



**Planning &
Environment**

**MODIFICATION REQUEST:
*WestConnex M4 Widening - Modification 1***

***Cycleway Diversion of the Homebush Bay
Drive Interchange
SSI 6148 (MOD 1)***



Secretary's Environmental Assessment Report
Section 115ZI of the
Environmental Planning and Assessment Act
1979

July 2015

Cover Photo — Artist's Impression of Homebush Bay Drive On-Ramp (Source: EIS)

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1. BACKGROUND

The WestConnex Delivery Authority (the Proponent) on behalf of Roads and Maritime Services (RMS) has submitted a request to modify the WestConnex M4 Widening State significant infrastructure approval. The project was approved on 21 December 2014 by the then Minister for Planning under section 115ZB of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The M4 Widening is the first stage of the 34 kilometre long WestConnex motorway to be constructed between Parramatta and Beverly Hills via the inner western and inner southern suburbs of Sydney. The approved project involves the widening and upgrading of approximately 7.5 kilometres of the existing M4 Motorway corridor between Pitt Street, Parramatta and Homebush Bay Drive, Homebush West including:

- the construction of a two lane viaduct for westbound traffic between Church St, Parramatta and Wentworth St, Granville;
- new on-ramps at Homebush Bay Drive, Homebush and Hill St, Lidcombe; and
- upgrading of the existing ramps at Church St, James Ruse Drive, Silverwater Rd, Homebush Bay Drive and Hill Road.

The approved project maintained the current arrangements for cyclists which comprises use of the 2.5 metre outside shoulder of the Motorway along both the eastbound and westbound directions.

Construction of the project commenced in March 2015 and is expected to be completed by 2017. The project location and approved alignment is shown at **Figure 1**.

2. PROPOSED MODIFICATION

Under the approved project, no road shoulders are proposed between the on- and off-ramps at the Homebush Bay Drive Interchange as the shoulders are required to accommodate road widening works. This would create potential safety conflicts between cyclists and motorists in this location. To ensure the safety of cyclists, the Proponent has submitted a request under section 115ZI of the EP&A Act to construct a permanent off-road cycleway within the vicinity of the Interchange.

The off-road cycleway would have an asphalt surfacing and be approximately 551 metres in length and 2 metres in width. It would diverge from the M4 Motorway shoulder via the westbound vehicle off-ramp to Homebush Bay Drive, continuing under the Homebush Bay Drive Bridge, and re-joining the motorway at the westbound on-ramp to the M4 Motorway from Homebush Bay Drive. The cycleway is to be used by cyclists only. It is not intended to be a shared path as it is replacing an existing section of on-road cycleway where pedestrian access is prohibited. The proposed off-road cycleway alignment is illustrated in **Figure 2**.

Fencing is proposed to be installed along the cycleway for safety purposes. Lighting would be provided in accordance with the relevant standards and guidelines. Landscaping will comprise occasional tree plantings along the edge of the cycleway for shade and amenity.

The estimated earthworks volumes required to construct the cycleway include approximately 500 cubic metres of cut material and 2,000 cubic metres of fill material. The actual earthworks quantities are indicative at this stage, and will be refined during detailed design. An 80 metre long retaining wall is required on the northern side of the cycleway, to the east of the Homebush Bay Drive bridge. The retaining wall is proposed to be a maximum of 2.5 metres in height and comprise a rock-filled gabion wall.

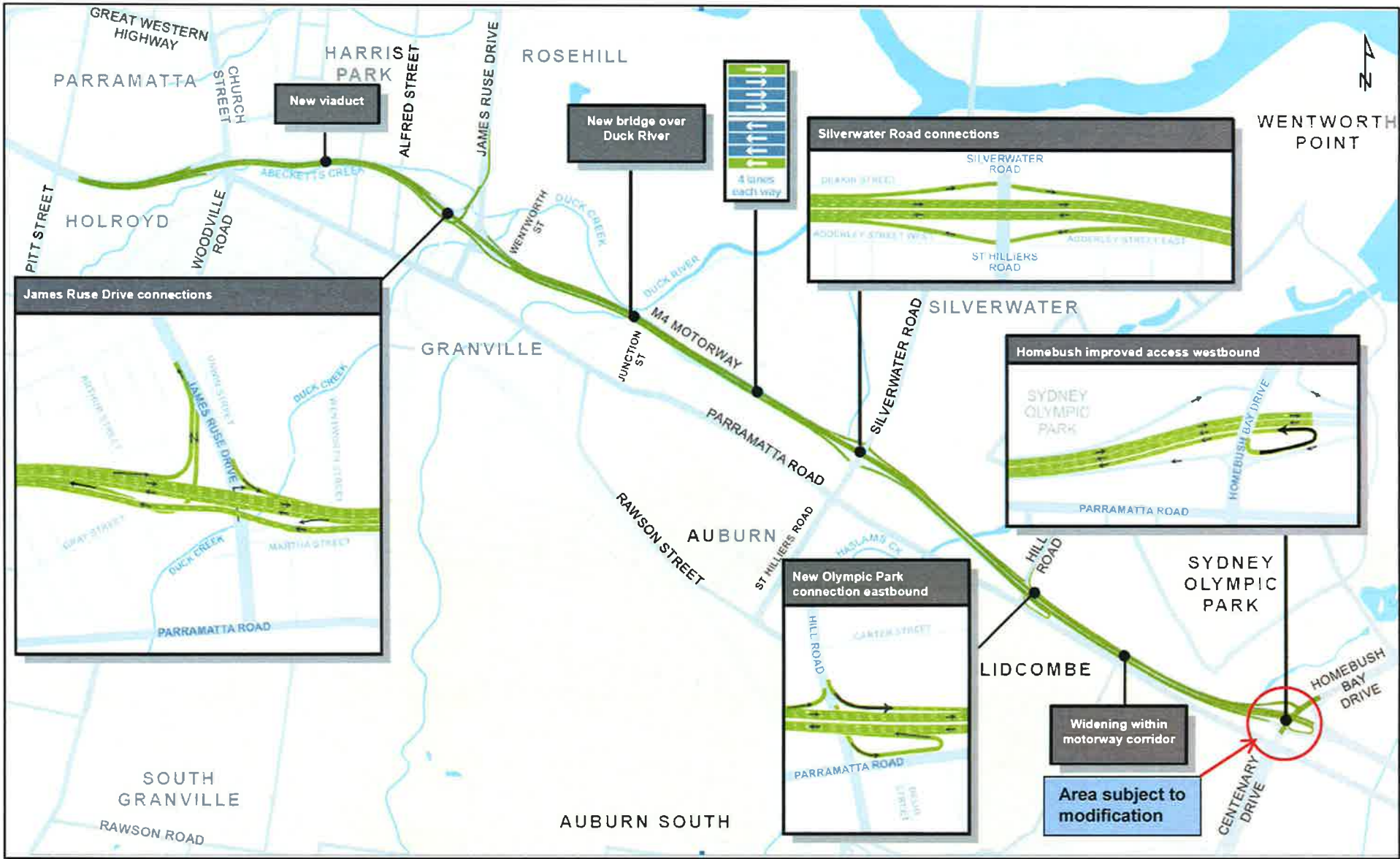


Figure 1 - M4 Widening Project Alignment and Location of Proposed Modification (Source: Proponent's Modification Report)

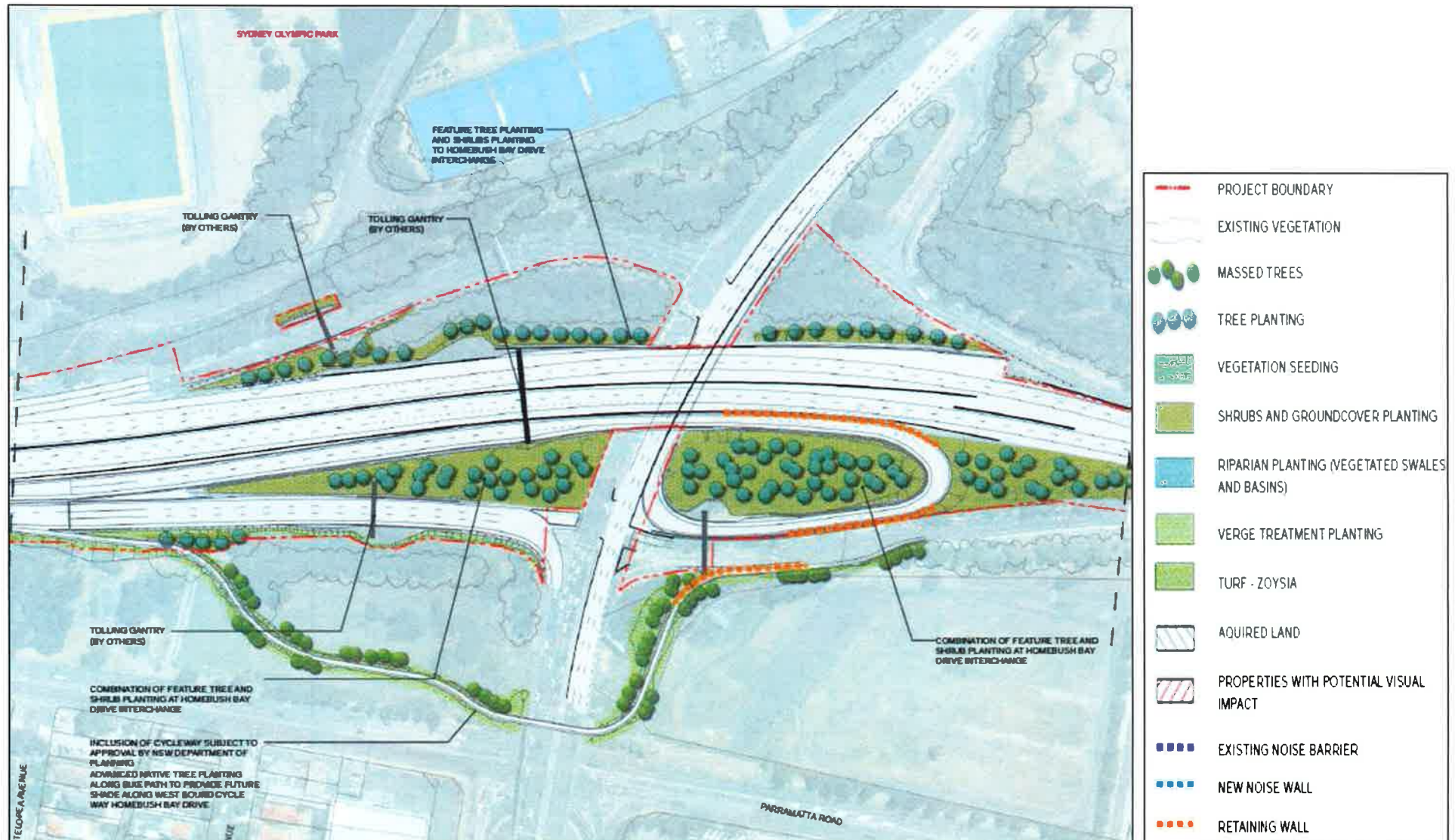


Figure 2 – Proposed Off-Road Cycleway Alignment at the Homebush Bay Drive Interchange with the M4 Motorway (Source: Proponent's Modification Report)

The proposed cycleway would be constructed within the Auburn and Strathfield local government areas on land owned by the RMS within the existing road corridor between the M4 Motorway to the north and Parramatta Road to the south. The land is currently unused.

To the east of the proposed cycleway location is land owned by the Sydney Olympic Park Authority. This land is currently leased to the RMS as a temporary compound site for construction of the M4 Widening project but was previously used for parking, storage and maintenance activities. Further east is a small pocket of residential properties identified under the *Strathfield Local Environmental Plan 2012* as being of local heritage significance. Land uses immediately south of Parramatta Road and opposite the proposed cycleway consist primarily of commercial and retail uses, with residential properties located further to the south-west.

3. STATUTORY CONTEXT

3.1 Modification of the Minister's Approval

In accordance with Section 115ZI of the EP&A Act, a Proponent may request the Minister to modify the Minister's approval for State significant infrastructure. The Minister's approval for a modification is not required if the infrastructure as modified will be consistent with the existing approval. The proposed realignment of the westbound cycleway off-road is not entirely consistent with the existing approval. Consequently, modification of the Minister's approval under Section 115ZI of the EP&A Act is required.

3.2 Delegated Authority

Under the Instrument of Delegation dated 16 February 2015, the functions and powers of the Minister for Planning to determine a modification of the Minister's approval may be delegated to the Director – Infrastructure Projects, whereby:

- the relevant local council has not made an objection;
- a political disclosure statement has not been made; and
- there are no public submissions in the nature of objections.

The modification request was referred to both Auburn City Council and Strathfield Council, both of whom did not object to the proposed modification. A political disclosure statement has not been made, and no public submissions in the nature of objections were received. Accordingly, the Director – Infrastructure Projects, is delegated the authority to determine the modification request.

4. CONSULTATION AND SUBMISSIONS

4.1 Public Notification

Under Section 115ZL(1)(g) of the EP&A Act, the Secretary is required to make the modification request publicly available. Accordingly, the Department placed a copy of the modification request on its website and notified the Environment Protection Authority (EPA), Auburn City Council, Strathfield Council, Sydney Olympic Park Authority and Bicycle NSW.

Comments were received from the EPA, Auburn City and Strathfield Councils and Bicycle NSW. A summary of the issues raised is provided below. No objections to the modification request were received.

4.2 Submissions

The **EPA** indicated that it supported the findings and recommendations in the noise impact assessment and advised that the modification for the cycleway will be administered through the existing Environment Protection Licence for the M4 Widening Project.

Auburn City Council indicated in-principle support for the project and made recommendations on the grade of the cycleway and for it to avoid a nearby low drainage point. It also recommended that the path width be increased to three metres and that the path connect to Parramatta Road.

Strathfield Council sought clarification that the cycleway has the capacity to accommodate increased usage.

Bicycle NSW suggested that the cycleway path width be increased to three metres, grades be minimised and that ramps be provide to and from Parramatta Road.

5. ASSESSMENT

The Department has assessed the following key issues associated with the proposed modification:

- safety and connectivity;
- noise and vibration; and
- biodiversity.

5.1 Safety and Connectivity

Cyclists currently use the 2.5 metre wide outside shoulders of the M4 Motorway to travel in both eastbound and westbound directions (except between Church Street, Parramatta and Silverwater Road, Auburn where cyclists are prohibited from the Motorway and are directed to a dedicated off-road cycleway). The approved WestConnex M4 widening project includes removal of the existing westbound road shoulders between the off- and on-ramps at the interchange with Homebush Bay Drive. Modification of the approved westbound cycling arrangement is, therefore, proposed in order to eliminate potential safety conflicts for both cyclists and motorists at this location. It is noted that eastbound cyclists will continue to use the existing M4 Motorway shoulder.

Department's Consideration

The Department supports the separation of transport modes in areas of high-speed and high-volume traffic conditions, such as that experienced on the M4 Motorway. The proposed modification will improve the safety of both cyclists and motorists through the elimination of potential interactions between these two road users in the vicinity of the Homebush Bay Drive Interchange. Whilst the Department supports the proposed modification in principle, recommendations are proposed in order to ensure continued cyclist safety and cycleway connectivity as discussed below.

Cyclist Safety

The changes proposed to the existing cycling arrangement in the vicinity of Homebush Bay Drive may be temporarily confusing, particularly for cyclists who regularly use the M4 Motorway shoulders in this vicinity. As such, the Department recommends the Proponent be required to install permanent signage to alert cyclists of the changed cycling conditions, and to provide directions for access to the off-road cycleway, and has recommended a condition to this effect. The recommended condition also requires the signage to advise that cyclists are prohibited on the Motorway in this vicinity.

The Department also recommends that the infrastructure approval be amended to include a condition requiring the Proponent to conduct a Bicycle Road Safety Audit to assess the safety performance of the proposed off-road cycleway. The Audit is required to be undertaken by an appropriately qualified person during the detailed design phase to ensure the relevant guidelines and safety standards are achieved as part of the design.

Auburn City Council and Bicycle NSW requested the proposed cycleway be widened from two metres to three metres to cater for passing riders and build capacity for future use. The Department, however, considers the proposed width of two metres provides adequate space for cyclists given it will cater for one-way (westbound) cycle traffic only and provides adequate space for overtaking. The proposed path width is consistent with the document *Guide to Road Design: Part 6A Pedestrian and Cyclist Paths* (Austroads, 2009) which recommends a one-way path width of 1.2 metres to two metres. Consequently, the Department has not adopted Auburn City Council's and Bicycle NSW suggested path width.

Auburn City Council and Bicycle NSW also recommended that consideration be given minimising the grade of the ramp to the Motorway and ensuring that the route avoid the drainage pit and low point around chainage 200 as the path could otherwise be subject to flooding, creating a potential hazard for cyclists. The modification report submitted by RMS indicates that it will refine the gradients and route in the vicinity of the depression and drainage pit during the detailed design. The Bicycle Road Safety Audit recommended by the Department would provide a mechanism for ensuring that this commitment has been adequately addressed.

Condition B14 of the infrastructure approval requires that the design of new or modified cycle infrastructure meets the requirements of the relevant design, engineering and safety guidelines. The Department is of the opinion that this requirement, supplemented with the recommendation for a Bicycle Road Safety Audit, will ensure that the cycleway provides safe access for cyclists.

Crime Prevention

The Department considers opportunities to minimise crime risk, including vandalism and other anti-social behaviours, should be incorporated as part of the cycleway design. Condition B26 of the approval requires the Proponent to prepare and implement an Urban Design and Landscape Plan (UDLP) which is required to include community safety, amenity, and 'safer by design' principles. The UDLP is required to be submitted to the Department for approval. The Department considers that this condition can accommodate the integration of crime prevention through environmental design principles into the design of the proposed cycleway.

Connectivity

Both Auburn City Council and Bicycle NSW recommended that the cycleway provide for connectivity with Parramatta Road. The Department does not support the inclusion of informal access to and from the off-road cycleway from Parramatta Road given there is no formal provision for cyclist and pedestrian paths on the northern side of Parramatta Road. Furthermore, the Department considers that provision of such a connection would increase the risk of pedestrians entering the off-road cycleway diversion from Parramatta Road, with subsequent access to the M4 carriageway. Until such time the cycle infrastructure is formalised in the local area, access or egress opportunities to Parramatta Road should be discouraged. However, it is considered the cycleway design should not preclude future formal access or egress points being established at this location. Consequently the Department has recommended that condition B14 of the infrastructure approval be modified to include that the project is designed so as not to preclude future connectivity of the off-road cycleway diversion with future cycleways.

5.2 Noise and Vibration

Construction of the proposed cycleway will occur outside of the construction footprint identified in Environmental Impact Statement (EIS). This will result in construction activities occurring in closer proximity to residential areas than originally assessed, with the potential for increased noise and vibration impacts. Consequently, the Proponent undertook a construction noise and vibration impact assessment to assess construction noise and vibration impacts on surrounding receivers in accordance with the *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009).

The noise assessment established construction Noise Management Levels (NMLs) for three separate Noise Catchment Areas (NCAs) in proximity to the proposed cycleway. The NMLs have been established on the basis of rating background level (RBL) measurements determined as part of the EIS. The NCAs are identified in **Figure 3**.



Figure 3: Noise Catchment Areas Adjoining the Homebush Bay Drive Interchange (Source: CNIA)

Site clearing and bulk earthworks are predicted to be the highest noise-producing construction activities, with minor NML exceedances predicted to occur at three separate locations during these works. The predicted levels of exceedance are outlined in **Table 1**.

The predicted noise levels indicate a worst-case exceedance of 3 dB(A) above the NML at a single residential receiver in NCA 04 and this is attributable to clearing activities. No exceedances of the NMLs are predicted for other construction-related activities associated with the off-road cycleway.

The noise and vibration assessment concluded that construction works are unlikely to exceed vibration criteria as the use of vibration intensive plant and equipment would be outside of the safe working distances recommended for cosmetic damage and human response.

The EPA did not raise any issues in relation to construction noise or vibration impacts associated with the proposed modification.

Table 1: Predicted Noise Levels during Site Clearing and Bulk Earthworks Works – Proposed Cycleway Diversion (Source: Proponent's CNIA)

NCA No. and Land Use	Worst-Case Predicted Noise Level during Site Clearing and Bulk Earthworks (dBA)	Noise Management Level (NML) – Standard Daytime Construction Hours (RBL +10dBA)	NML Exceedance (dBA)
NCA 02 (Commercial)	72	70	2
NCA 02 (Outdoor Active)	59	65	-
NCA 02 (Outdoor Passive)	52	60	-
NCA 02 (Commercial)	71	70	1
NCA 03 (Residential)	61	66	-
NCA 04 (Commercial)	62	70	-
NCA 04 (Residential)	69	66	3

Department's Consideration

The Department considers the predicted NML exceedances during site clearing and bulk earthworks are negligible, particularly given the site location in a highly urbanised environment and adjacent highly trafficked Parramatta Road and the M4 Motorway. Consequently, the Department considers this noise impact to be acceptable.

The Department concurs with the conclusions of the noise and vibration assessment that works associated with construction of the cycleway are unlikely to produce significant noise or vibration impacts on surrounding receivers. Furthermore, works are proposed to be undertaken during standard daytime construction hours, and therefore, will not exceed the sleep disturbance criteria. Should out-of-hours works be required, these will be undertaken in accordance with the construction contractor's Environment Protection Licence (EPL 20567).

The EPA recommended that the mitigation measures outlined in the noise and vibration assessment be included in the conditions of approval. These measures are already incorporated into the approved Construction Noise and Vibration Management Plan (which forms part of the approved Construction Environmental Management Plan (CEMP)) for the project. Furthermore, the approved Construction Noise and Vibration Management Plan includes other measures that would be implemented to minimise and manage construction noise and vibration impacts on nearby sensitive receivers. The Department is satisfied the mitigation measures approved under the Construction Noise and Vibration Management Plan will effectively minimise any construction noise impacts.

In regards to operational impacts, the Department is satisfied the proposed cycleway will comply with the project's operational noise goals specified in the EIS.

5.3 Biodiversity

Construction of the modified cycleway will impact on an additional 747 square metres of planted and remnant vegetation beyond the level of impact identified in the EIS. **Table 2** outlines the impacted vegetation types and corresponding amounts to be disturbed as a result of the proposed off-road cycleway.

Table 2: Proposed Vegetation Clearing Amounts (Source: Proponent's Modification Report)

Vegetation Type	Conservation Status	Condition	Area Impacted by Proposed Modification
Freshwater Drainage Lines (EEC)	Endangered – TSC Act	Low	3 m ²
Planted Monocultures – Spotted Gum	None	Low	168 m ²
Mixed Plantings	None	Low	388 m ²
Exotic Vegetation	None	Very Low	188 m ²
		Total	747 m²

The existing vegetation in the area of the proposed cycleway diversion is identified in the EIS to be of 'low' or 'very low' quality due to its highly modified nature. Conservation status applies only to the vegetation mapping unit referenced 'Freshwater Drainage Lines'. This community is commensurate with the *Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregion* which is listed as an endangered ecological community (EEC) under Schedule 1 of the *NSW Threatened Species Conservation Act 1995*. This vegetation type occurs in thin strips along modified drainage lines. The proposed off-road cycleway will result in the disturbance of three square metres of this vegetation.

The EIS included an Assessment of Significance of the impact of the M4 Widening project on the existing Freshwater Drainage Lines EEC across the entire project area. It was determined that the project was unlikely to have a significant impact. **Figure 4** shows the location of the existing EEC vegetation.

Department's Consideration

The Department considers the overall impact to vegetation comprising Freshwater Drainage Lines EEC to be minor as only three square metres would be impacted and the vegetation to be effected is considered to be of low quality as it is highly disturbed and degraded and of low habitat condition.

Condition D24 of the infrastructure approval requires the Proponent to develop and implement a Biodiversity Offset Package consistent with the *NSW Principles for the Use of Biodiversity Offsets in NSW* (Department of Environment, Climate Change and Water, 2008) and that it be aligned (where feasible and reasonable) with the requirements of the *NSW Biodiversity Offsets Policy for Major Projects* (OEH, 2014). The Biodiversity Offset Package is required to identify the extent and types of habitat that would be lost or degraded as a result of the project, and outline a final suite of secured biodiversity offset measures to compensate for the loss of existing vegetation. Should the modification be approved, the Proponent has committed to offsetting the three square metres of EEC impacted as a result of the off-road cycleway as part of the Offset Package.

In regards to the remaining 744 square metres of vegetation to be disturbed as a result of the modification, the Department acknowledges that these vegetation types do not have conservation status, and are also highly degraded and of low quality condition. Furthermore, the approved CEMP includes a Construction Flora and Fauna Management Plan which outlines measures to ensure construction related impacts to vegetation communities are appropriately minimised and managed.



Figure 4: Location of Freshwater Drainage Lines EEC (Source: EIS)

The Department is satisfied that the ecological impacts associated with the proposed off-road cycleway can be satisfactorily managed through implementation of the management and mitigation measures set out in the Construction Flora and Fauna Management Plan and can be appropriately offset as part of the Biodiversity Offset Package.

5.4 Other Issues

Visual Amenity and Landscaping

The area subject to the proposed modification is identified as being within Zone 7 – Olympic Park in the *Urban Design Concept, Landscape Character and Visual Impact Assessment Report*, submitted as part of the EIS. The area of the proposed cycleway diversion is within the southern portion of the zone, which is described as being of low sensitivity with land uses being commercial, markets, and pockets of residential.

The Proponent has submitted a concept landscape strategy as part of the modification request which includes endemic shrub and tree plantings along the edge of the proposed cycleway to provide shade and amenity for cyclists. The Department is satisfied the plantings will maintain a level of visual amenity in the area. Notwithstanding, the Department has recommended that the Urban Design and Landscape Plan required under the infrastructure approval address landscaping opportunities to mitigate any visual impacts associated with the cycleway and any required monitoring and maintenance of landscaping works.

Cultural Heritage

No Aboriginal or non-Aboriginal archaeological objects, sites or potential archaeological deposits were identified on land subject to the proposed modification. The Department is satisfied the proposed modification will not impact on any items of cultural heritage value. Should any objects of cultural significance be identified during construction works, these will be dealt with in accordance with the unexpected finds procedure documented in the Construction Heritage Management Plan approved as part of the CEMP.

Soils and Water

Phase 1 and Phase 2 contamination assessments were conducted as part of the M4 Widening EIS. The area between Silverwater Road and Homebush Bay Drive formed Section 5 of the contamination investigation. Investigations of three test pits on the western side of Homebush Bay Drive, in the vicinity of the proposed cycleway location, were undertaken. The sampling indicated there to be no widespread or unacceptable soil impacts at this location. Whilst no specific land contamination remediation works are required at this location, the potential for disturbance and/or interception of soils and groundwater will need to be managed during construction. The Department is satisfied that any contamination, erosion and sedimentation issues associated with construction of the off-road cycleway could be satisfactorily managed under the Construction Soil and Water Management Plan approved as part of the CEMP.

6. CONCLUSION AND RECOMMENDATION

The WDA proposes to construct an off-road cycleway diversion along the M4 Motorway at Homebush Bay Drive. Based on its consideration of the WDA's modification request and the responses received, the Department considers that the key issues associated with the proposal are cyclist safety, construction noise and impacts on biodiversity.

The Department is satisfied that the impacts of the proposal can be effectively managed and/or mitigated through the conditions specified in the existing infrastructure approval and the mitigation measures detailed in the approved CEMP for the M4 Widening Project. Notwithstanding, to ensure that the cycleway provides safe access and complements the visual amenity of the site surrounds, the Department has recommended amendments to the existing conditions of approval regarding design and landscaping and recommended new conditions relating to auditing of the design and performance of the cycleway.

On balance, the Department considers the proposal provides significant safety benefits for both cyclists and motorists using the M4 Motorway in the vicinity of the Homebush Bay Drive interchange. It is, therefore, recommended that the modification request be approved, subject to the conditions recommended in the modifying instrument.

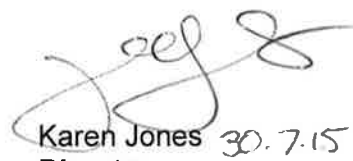
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