45	47	49	50	N	N	40	46	47	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
	549	52	54	49	49	51	50	N	N	44	47	49	50	N	N
	550	51	53	47	48	50	50	N	N	42	47	48	50	N	N
	551	50	52	47	48	50	50	N	N	42	47	47	50	N	N
	552	51	53	48	48	50	50	N	N	44	46	48	50	N	N
	553	54	56	50	50	52	50	N	N	47	47	50	50	N	N
	554	53	55	50	50	52	50	N	N	46	47	50	50	N	N
	555	53	55	50	50	52	50	N	N	46	47	50	50	N	N
	556	53	55	50	50	52	50	N	N	46	47	50	50	N	N
	557	53	55	50	50	52	50	N	N	46	47	49	50	N	N
	558	53	55	50	50	52	50	N	N	46	47	49	50	N	N
	559	53	55	50	50	52	50	N	N	46	47	50	50	N	N
	560	53	55	50	49	51	50	N	N	46	47	49	50	N	N
	561	54	56	51	50	52	50	N	N	47	47	50	50	N	N
	562	53	55	51	50	52	50	N	N	47	47	50	50	N	N
	563	53	55	50	49	51	50	N	N	46	46	49	50	N	N
	564	57	59	54	53	55	50	N	N	50	48	52	50	N	N
	565	56	58	53	52	54	50	N	N	49	47	51	50	N	N
	566	56	58	53	52	54	50	N	N	50	47	52	50	N	N
	567	47	49	44	45	47	50	N	N	39	45	46	50	N	N
	568	48	50	43	45	47	50	N	N	39	45	45	50	N	N
	569	48	50	43	45	47	50	N	N	38	45	45	50	N	N
	570	48	50	43	45	47	50	N	N	38	45	46	50	N	N
	571	48	50	43	46	48	50	N	N	38	46	46	50	N	N
	572	49	51	44	46	48	50	N	N	39	46	47	50	N	N
	573	49	51	45	47	49	50	N	N	40	46	47	50	N	N
	574	60	62	57	55	57	50	N	N	53	48	54	50	N	N
	575	57	59	54	53	55	50	N	N	50	48	52	50	N	N
	576	58	60	55	55	57	50	N	N	51	49	53	50	N	N
	577	59	61	52	53	55	50	N	N	46	50	51	50	N	N
	578	60	62	50	52	54	50	N	N	44	50	51	50	N	N
	579	56	58	47	50	52	50	N	N	41	49	50	50	N	N
NCA 9	448	42	44	38	41	43	50	N	N	33	41	42	50	N	N
	584	43	45	37	41	43	50	N	N	32	41	42	50	N	N
	585	40	42	35	39	41	50	N	N	31	40	41	50	N	N

				High Diversion Traffic Scenario						90% Diversion Traffic Scenario					
NCA	Receiver No.	Future Existing Level 2012	Do Nothing Level 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022	Hume Highway 2022 (with bypass)	Bypass 2022	Combined Hume Hwy and Bypasss 2022	Night Base Criterion	Mitigation required Y / N?	Acute? (>=60dBA) Design Noise 2022
	586	40	42	34	39	41	50	N	N	30	41	40	50	N	N
	588	42	44	36	36	38	50	N	N	31	32	34	50	N	N
	589	38	40	31	38	40	50	N	N	27	39	38	50	N	N
	594	37	39	27	36	38	50	N	N	23	37	37	50	N	N
	596	37	39	29	34	36	50	N	N	25	34	35	50	N	N
	597	32	34	27	28	30	50	N	N	22	23	26	50	N	N
	598	30	32	24	26	28	50	N	N	18	21	22	50	N	N
	599	39	41	31	39	41	50	N	N	27	41	40	50	N	N
	600	38	40	30	38	40	50	N	N	26	39	39	50	N	N
NCA 10	289	48	50	33	50	52	55	N	N	28	51	51	55	N	N
	290	48	50	34	49	51	55	N	N	30	51	51	55	N	N