



Transport Access Program

Thornleigh Station Upgrade

Determination Report



Artist's impression of the proposed Thornleigh Station Upgrade, subject to detailed design

April 2021



Thornleigh Station Upgrade – Determination Report

Transport Access Program

Ref – 6568832

Contents

Glossary and abbreviations	4
Executive summary	5
1. Introduction	7
1.1. Background	7
1.2. Review of Environmental Factors	7
1.3. Determination Report	7
1.4. Description of the Proposed Activity in the REF	9
2. Consultation and assessment of submissions	12
2.1. REF public display	12
2.2. REF submissions	12
2.3. Consideration and response to submissions	13
2.4. Future consultation.....	25
3. Changes to the Proposed Activity	26
3.1. Assessment of design changes	26
4. Consideration of the environmental impacts	29
4.1. NSW Environmental Planning and Assessment Act 1979	29
4.2. NSW Biodiversity Conservation Act 2016	29
4.3. Commonwealth Environment Protection and Biodiversity Conservation Act 1999	29
5. Conditions of Approval	30
6. Conclusion	31
Determination	32
References	33
Appendix A Review of Environmental Factors	34
Appendix B Conditions of Approval	35

Document control

Status:	Final
Date of issue:	April 2021
Revision:	1.0
Document author:	Brendan Rice, Aaron Bowden
Document reviewers:	Louisa Rebec, Louise Bieler, Natalie Moore, Alicia Rijke, Darren D'Souza, Mona Ren, Tracey Leotta, Ann Azzopardi, Ben Grogan, Ben Groth, Sally Durham

© Transport for NSW

Figures

Figure 1 Planning approval process 8

Figure 2 Key features of the Proposed Activity as described in the REF (indicative only, subject to detailed design)..... 11

Figure 3 Revised key features of the Proposed Activity (indicative only, subject to detailed design)..... 27

Tables

Table 1 Response to community submissions received 13

Table 2 Response to other stakeholder submissions received 20

Table 3 Assessment of design changes..... 26

Glossary and abbreviations

Term	Meaning
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BDAR	Biodiversity Development Assessment Report
CBD	Central Business District
CEMP	Construction Environmental Management Plan
CLMP	Community Liaison Management Plan
Construction Contractor	The Construction Contractor for the Proposed Activity would be appointed by TfNSW to undertake the detailed design and construction of the Proposed Activity.
CPTED	Crime Prevention Through Environmental Design
DDA	<i>Disability Discrimination Act 1992 (Cwlth)</i>
Detailed design	Detailed design broadly refers to the process that the Construction Contractor undertakes (should the Proposed Activity proceed) to refine the concept design to a design suitable for construction (subject to TfNSW acceptance).
Determination Report	This document – a report prepared by TfNSW to assess and address certain matters to allow for a determination of the Proposed Activity under, and in accordance with Division 5.1 of the EP&A Act.
DSAPT	<i>Disability Standards for Accessible Public Transport (2002)</i>
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
Infrastructure SEPP	<i>State Environmental Planning Policy (Infrastructure) 2007 (NSW)</i>
LEP	Local Environmental Plan
LGA	Local Government Area
NES	Matters of 'National Environmental Significance' under the EPBC Act
NSW	New South Wales
Proponent	A person or body proposing to carry out an activity under Division 5.1 of the EP&A Act – in this instance, TfNSW.
Proposed Activity	The construction and operation of the Thornleigh Station Upgrade
REF	Review of Environmental Factors
TAP	Transport Access Program
TfNSW	Transport for NSW (the Proponent)

Executive summary

Overview of Proposed Activity

The Transport Access Program (TAP) is a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure. The program aims to provide:

- stations that are accessible to people with disabilities, are less mobile and parents/carers with prams and customers with luggage
- modern buildings and facilities that meet the needs of a growing population
- modern interchanges that support an integrated network and allow seamless transfers for all customers
- safety improvements including extra lighting, lift alarm, fences and security measures at stations.

Thornleigh Station has been identified for an accessibility upgrade as it does not currently meet key requirements of the *Disability Standards for Accessible Public Transport (DSAPT)* or the Commonwealth *Disability Discrimination Act 1992 (DDA)*. The proposed upgrade work would aim to provide:

- three new lifts to provide access to the station platforms
- weather protection screens and canopies at lift entries
- improved access to waiting rooms
- a new family accessible toilet and unisex ambulant toilet
- upgrades to the bus stop and seating on The Esplanade
- a new accessible pedestrian pathways throughout the station and entrances
- upgrade to existing accessible parking spaces in the commuter car park
- a new accessible parking space and accessible kiss and ride bay on Railway Parade
- upgraded bicycle hoops
- new canopy coverage over Boarding Assistance Zone (BAZ) on Platform 3
- improvements to CCTV, lighting, PA system, hearing loop (AFILS) and wayfinding signage
- electrical upgrades to accommodate new infrastructure
- modifications to existing stairs to provide DSAPT compliant nosings, handrails and tactiles (as required)
- new stairs on Railway Parade walkway connecting to the existing footbridge.

Transport for NSW, as the Proponent for the Proposed Activity, has undertaken a Review of Environmental Factors (REF) that details the scope of work and environmental impacts associated with the Proposed Activity. The REF was prepared by EMM Consulting on behalf of Transport for NSW in accordance with the requirements of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* and clause 228 of the *Environmental Planning and Assessment Regulation 2000 (EP&A Regulation)*.

Modifications to the Proposed Activity

Since the public display of the REF, the following design changes have been made to the Proposed Activity:

- installation of a new electrical transformer (near the Railway Parade access gate)
- installation of a fire wall along the fence at the Railway Parade lift
- Extended working hours during COVID-19 period

The impacts associated with the design changes have been considered in accordance with clause 228 of the EP&A Regulation (refer to Chapter 3).

Should further design modifications be required as a result of the detailed design process, these modifications would be assessed to determine consistency with the Conditions of Approval for the Proposed Activity, including significance of impact on the environment. Additional mitigation measures and/or consultation would be undertaken where necessary.

Purpose of this report

The purpose of this Determination Report is for Transport for NSW, as the Proponent of the Thornleigh Station Upgrade, to comply with its obligations under Division 5.1 of the EP&A Act and determine whether or not to proceed with the carrying out of the Proposed Activity. Transport for NSW must make a determination in accordance with the provisions of Division 5.1 of the EP&A Act.

This report also presents a summary of the submissions provided during the public display of the REF, and Transport for NSW's response to the issues and comments raised in these submissions.

Conclusion

Based on the assessments in the REF, consideration of the submissions received and the design changes subsequent to the public display of the REF, it is recommended that the Proposed Activity be approved, subject to the mitigation measures included in the REF and the proposed Conditions of Approval (CoA) (refer Appendix B). Transport for NSW will continue to liaise with the community and other stakeholders as the Proposed Activity progresses through detailed design and into the construction phase.

1. Introduction

1.1. Background

The Transport Access Program is a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure. The program provides:

- stations that are accessible to people with disabilities, are less mobile and parents/carers with prams and customers with luggage
- modern buildings and facilities that meet the needs of a growing population
- modern interchanges that support an integrated network and allow seamless transfers for all customers
- safety improvements including extra lighting, lift alarm, fences and security measures at stations.

Thornleigh Station has been identified for an accessibility upgrade as it does not currently meet key requirements of the *Disability Standards for Accessible Public Transport* (DSAPT) or the Commonwealth *Disability Discrimination Act 1992* (DDA). The non-compliant station entrances, pathways and stairs to the platform do not facilitate access for people with reduced mobility, parents/carers with prams or customers with luggage. Accessible parking spaces are required to be upgraded, and there are no accessible bathrooms or lift facilities and inadequate Tactile Ground Surface Indicators (TGSi) to stairs, platforms and interchange facilities.

Transport for NSW is the Proponent for the Thornleigh Station Upgrade (referred to as the 'Proposed Activity' for the purposes of this document). Also refer to Section 1.4 for a description of the Proposed Activity.

1.2. Review of Environmental Factors

A Review of Environmental Factors (REF) has been prepared by EMM Consulting on behalf of Transport for NSW in accordance with Sections 5.5 and 5.7 of the *Environmental Planning and Assessment 1979* (EP&A Act), and clause 228 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), to ensure that Transport for NSW takes into account to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the Proposed Activity. The REF is included at Appendix A.

The Thornleigh Station Upgrade REF was placed on public display from Monday 8 February 2021 to Monday 22 February 2021, with 52 submissions received. Issues raised in these submissions are addressed in Section 2.3 of this report.

1.3. Determination Report

Prior to proceeding with the Proposed Activity, the Secretary for Transport for NSW must make a determination in accordance with Division 5.1 of the EP&A Act (refer Figure 1).

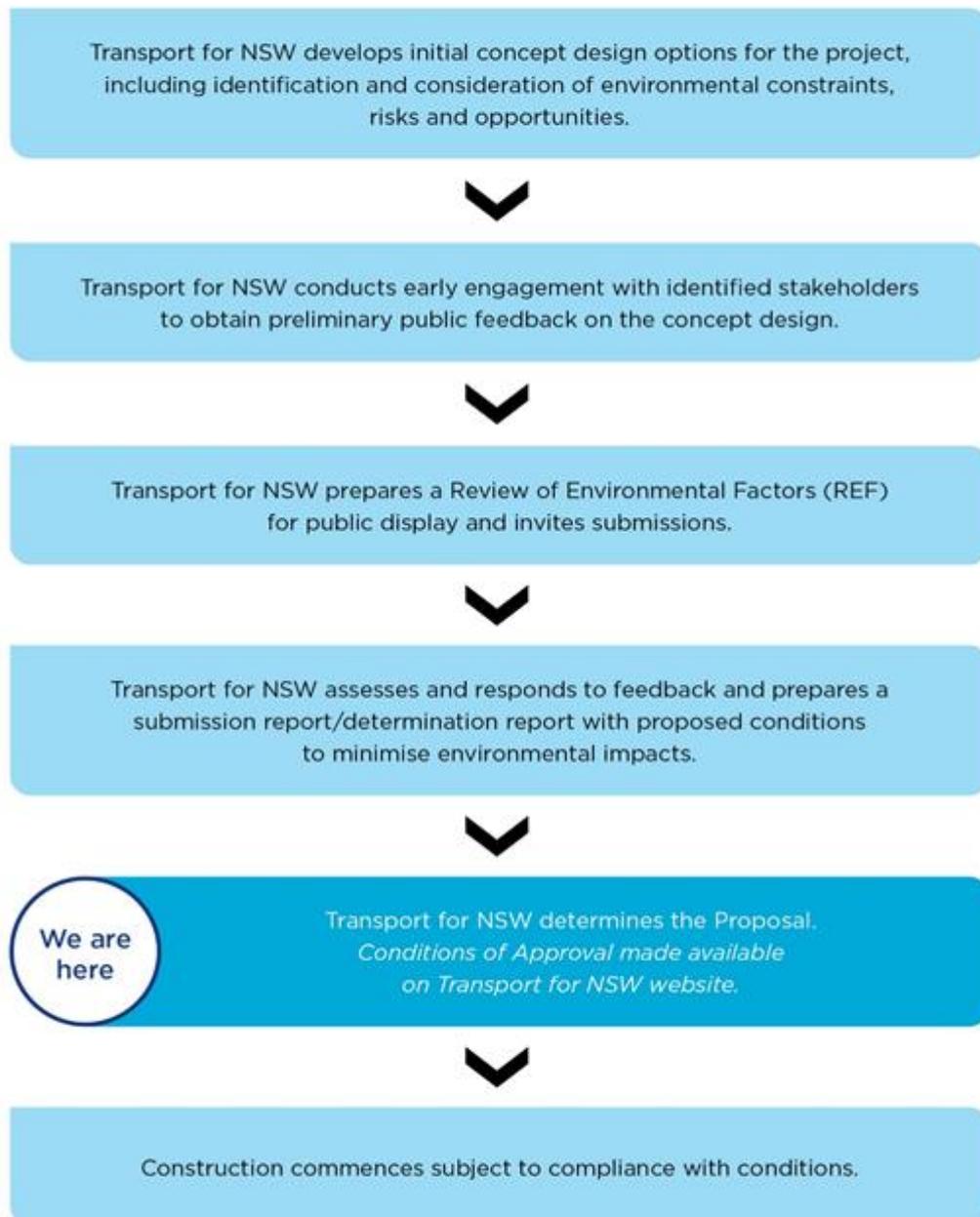


Figure 1 Planning approval process

The purpose of this Determination Report is to address the following to allow for a determination of the Proposed Activity:

- present a summary of the submissions received during the public display of the REF and Transport for NSW’s response to the issues and comments raised in these submissions
- assess the environmental impacts with respect to the Proposed Activity, which are detailed in the environmental impact assessment (and any proposed modifications, as detailed and assessed in this Determination Report)

- identify mitigation measures to minimise potential environmental impacts
- determine whether potential environmental impacts are likely to be significant
- address whether the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) apply to the Proposed Activity.

This report has been prepared having regard to, among other things, the objectives of Transport for NSW under the *Transport Administration Act 1988*:

- a) to provide an efficient and accountable framework for the governance of the delivery of transport services
- b) to promote the integration of the transport system
- c) to enable effective planning and delivery of transport infrastructure and services
- d) to facilitate the mobilisation and prioritisation of key resources across the transport sector
- e) to co-ordinate the activities of those engaged in the delivery of transport services
- f) to maintain independent regulatory arrangements for securing the safety of transport services.

1.4. Description of the Proposed Activity in the REF

The Proposal is located in the suburb of Thornleigh, NSW, approximately 20 kilometres north-west of the Sydney Central Business District (CBD) within the Hornsby local government area (LGA).

Thornleigh Station consists of a side and single island platform, which is serviced by the T9 Northern Line of the Sydney Trains network. It is bound by The Esplanade to the north and the Wells Street overbridge to the south. A footbridge crosses the rail corridor to provide pedestrian access to the single island platform and to provide cross corridor connectivity.

Thornleigh Station does not currently meet key requirements of the DSAPT or DDA. It also does not allow for equitable access to the station platforms.

A detailed description of the Proposed Activity is provided in Chapter 3 of the Thornleigh Station Upgrade REF, and would provide:

- three new lifts to provide access to the station platforms
- weather protection screens and canopies at lift entries
- improved access to waiting rooms
- a new family accessible toilet and unisex ambulant toilet
- upgrades to the bus stop and seating on The Esplanade
- new accessible pedestrian pathways throughout the station and entrances
- upgrades to existing accessible parking spaces in the commuter car park
- a new accessible parking space and accessible kiss and ride bay on Railway Parade
- upgraded bicycle hoops
- new canopy coverage over the Boarding Assistance Zone (BAZ) on Platform 3
- improvements to CCTV, lighting and wayfinding signage
- electrical upgrades to accommodate new infrastructure

- modifications to existing stairs to provide DSAPT compliant nosings, handrails and tactiles (as required)
- new stairs on Railway Parade walkway connecting to the existing footbridge.

A schematic outlining the key features of the Proposed Activity is provided in Figure 2.

The need for, and benefits of the Proposed Activity are outlined in Chapter 2 of the REF.

Construction is expected to commence in mid-2021 and take around two years to complete.

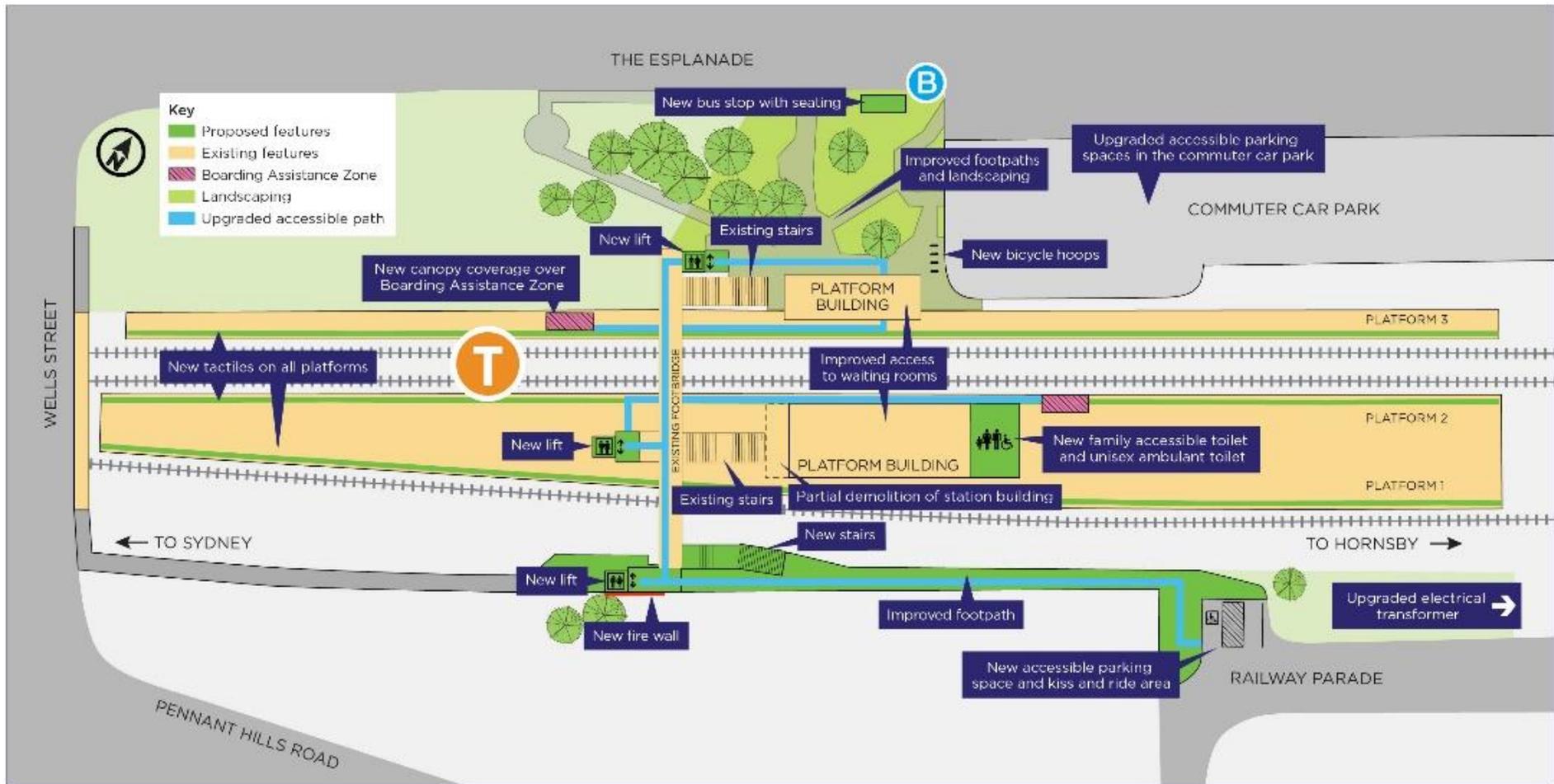


Figure 2 Key features of the Proposed Activity as described in the REF (indicative only, subject to detailed design)

2. Consultation and assessment of submissions

2.1. REF public display

The Thornleigh Station Upgrade REF was placed on public display from Monday 8 February 2021 to Monday 22 February 2021 on the TfNSW [corporate website](#)¹ and TfNSW [Have Your Say website](#)². Under normal circumstances, printed copies of the REF would have been available at various local venues, however, due to the COVID-19 restrictions, the REF was available online in digital format only with printed copies available on request.

Community consultation activities undertaken for the public display included:

- approximately 1400 flyers were letterbox dropped within the suburb of Thornleigh on 8 February 2021
- installation of posters at the station with a quick response (QR) code taking customers to the project webpage
- placement of a geo-targeted digital campaign in the Hornsby Advocate outlining information on where to view the REF and specialist studies on the TfNSW corporate website
- a geo-targeted social media campaign during the public display period
- creation of a dedicated project webpage on the TfNSW corporate website, including an integrated online feedback form on the TfNSW website
- a briefing to Hornsby Shire Council representatives on 19 November 2020
- a letter outlining the scope of the Proposed Activity, information on where to view the REF and specialist studies on the TfNSW website, along with details on how to make a submission was sent to Hornsby Shire Council as per the consultation requirements under clause 13 of the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP).

2.2. REF submissions

A total of 52 submissions were received via letter, email, and online submissions including the posted comments on the project website and Facebook. Community submissions are addressed in Table 1, while submissions received from Hornsby Shire Council and Hornsby Shire Historical Society are addressed in Table 2.

Submissions included feedback on a range of issues in relation to the Proposed Activity. The key issues raised in submissions were:

- support for the Proposed Activity
- requests for opportunities to improve pedestrian safety and accessibility at the station, including extension of the existing Pennant Hills Road overbridge
- requests to improve traffic and existing parking facilities, or provide more parking spaces
- requests for consideration of urban design, landscaping and visual amenity improvements

¹ <https://www.transport.nsw.gov.au/projects/current-projects/thornleigh-station-upgrade>

² <https://yoursay.transport.nsw.gov.au/>

- requests for consideration of improvements to local bus services and facilities
- queries in relation to biodiversity impacts
- requests for additional consideration of impacts on local heritage
- queries in relation to project timing
- requests that the Proposed Activity does not preclude future expansion of the rail corridor.

2.3. Consideration and response to submissions

Community submissions

Table 1 Response to community submissions received

No.	Submission no.	Issue/s raised	TfNSW response
1	General support for the Proposed Activity		
1.1	THN103 THN105 THN107 THN109 THN110 THN112 THN120 THN201 THN202 THN204 THN206 THN301 THN303 THN304 THN305 THN306 THN307 THN314 THN315 THN317 THN318	Support for the Proposed Activity including references to: <ul style="list-style-type: none"> • the Proposed Activity as a whole • timing of project • need for lifts at the station 	Support for the Proposed Activity is noted.
2	Pedestrian safety and access		
2.1	THN106 THN109 THN115 THN118 THN120 THN121 THN124 THN125 THN205 THN209 THN210 THN211 THN309	Safety concerns associated with crossing Railway Parade and requests for extending the existing Pennant Hills Road pedestrian overbridge to connect to the station and car park	Community submissions raised safety concerns for existing and proposed pedestrian movements when crossing Railway Parade after leaving the existing Pennant Hills Road overpass. The concerns were centred around the belief that cars were travelling too quickly through this area and not adhering to existing stop signs, making the road dangerous for pedestrians to cross. Extending the existing footbridge into the rail corridor was considered by TfNSW, however was not considered feasible as it would likely require acquisition of adjacent properties to support the construction. It would also require extensive work inside the rail corridor to relocate overhead wires and underground

No.	Submission no.	Issue/s raised	TfNSW response
			<p>electrical services, potentially impacting a future rail upgrade work.</p> <p>To resolve safety concerns associated with crossing Railway Parade, Transport for NSW would consult with Hornsby Shire Council to identify opportunities to improve pedestrian safety at this part of Railway Parade. This would include the preparation of a road safety audit, and the implementation of the findings of the audit as part of detailed design.</p> <p>Measures would consider but are not limited to, raised pedestrian crossings, speed humps, reducing the speed limit and traffic calming kerb alignments. A Condition of Approval (CoA 35) has been proposed to this effect.</p>
2.2	THN113	Requests the construction of an underground pedestrian link beneath Pennant Hills Road to connect the southern side of Thornleigh to the station	The focus of the Proposed Activity is to improve accessibility at Thornleigh Station in accordance with key requirements of the DDA and DSAPT. An underground pedestrian link was not considered during design development as this is not required to achieve DSAPT compliance for the station.
2.3	THN106 THN113 THN118 THN211	Concerns regarding the safety of the walkway between Wells Street and Railway Parade, particularly at night	<p>In selecting the preferred option, various designs were assessed in a multi-criteria analysis which included amongst other factors, customer experience and safety.</p> <p>The Proposal would be refined during detailed design following consideration of the Crime Prevention Through Environmental Design (CPTED) principles. The walkway would include installation of new lighting and CCTV cameras to improve the safety of the walkway. Transport for NSW would further investigate and consult with Hornsby Shire Council on any additional suitable CPTED measures to help improve the safety of the walkway (refer to CoA 40).</p>
2.4	THN124 THN209	Requests the removal of the ability to turn left into Railway Parade from Pennant Hills Road and the installation of a pedestrian crossing	<p>A road safety audit would be prepared by Transport for NSW as part of the detailed design process to identify opportunities to improve safety for pedestrian movements crossing Railway Parade. The recommendations of the audit would be implemented in consultation with Hornsby Shire Council.</p> <p>Measures would consider but are not limited to, raised pedestrian crossings, speed humps, reducing the speed limit and traffic calming kerb alignments and would consider removing the ability to turn left off Pennant Hills Road into Railway Parade.</p>

No.	Submission no.	Issue/s raised	TfNSW response
			A Condition of Approval (CoA 35) has been proposed to this effect.
2.5	THN108	Requests that the walkway between Wells Street and Railway Parade does not include stairs	The southern approach to the pedestrian footbridge from Railway Parade would be regraded to comply with DSAPT requirements as part of the Proposed Activity so the footbridge can be accessed by lift or stairs. No additional stairs have been introduced at the walkway as part of the Proposed Activity.
2.6	THN112 THN314	Requests retention of the existing station kiosk during construction and operation	Commuter access to the station (including the kiosk) would be maintained where possible throughout the construction of the Proposed Activity.
2.7	THN107	Request that adequate lighting and CCTV be provided, noting lack of passive surveillance and recent anti-social behaviour	Transport for NSW would investigate the installation of additional lighting and CCTV as part of detailed design (refer to CoA 40). Additional CPTED measures would also be considered for the walkway.
2.8	THN113 THN203	Request to upgrade existing Pennant Hills Road overpass and Wells Street bridge	The focus of the Proposed Activity is to improve accessibility at Thornleigh Station in accordance with key requirements of the DDA and DSAPT. The Pennant Hills Road pedestrian overpass and the Wells Street bridge are not required to be upgraded to achieve DSAPT compliance for the Station. This feedback will be passed onto the relevant section within Transport for NSW for consideration.
2.9	THN209	Concerns that the proposal is more expensive than extending the pedestrian overpass	The final design was chosen in a multi-criteria analysis that included consideration of cost along with other factors such as customer experience, accessibility, safety, engineering constraints and modal integration to select a preferred option. Initial investigations revealed that extending the existing pedestrian overpass would have a greater cost than the Proposed Activity due to relocation of powerlines and potential land acquisition.
2.10	THN211	Safety concerns for pedestrians accessing the station during construction	Commuter access to the station would be maintained where possible throughout the construction of the station upgrade. A detailed Community Liaison Management Plan would be prepared and implemented to engage with key stakeholders, including station users (refer to CoA 6). The plan would include a program for construction tasks with strategies for minimising impacts and informing the community.

No.	Submission no.	Issue/s raised	TfNSW response
3	Traffic and parking		
3.1	THN114 THN116 THN123 THN206	Requests provision of a kiss and ride bay on The Esplanade	Opportunities for the provision of a kiss and ride bay on The Esplanade would be investigated during detailed design (refer to CoA 37).
3.2	THN124 THN125 THN205 THN206 THN209 THN211	Requests retention of existing five parking spaces on Railway Parade	As part of detailed design, Transport for NSW would consider options to retain parking on Railway Parade or provide new short-term parking spaces in safe and convenient locations to offset any parking loss, in consultation with Hornsby Shire Council (refer to CoA 38).
3.3	THN102	Questions the need for parking and lifts on both sides of the station	A key objective of the Transport for NSW's Transport Access Program is to provide stations that are accessible to people with disabilities, limited mobility, parents/carers with prams, and customers with luggage. All three lifts are required for DSAPT compliance to ensure all people can access both entries of the station and all three platforms.
3.5	THN302	Request for more commuter car parking spaces	Additional commuter car parking is not proposed as part of the Proposed Activity, which is for accessibility upgrades at the station. Commuter parking requirements are assessed by Transport for NSW on a network wide basis considering existing and future demand, proximity to other car parking spaces and the feasibility of providing parking. This feedback will be passed onto the relevant section within Transport for NSW for consideration in future planning.
3.6	THN312 THN316	Request for better accessible parking space locations	Accessible parking locations have been selected based upon the ease of access to the two station entrances. The existing accessible parking spaces within the multi storey commuter car park would be upgraded to meet DSAPT compliance and a new accessible car parking space would also be provided on Railway Parade.
3.7	THN204	Requests the provision of a right turn lane (southbound) from The Esplanade to Eddy Street, and a right turn lane (northbound) into the commuter car park from The Esplanade	The focus of the Proposed Activity is to improve accessibility at Thornleigh Station in accordance with the DSAPT and DDA requirements. Changes to the road network including the entry to the commuter car park and The Esplanade are outside the scope of this accessibility upgrade.
3.8	THN206 THN211	Safety concerns associated with the proposed kiss and ride	A road safety audit would be prepared by TfNSW as part of the detailed design process to identify opportunities to improve safety for

No.	Submission no.	Issue/s raised	TfNSW response
		on Railway Parade due to cars reversing into a high pedestrian traffic area	<p>vehicle and pedestrian movements adjacent to the station on Railway Parade. The recommendations of the audit would be implemented in consultation with Hornsby Shire Council.</p> <p>Consideration of alternative locations for kiss and ride bays and accessible parking spaces on Railway Parade would be considered as part of these investigations.</p> <p>A Condition of Approval (CoA 35) has been proposed to this effect.</p>
3.9	THN211	Request for improving the thoroughfare/ turning requirements of the semi-trailers associated with shops on eastern side of Pennant Hills Road	The focus of the Proposed Activity is to improve accessibility at Thornleigh Station in accordance with the DSAPT and DDA requirements. Improvements to thoroughfares and turning areas for vehicles accessing the surrounding commercial businesses on Pennant Hills Road is outside the scope of this accessibility upgrade. This feedback will be passed on to Hornsby Shire Council and the relevant section of Transport for NSW for consideration.
3.10	THN211	Requests a larger commuter carpark on the eastern side of the station and direct access to the station from the car park	<p>Additional commuter car parking is not proposed as part of the Proposed Activity, which is for accessibility upgrades at the station.</p> <p>Commuter parking requirements are assessed by Transport for NSW on a network wide basis considering existing and future demand, proximity to other car parking spaces and the feasibility of providing parking.</p> <p>This feedback will be passed onto the relevant section within Transport for NSW for consideration in future planning.</p>
4	Design, landscape and visual impacts		
4.1	THN109	Requests that the station be rebuilt similar to Pennant Hills Station to accommodate the growing population	<p>The works undertaken at Pennant Hills Station were associated with the delivery of the Epping to Thornleigh Third Track project (as part of the Northern Sydney Freight Corridor Program).</p> <p>However, the objective of the Proposed Activity is to improve accessibility at Thornleigh Station in accordance with the DSAPT and DDA requirements.</p> <p>A station redevelopment is not required to achieve DSAPT compliance at Thornleigh Station. This feedback will be passed onto the relevant section within Transport for NSW for consideration in future planning.</p>
4.2	THN104 THN109	Requests additional weather protection	The focus of the Proposed Activity is to improve accessibility at the station in

No.	Submission no.	Issue/s raised	TfNSW response
	THN111 THN113 THN202 THN211 THN307	across the station precinct to provide covered path of travel from the interchange locations (including bus stops and bicycle racks) to the platform	accordance with DDA and DSAPT requirements. Additional canopies along the length of the platforms, over pathways and footbridges or over bicycle hoops are not part of the accessibility upgrade.
4.3	THN103	Requests separate male and female bathrooms rather than unisex bathrooms	Due to space constraints two separate ambulant toilets and a unisex family accessible toilet cannot be provided. Currently Thornleigh Station has two toilets, neither of which are accessible or ambulant. It is typical of TAP upgrades to provide unisex family and accessible toilets and ambulant toilets where space is confined.
4.4	THN113 THN201 THN314	Request to include landscaping at The Esplanade forecourt area and reserve to improve the amenity of this space	The Proposed Activity would include upgrades to the pavement and landscaping in The Esplanade forecourt area. Opportunities for public domain improvement at the station entrances would be considered as part of detailed design.
4.5	THN113	Requests the redevelopment of the existing local shops along Pennant Hills Road and improvement of the station precinct	The focus of the Proposed Activity is to improve accessibility at Thornleigh Station in accordance with the DSAPT and DDA requirements. Upgrades to the commercial precinct on Pennant Hills Road are outside the scope of this accessibility upgrade. This feedback will be passed on to Hornsby Shire Council for consideration.
4.6	THN104 THN203	Request for additional Opal card readers and top up machines	Opal card facilities may need to be relocated during and after construction. The placement of Opal card readers and top up machines would be further considered during detailed design. Access to Opal card readers would be maintained throughout construction.
4.7	THN210 THN211	Concerns the proposal will not be able to accommodate the growing population	The Proposed Activity has been designed giving consideration to the forecasted station patronage by 2036 plus an additional 15% patronage.
5	Bus services and facilities		
5.1.	THN119 THN211 THN308 THN317	Requests additional bus services in the AM peak and improvements in connectivity to the 587 and 589 bus routes by bringing bus stops closer to station entrances	The focus of the Proposed Activity is to improve accessibility at Thornleigh Station in accordance with the DSAPT and DDA requirements. Changes to the bus stop locations and routes are outside the scope of this accessibility upgrade. This feedback will be passed on to the relevant team within Transport for NSW for consideration.

No.	Submission no.	Issue/s raised	TfNSW response
6	Biodiversity		
6.1	THN311	Requested advice as to the amount of trees to be removed as part of the Proposed Activity	Vegetation removal required to support the construction of the Proposed Activity would be limited to the removal of seven trees within the rail corridor embankment on the Railway Parade side of the station. None of the seven trees identified for removal are part of the Blue Gum High Forest Critically Endangered Ecological Community (CEEC). Replacement planting would be undertaken in accordance with Transport for NSW's Vegetation Offset Guide (TfNSW, 2019a)
7	Heritage		
7.1	THN117 THN207	Requests recognition of the former Zig Zag Railway in The Esplanade reserve	Transport for NSW would investigate opportunities to provide heritage interpretation for the former Thornleigh Zig Zag Railway in The Esplanade forecourt (refer to CoA 39).
8	Project timing		
8.1	THN124	Requests a delay to the delivery of the Proposed Activity to allow safety concerns to be resolved	The Proposed Activity is intended to commence in mid-2021 and would take up to two years to complete. To resolve safety concerns associated with crossing Railway Parade, Transport for NSW would identify opportunities to improve pedestrian safety in the vicinity of the station through the preparation of a road safety audit and would implement the findings of the audit as part of detailed design (refer to CoA 35). The Proposed Activity would also be refined during detailed design following consideration of the CPTED principles (refer to CoA 40) to improve safety through environmental design.
8.2	THN201	Requested that the Proposed Activity commence as soon as practicable	The Proposed Activity is intended to commence in mid-2021 and would take up to two years to complete.
8.3	THN205	Requests more time for community consultation	A number of consultation activities have been undertaken for the Proposed Activity including: <ul style="list-style-type: none"> project briefing with Council representatives on 19 November 2020 early engagement with feedback on the concept design invited between 7 December to 21 December 2020 public display of Review of Environmental Factors between 8 and 22 February. This feedback has been used to inform the concept design and planning approval documents where appropriate. Consultation

No.	Submission no.	Issue/s raised	TfNSW response
			with the community would continue throughout detailed design and construction of the Proposed Activity. A Community Liaison Management Plan would be prepared prior to the commencement of construction to identify consultation activities during the delivery of the Proposed Activity (refer to CoA 6).
9	Preclusion of future rail corridor expansion		
9.1	THN101	Suggested that the Proposed Activity should not preclude future rail corridor expansion	The design of the Proposed Activity would not preclude the construction of a future freight line. The proposed station upgrade has been designed with consideration of the potential for expansion of rail operations in the future.
10	Land use and ownership		
10.1	THN205	Suggests Transport for NSW should hand over land owned at Railway Parade to Council	Rail corridor land adjacent to Railway Parade is currently utilised for access to the rail corridor and recurrent maintenance and upgrade work.

Other stakeholder submissions

Table 2 Response to other stakeholder submissions received

Issue no.	Stakeholder	Issue/s raised	TfNSW response
1	Access and landscape		
1.1	Hornsby Shire Council	Request to refurbish the Pennant Hills Road overpass to be DSAPT compliant and extend the overpass to the station and commuter car park to improve pedestrian safety.	<p>The focus of the Proposed Activity is to improve accessibility at Thornleigh Station in accordance with key requirements of the DDA and DSAPT. The Pennant Hills Road overpass is not required to be upgraded to achieve DSAPT compliance for the station.</p> <p>Extending the existing footbridge inside the rail corridor was considered by the project team, however was not considered feasible as it would likely require acquisition of adjacent properties to support the construction. It would also require extensive work inside the rail corridor to relocate overhead wires and underground electrical services, potentially impacting any future rail upgrade work.</p> <p>To resolve safety concerns associated with pedestrian movements across Railway Parade, Transport for NSW would prepare a road safety audit as part of detailed design. The recommendations of the audit would be implemented in consultation with Hornsby Shire Council. Measures would consider but not be limited to, raised pedestrian crossings, speed humps, reducing the speed limit and traffic</p>

Issue no.	Stakeholder	Issue/s raised	TfNSW response
			<p>calming kerb alignments. A Condition of Approval (CoA 35) has been proposed to this effect.</p> <p>The request to upgrade the existing pedestrian bridge will be passed on to the relevant section within Transport for NSW for consideration in future planning.</p>
1.2	Hornsby Shire Council	Concerns regarding the safety of the walkway between Wells Street and Railway Parade, particularly in regard to void spaces and suggested high lux lighting be installed and void spaces closed.	<p>The design options were assessed in a multi-criteria analysis which included customer experience and safety (amongst other factors). The Proposed Activity would be refined during detailed design having regard to CPTED principles.</p> <p>The walkway would include new lighting and CCTV and if required other CPTED measures, including review of void spaces to improve the safety of the walkway (refer to CoA 40). Transport for NSW would also undertake consultation with Council on any additional suitable CPTED measures to help improve the safety of the walkway.</p>
2	Heritage		
2.1	Hornsby Shire Council, Hornsby Shire Historical Society	Request to recognise the former Zig Zag Railway and Quarry (item A64 from Hornsby Shire Council LEP) in The Esplanade Park	<p>The Hornsby Shire Council LEP listed item for the former Zig Zag Railway and Quarry (A64) is located approximately two kilometres to the north of the Thornleigh Station and would not be impacted by the Proposed Activity. The Zig Zag rail line is shown in the most accurate figures available as joining the existing Main Northern rail line to the north of Thornleigh Station and platform. No excavation work as part of the Proposal would be undertaken in this area to the north of the station.</p> <p>Appropriate mitigation and management measures would be implemented to manage any unexpected archaeological finds during construction of the Proposed Activity (refer to CoA 25).</p> <p>Transport for NSW would also investigate opportunities to provide heritage interpretation for the Thornleigh Zig Zag Railway in The Esplanade forecourt (refer to CoA 39) and would do so in consultation with Council.</p>

Issue no.	Stakeholder	Issue/s raised	TfNSW response
3	Traffic, transport and access		
3.1	Hornsby Shire Council	Request for better integration between public transport modes	<p>The Proposed Activity would improve integration between modes of transport by:</p> <ul style="list-style-type: none"> • upgrading pathways within the station • upgrading the path through The Esplanade forecourt • upgrading the walkway path • upgrading and improving safety of Railway Parade (as per CoA35) • upgrading bus stop shelter on The Esplanade • providing new kiss and ride bays.
3.1	Hornsby Shire Council	Request that a taxi zone be provided in consultation with the Taxi Council and Council's Traffic Engineering team	<p>Currently, there are no taxi zones near Thornleigh Station. It is not proposed to provide a taxi zone as part of the Proposed Activity as this is not a DSAPT or DDA requirement. Notwithstanding, it is noted that taxis would be able to pick up and drop off passengers in kiss and ride bays.</p>
3.1	Hornsby Shire Council	Does not support the location of Kiss and Ride bays and suggests a 15 minute space on Railway Parade be provided as kiss and ride instead	<p>A road safety audit would be prepared by TfNSW as part of the detailed design process to identify opportunities to improve safety for vehicle and pedestrian movements adjacent to the station on Railway Parade. The recommendations of the audit would be implemented in consultation with Hornsby Shire Council. Consideration of alternative locations for kiss and ride bays and accessible parking spaces on Railway Parade would be considered as part of these investigations.</p>
3.2	Hornsby Shire Council	Requests improved integration with local bus services	<p>The focus of the Proposed Activity is to improve accessibility at Thornleigh Station in accordance with the DSAPT and DDA requirements. Changes to the bus stop locations and routes are outside the scope of this accessibility upgrade.</p> <p>The Proposed Activity does improve pathways surrounding the station and also includes upgrades to the bus shelter on The Esplanade. This feedback will be passed on to the relevant section within Transport for NSW for consideration.</p>
3.3	Hornsby Shire Council	Requests improved pedestrian access and construction of a footpath across Railway Parade	<p>Transport for NSW would investigate opportunities to improve pedestrian connectivity as part of the detailed design process. Measures to be considered would include but not be limited to, raised pedestrian crossings, speed bumps, reducing the speed limit and traffic calming curb alignments (refer to CoA 35).</p>

Issue no.	Stakeholder	Issue/s raised	TfNSW response
3.4	Hornsby Shire Council	In table 6.1 of the REF (Road network surrounding the Proposal area), The Esplanade is classified as a Local unclassified road. This should be changed to Regional unclassified road.	The error in Table 6.1 of the REF is noted. This error does not change the assessment recommendations.
3.5	Hornsby Shire Council	Request for more bicycle sheds/lockers or a shelter over bicycle hoops for weather protection	The Proposed Activity includes new bicycle hoops at The Esplanade station entrance. Opportunities to provide additional bike parking around the station would be investigated as part of detailed design (refer to CoA 33). The focus of the Proposed Activity is to improve accessibility at the station in accordance with DDA and DSAPT. Additional canopies over bicycle hoops are not part of the scope of work included in the accessibility upgrade.
4	Sustainability		
4.1	Hornsby Shire Council	Council recommended the implementation of additional sustainable design features including: <ul style="list-style-type: none"> • WSUD features • local supplier use • LED lighting • water saving features • PV installation. 	The Project would be required to obtain an ISCA Design and As Built rating, targeting an 'Excellent' rating score of 65. The Construction Contractor would be required to consider sustainability in design, including resource efficiency measures such as those identified by Council.
5	Community Feedback		
5.1	Hornsby Shire Council	Concerns regarding safety of pedestrian access crossing Railway Parade. Requested that the pedestrian bridge over Pennant Hills Road be extended to Thornleigh Station and the commuter carpark	Extending the existing footbridge inside the rail corridor was considered by Transport for NSW, but was not considered feasible as it would likely require acquisition of adjacent properties to support the construction. It would also require extensive work inside the rail corridor to relocate overhead wires and underground electrical services, potentially impacting any future rail upgrade work. Opportunities to improve the safety of vehicle and pedestrian movements adjacent to the station on Railway Parade would be considered by Transport for NSW through the preparation of a road safety audit as part of the detailed design process. The recommendations of the audit would be implemented in consultation with Hornsby Shire Council. (refer to CoA 35).

Issue no.	Stakeholder	Issue/s raised	TfNSW response
			Measures to be considered would include but not be limited to, raised pedestrian crossings, speed bumps, reducing the speed limit and traffic calming curb alignments.
6 Other Issues			
6.1	Hornsby Shire Council	Requests that the five short term car parking spaces at Railway Parade be retained	As part of detailed design, Transport for NSW would consider options to retain parking or provide new 15-minute parking spaces in a safe and convenient location in consultation with Council (refer to CoA 38).
6.2	Hornsby Shire Council	Suggests Transport for NSW transfer ownership of land along Railway Parade to Council for the benefit of nearby residents	Rail corridor land adjacent to Railway Parade is currently utilised for access to the rail corridor and recurrent maintenance and upgrade work.
6.3	Hornsby Shire Council	Requests more time for community consultation on the project	<p>Community consultation has been undertaken in accordance with the Transport for NSW consultation processes. A number of consultation activities have been undertaken for the Proposed Activity including:</p> <ul style="list-style-type: none"> • project briefing with Council representatives on 19 November 2020 • early engagement with the community where feedback on the concept design was invited between 7 December to 21 December 2020 • public display of Review of Environmental Factors between 8 and 22 February 2021. <p>Consultation with the community would continue throughout the detailed design and construction of the Proposed Activity. A Community Liaison Management Plan would be prepared prior to the commencement of construction to address consultation tasks during the delivery of the Proposed Activity (refer to CoA 6).</p>
6.4	Hornsby Shire Council	Concerns that people living and working on the eastern side of the railway have been dismissed, and there is feeling that Transport for NSW is trying to push the project through regardless of community submissions	<p>The preferred option was selected using a multi-criteria analysis that considered a range of factors such as customer experience, accessibility, safety, cost, engineering constraints and modal integration.</p> <p>The needs of residents to the east have been considered as part of the options development. As detailed above, opportunities to improve the safety of vehicle and pedestrian movements adjacent to the station on Railway Parade would be considered by Transport for NSW through the preparation of a road safety audit as part of the detailed design process.</p>

Issue no.	Stakeholder	Issue/s raised	TfNSW response
			The recommendations of the audit would be implemented in consultation with Hornsby Shire Council. (refer to CoA 35). Measures to be considered would include but not be limited to, raised pedestrian crossings, speed humps, reducing the speed limit and traffic calming kerb alignments.

2.4. Future consultation

Should Transport for NSW proceed with the Proposed Activity, consultation activities would continue, including consultation with Hornsby Shire Council (or other stakeholders) regarding design development. In addition, Transport for NSW would notify residents, businesses and community members in the lead up to and during construction. The consultation activities would help to ensure that:

- local council and other stakeholders have an opportunity to provide feedback on the detailed design
- the community and stakeholders are notified in advance of any upcoming work, including changes to pedestrian or traffic access arrangements and out of hours construction activities
- accurate and accessible information is made available
- a timely response is given to issues and concerns raised by the community
- feedback from the community is encouraged.

The [Transport for NSW email address](mailto:projects@transport.nsw.gov.au)³ and Transport for NSW Infoline (1800 684 490) would continue to be available during the construction phase. Targeted consultation methods, such as use of letters, notifications, signage and verbal communications, would continue to occur. The Transport for NSW [project website](https://www.transport.nsw.gov.au/projects/current-projects/thornleigh-station-upgrade)⁴ would also include updates on the progress of construction.

³ projects@transport.nsw.gov.au

⁴ <https://www.transport.nsw.gov.au/projects/current-projects/thornleigh-station-upgrade>

3. Changes to the Proposed Activity

3.1. Assessment of design changes

Further design development, along with consultation with the community and stakeholders, has resulted in a number of changes since the Thornleigh Station Upgrade REF was prepared. These changes are outlined in Table 3, along with a discussion of the impacts. Unless explicitly stated otherwise in the table below, it is considered that impacts related to other aspects are considered to be consistent with the findings of the REF including with respect to clause 228 of the EP&A Regulation and impacts to matters of NES. Where additional mitigation measures are required, these have been included as Conditions of Approval in Appendix B.

Table 3 Assessment of design changes

Aspect of the Proposed Activity	Design change	Discussion of impacts
Installation of electrical transformer	Installation of a new three phase 200kVA 415V isolation transformer	<p>The new transformer would be located near the Railway Parade access gate to the rail corridor as shown in Figure 3.</p> <p>Noise and Vibration</p> <p>The proposed transformer is located in the general vicinity of the remaining station upgrade works and would require similar equipment for construction as that outlined in the REF. As such the construction noise and vibration impacts would be similar to those assessed in Section 6.3 of the REF.</p> <p>Operational noise from the transformer is unlikely to provide more than a negligible noise contribution to the existing noise environment at the station, and therefore would not have an additional impact to nearby residential receivers.</p> <p>Visual amenity</p> <p>The new transformer would be located within the rail corridor and screened by existing corridor vegetation. As such, no additional visual impacts beyond those assessed in the REF are anticipated.</p> <p>Biodiversity</p> <p>No removal of vegetation would be required.</p>
Fire wall installation	Installation of a fire wall along the boundary fence at the location of the Railway Street lift	<p>To comply with fire safety requirements, a fire wall would be installed along the boundary fence at the Railway Street lift for a length of approximately 12 metres. The proposed fire wall would have a height of approximately 6.5 metres above ground level.</p> <p>Visual amenity</p> <p>The additional fire wall would have a moderate visual impact on the station precinct and to neighbouring commercial properties. However, the wall would ensure fire safety for adjoining commercial sites from any fire incidents associated with the lift and is required to be adjacent to any lift openings.</p>

Aspect of the Proposed Activity	Design change	Discussion of impacts
Construction work hours	Extended working hours during COVID-19	<p>The Minister for Planning and Public Spaces has made a number of Orders under Section 10.17 of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) in response to the COVID-19 pandemic. This includes the <i>Environmental Planning and Assessment (COVID-19 Development – Infrastructure Construction Work Days No. 2) Order 2020</i> (the ‘Order’), which commenced on 24 December 2020, and is applicable to construction activities for projects which have been subject to an assessment under Division 5.1, or approval under Division 5.2 of the EP&A Act. The Order extends the standard construction hours to allow infrastructure construction work on Saturday, Sunday and Public holidays (7am to 6pm), without the need for any approval (excluding high noise generating works such as rock breaking or pile driving and the like).</p> <p>These extended working hours were due to expire on 25 March 2021. However, on Wednesday 24 March 2021, the NSW Government introduced the <i>COVID-19 Legislation Amendment (Emergency Measures) Bill 2020</i>, which was subsequently passed by parliament, and came into effect on 25 March 2021. A section of the Bill enabled the extension of the extended working hours until 31 March 2022.</p> <p>Whilst no further assessment of the environmental impacts are required for these extended working hours, in the event that Transport for NSW would seek to utilise the extended working hours permitted by the Order, advance notification would be provided to the community.</p>

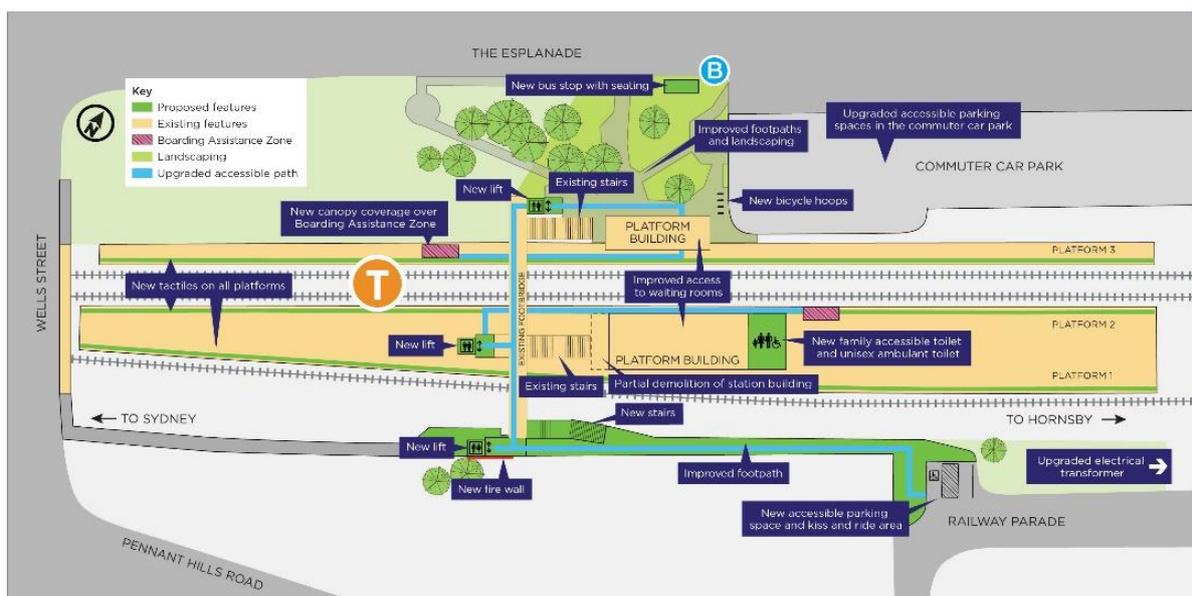


Figure 3 Revised key features of the Proposed Activity (indicative only, subject to detailed design)

Matters of NES and clause 228

Matters of NES under the EPBC Act and clause 228 of the EP&A regulation were considered as part of the changes to the Proposed Activity. The Proposed Activity remains consistent with Appendix A and B of the REF.

4. Consideration of the environmental impacts

4.1. NSW Environmental Planning and Assessment Act 1979

The REF addresses the requirements of Section 5.5 of the EP&A Act. In considering the Proposed Activity, all matters affecting or likely to affect the environment are addressed in the REF and the Determination Report and associated documentation.

In accordance with the checklist of matters pursuant to clause 228(3) of the EP&A Regulation, an assessment is provided in Chapter 6 and Appendix B of the REF.

In respect of the Proposed Activity an assessment has been carried out regarding potential impacts on critical habitat, threatened species, populations or ecological communities or their habitats, under Section 5.7 of the EP&A Act.

The likely significance of the environmental impacts of the Proposed Activity has been assessed in accordance with the then NSW Department of Planning's 1995 best practice guideline *Is an EIS Required?*⁵ It is concluded that the Proposed Activity is not likely to significantly affect the environment (including critical habitat) or threatened species, populations of ecological communities, or their habitats. Accordingly, an environmental impact statement under Division 5.2 of the EP&A Act is not required.

4.2. NSW Biodiversity Conservation Act 2016

As described in Section 6.7.2 of the Thornleigh REF, an assessment of significance has been prepared in accordance with Section 7.3 of the BC Act (refer to the Biodiversity Impact Assessment Report). The assessments conclude that the proposal is unlikely to have a significant impact on the persistence of the local occurrence of Blue Gum High Forest. Therefore, a Biodiversity Assessment report (BDAR) under the BC Act is not required.

4.3. Commonwealth Environment Protection and Biodiversity Conservation Act 1999

As part of the consideration of the Proposed Activity, all matters of national environmental significance (NES) and any impacts on Commonwealth land for the purposes of the EPBC Act have been assessed. In relation to NES matters, this evaluation has been undertaken in accordance with Commonwealth Administrative Guidelines on determining whether an action has, will have, or is likely to have a significant impact. A summary of the evaluation is provided in Chapter 6 and Appendix A of the REF.

It is considered that the Proposed Activity described in the REF is not likely to have a significant impact on any Commonwealth land and is not likely to have a significant impact on any matters of NES.

⁵ Refer to the National Library of Australia's 'Trove' website
<http://trove.nla.gov.au/work/7003034?selectedversion=NBD11474648>

5. Conditions of Approval

If approved, the Proposed Activity would proceed subject to the Conditions of Approval included at Appendix B.

6. Conclusion

Having regard to the assessment in the REF, consideration of the submissions received and the design changes subsequent to the public display of the REF, it can be concluded that the Proposed Activity is not likely to significantly affect the environment (including critical habitat) or threatened species, populations of ecological communities, or their habitats.

Consequently, an environmental impact statement (EIS) is not required to be prepared under Division 5.2 of the EP&A Act.

It is also considered that the Proposed Activity does not trigger any approvals under Part 3 of the EPBC Act.

The environmental impact assessment (REF and Determination Report) is recommended to be approved subject to the proposed mitigation and environmental management measures included in the Conditions of Approval (refer to Appendix B).

Determination

THORNLEIGH STATION UPGRADE

APPROVAL

I, Sally Durham, as delegate of the Secretary, Transport for NSW:

1. Have examined and considered the Proposed Activity in the *Thornleigh Station Upgrade Review of Environmental Factors* (February 2021) and the *Thornleigh Station Upgrade Determination Report* (April 2021) in accordance with Section 5.5 of the NSW *Environmental Planning and Assessment Act 1979*.
2. Determine on behalf of Transport for NSW (the Proponent) that the Proposed Activity may be carried out in accordance with the Conditions of Approval in this Determination Report (April 2021), consistent with the Proposed Activity described in the *Thornleigh Station Upgrade Review of Environmental Factors* (February 2021).



Sally Durham
Acting Director Planning and Environment
Environment and Sustainability
Safety, Environment and Regulation Division
Transport for NSW

Date: 16/4/21

References

- Department of Environment and Conservation, 2006, *Environmental Noise Management Assessing Vibration: A Technical Guideline*, Sydney NSW
- Department of Environment and Climate Change, 2009, *Interim Construction Noise Guideline*, Sydney NSW
- Department of Planning Industry and Environment, 2020, *Environmental Management Plan Guideline – Guideline for Infrastructure Projects*, Sydney NSW
- EMM Consulting, 2021a, *Thornleigh Station Upgrade REF*, Sydney NSW
- Landcom, 2004, *Managing Urban Stormwater: Soils and Construction Volume 1 4th Edition*, Sydney NSW
- Office of Environment and Heritage, 2011, *Guidelines for Consultants Reporting on Contaminated Sites*, Sydney NSW
- TfNSW, 2016a, *Guide to Environmental Controls Map (SD-015)*, Sydney NSW
- TfNSW, 2016b, *Removal or Trimming of Vegetation Application (DMS-FT-078)*, Sydney NSW
- TfNSW, 2016c, *'Around the Tracks' – urban design for heavy and light rail (Interim)*, Sydney NSW
- TfNSW, 2016d, *Managing Heritage Issues in Rail Projects Guidelines (Interim)*, Sydney NSW
- TfNSW, 2016e, *Creativity Guidelines for Transport Systems (Interim)*, Sydney NSW
- TfNSW, 2017a, *Commuter Car Parks Urban Design Guidelines (Interim)*, Sydney NSW
- TfNSW, 2018a, *Construction Noise and Vibration Strategy (ST-157)*, Sydney NSW
- TfNSW, 2018b, *TAP Urban Design Plan Guidelines (Draft)*, Sydney NSW
- TfNSW, 2019a, *Vegetation Offset Guide (DMS- ST-149)*, Sydney NSW
- TfNSW, 2019b, *Vegetation Management (Protection and Removal) Guideline*, Sydney NSW
- TfNSW, 2020a, *Chemical Storage and Spill Response Guidelines (DMS-SD-066)*, Sydney NSW
- TfNSW, 2020b, *Unexpected Heritage Finds Guideline (DMS-SD-115)*, Sydney NSW
- Witten, 2020, *Thornleigh Station Upgrade Arboricultural Impact Assessment and Tree Protection Plan*, Sydney NSW

Appendix A Review of Environmental Factors

Please refer to the [TfNSW website](#) to access the Thornleigh Station Upgrade REF (Desksite #ref no 6546141)

Appendix B Conditions of Approval

CONDITIONS OF APPROVAL

Thornleigh Station Upgrade

Note: these Conditions of Approval must be read in conjunction with the final mitigation measures in the Thornleigh Station Upgrade Review of Environmental Factors.

Schedule of acronyms and definitions used:

Acronym	Definition
ADEIA	TfNSW Associate Director Environmental Impact Assessment (or nominated delegate)
ADEM	TfNSW Associate Director Environmental Management (or nominated delegate)
ADSPD	TfNSW Associate Director Sustainability, Planning and Development (or nominated delegate)
AFC	Approved For Construction
CECR	Construction Environmental Compliance Report
CEMP	Construction Environmental Management Plan
CIR	Contamination Investigation Report
CLMP	Community Liaison Management Plan
CMP	Contamination Management Plan
CoA	Condition of Approval
dBA	Decibels (A-weighted scale)
ECM	Environmental Controls Map
EIA	Environmental Impact Assessment
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPL	Environment Protection Licence issued by the Environmental Protection Authority under the <i>Protection of the Environment Operations Act 1997</i>
EMR	Environmental Management Representative
EMS	Environmental Management System
ISCA	Infrastructure Sustainability Council of Australia
ISO	International Standards Organisation
OEH	Former NSW Office of Environment and Heritage
ONVMP	Operational Noise and Vibration Management Plan
OOHWP	Out of Hours Work Protocol
PECM	Pre-Construction Environmental Compliance Matrix
POCR	Pre-Operational Compliance Report
RBL	Rating Background Level
REF	Review of Environmental Factors
SMP	Sustainability Management Plan
TfNSW	Transport for NSW
TMP	Traffic Management Plan
UDLP	Urban Design and Landscaping Plan

Term	Definition
Construction	Includes all work in respect of the Project, other than survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, or other activities determined by the TfNSW ADEM to have minimal environmental impact such as minor access roads, minor adjustments to services/utilities, establishing temporary construction compounds (in accordance with this approval), or minor clearing (except where threatened species, populations or ecological communities would be affected, unless otherwise agreed by the ADEM).
Contamination	The presence in, on or under land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.
Designated Works	Includes tunnelling, blasting, piling, excavation or bulk fill or any vibratory impact work including jack hammering and compaction, for Construction.
Emergency Work	Includes work to avoid loss of life, damage to external property, utilities and infrastructure, prevent immediate harm to the environment, contamination of land or damage to a heritage (Aboriginal or non-Aboriginal) item.
Environmental Impact Assessment (EIA)	The documents listed in Condition 1 of this approval.
Environmental Management Representative (EMR)	An independent environmental representative appointed to the Project or a delegate nominated by Transport for NSW.
Feasible	A work practice or abatement measure is feasible if it is capable of being put into practice or of being engineered and is practical to build given project constraints such as safety and maintenance requirements.
Noise Sensitive Receiver	In addition to residential dwellings, noise sensitive receivers include, but are not limited to, hotels, entertainment venues, pre-schools and day care facilities, educational institutions (e.g. schools, TAFE colleges), health care facilities (e.g. nursing homes, hospitals), recording studios, places of worship/religious facilities (e.g. churches), and other noise sensitive receivers identified in the Environmental Impact Assessment.
Project	The construction and operation of the Thornleigh Station Upgrade as described in the Environmental Impact Assessment.
Proponent	A person or body proposing to carry out an activity under Division 5.1 of the EP&A Act – in the case of the Project, Transport for NSW.
Reasonable	Selecting reasonable measures from those that are feasible involves making a judgment to determine whether the overall benefits outweigh the overall adverse social, economic and environmental effects, including the cost of the measure.

CoA Condition

General

1. Terms of Approval

The Project shall be carried out generally in accordance with the environmental impact assessment (EIA) for this Project, which comprises the following documents:

- a) *Thornleigh Station Upgrade – Review of Environmental Factors* (EMM January 2021)
- b) *Thornleigh Station Upgrade – Determination Report* (EMM, March 2021).

In the event of an inconsistency between these conditions and the EIA, these conditions will prevail to the extent of the inconsistency.

2. Project Modifications

Any modification to the Project as approved in the EIA would be subject to further assessment. This assessment would need to demonstrate that any environmental impacts resulting from the modifications have been minimised. The assessment shall be subject to approval under delegated authority by Transport for NSW, and any additional requirements from the assessment of the Project modification must be complied with.

3. Statutory Requirements

These conditions do not remove any obligation to obtain all other licences, permits, approvals and land owner consents from all relevant authorities and land owners as required under any other legislation for the Project. The terms and conditions of such licences, permits, approvals and permissions must be complied with at all times.

4. Construction Environmental Compliance Report

A Construction Environmental Compliance Report (CECR) for the Project shall be prepared which addresses the following matters:

- compliance with the Construction Environmental Management Plan (CEMP) and these conditions
- compliance with any approvals or licences issued by relevant authorities for the construction of the Project
- implementation and effectiveness of environmental controls (the assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP)
- environmental monitoring results, presented as a results summary and analysis
- details of the percentage of waste diverted from landfill and the percentage of spoil beneficially reused
- number and details of any complaints, including summary of main areas of complaint, actions taken, responses given and intended strategies to reduce recurring complaints (subject to privacy protection)
- details of any review and amendments to the CEMP resulting from construction during the reporting period
- any other matter as requested by the ADEM.

The CECR shall:

- (i) be submitted to the EMR for review. The EMR is to be given a minimum period of seven days to review and provide any comments to TfNSW in relation to the CECR
- (ii) be submitted to the ADEM for approval upon completion of the EMR review period.

The first CECR shall report on the first six months of construction and be submitted within six weeks of expiry of that period (or at any other time interval agreed to by the ADEM). CECRs shall be submitted no later than six months after the date of submission of the preceding CECR (or at other such periods as requested by the ADEM) for the duration of construction.

The final CECR shall detail compliance with all Conditions of Approval, licences and permits required to be obtained under any other legislation for the Project.

CoA Condition

5. Graffiti and Advertising

Hoardings, site sheds, fencing, acoustic walls around the perimeter of the site, and any structures built as part of the Project shall be maintained free of graffiti and advertising not authorised by TfNSW during the construction period. Graffiti and unauthorised advertising shall be removed or covered within the following timeframes:

- a) offensive graffiti will be removed or concealed within 24 hours
- b) highly visible (yet inoffensive) graffiti will be removed or concealed within a week
- c) graffiti that is neither offensive or highly visible will be removed or concealed within a month
- d) any unauthorised advertising material will be removed or concealed within 24 hours.

Communications

6. Community Liaison Management Plan

A Community Liaison Management Plan (CLMP) shall be prepared and implemented to engage with government agencies, relevant councils, landowners, community members and other relevant stakeholders (such as utility and service providers, bus companies, Taxi Council and businesses). The CLMP shall comply with the obligations of these conditions and should include, but not necessarily be limited to:

- a) a comprehensive, project-specific analysis of issues and proposed strategies to manage issues through the duration of the Project
- b) details of the communication tools (traditional and digital) and activities that will be used to inform and engage the community and stakeholders
- c) a program for the implementation of community liaison activities relating to key construction tasks with strategies for minimising impacts and informing the community
- d) policies and procedures for handling community complaints and enquiries, including the Contractor's nominated 24 hour contact for management of complaints and enquiries
- e) analysis of other major projects/influences in the area with the potential to result in cumulative impacts to the community and strategies for managing these.

The CLMP shall be prepared to the satisfaction of the Director Community Engagement (or nominated delegate) prior to the commencement of construction and implemented, reviewed and revised as appropriate during the construction of the Project.

7. Community Notification and Liaison

The local community shall be advised of any activities related to the Project with the potential to impact upon them.

Prior to any site activities commencing and throughout the Project duration, the community is to be notified of work to be undertaken, the estimated hours of construction and details of how further information can be obtained (i.e. contact telephone number/email, website, newsletters etc.) including the 24 hour construction response line number.

Construction-specific impacts including information on traffic changes, access changes, detours, services disruptions, public transport changes, high noise generating work activities and work required outside the nominated working hours shall be advised to the local community at least seven days prior to such work being undertaken or other period as agreed to by the Director Community Engagement or as required by the Environment Protection Authority (EPA) (where an Environment Protection Licence (EPL) is in effect).

8. Website

Project information shall be made available to members of the public, either on dedicated pages on the TfNSW/Project website or details provided as to where hard copies of this information may be accessed. Project information to be provided includes:

- a) a copy of the documents referred to under Condition 1 of this approval
- b) a list of environmental management reports that are publicly available
- c) 24 hour contact telephone number for information and complaints.

CoA Condition

All documents uploaded to the website must be compliant with the *Web Content Accessibility Guidelines Version 2.0*.

9. Complaints Management

A 24 hour construction response line number shall be established and maintained for the duration of construction.

Details of all complaints received during construction are to be recorded on a complaints register. A verbal response to phone enquiries on what action is proposed to be undertaken is to be provided to the complainant within two hours during all times construction is being undertaken and within 24 hours during non-construction times (unless the complainant agrees otherwise). A verbal response to written complaints (email/letter) should be provided within 48 hours of receipt of the communication. A detailed written response is to be provided to the complainant within seven calendar days for verbal and/or written complaints.

Information on all complaints received during the previous 24 hours shall be forwarded to the Environmental Management Representative (EMR) each working day.

Environmental Management

10. Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) shall be prepared prior to the commencement of construction which addresses the following matters, as a minimum:

- a) traffic and pedestrian management (in consultation with the relevant roads authority)
- b) noise and vibration management
- c) water and soil management
- d) air quality management (including dust suppression)
- e) Aboriginal and non-Aboriginal heritage management
- f) biodiversity management
- g) storage and use of hazardous materials
- h) contaminated land management (including acid sulphate soils)
- i) weed management
- j) waste management
- k) bushfire risk
- l) environmental incident reporting and management procedures
- m) non-compliance and corrective/preventative action procedures
- n) details of approvals, licences and permits required to be obtained under any other legislation for the Project.

The CEMP shall:

- i. comply with the Conditions of Approval, conditions of any licences, permits or other approvals issued by government authorities for the Project, all relevant legislation and regulations, and accepted best practice management
- ii. comply with the relevant requirements of *Environmental Management Plan Guideline – Guideline for Infrastructure Projects* (NSW Department of Planning Industry and Environment, 2020)
- iii. include a pre-construction environmental compliance matrix for the Project (or such stages of the Project as agreed to by the EMR) that details compliance with all relevant conditions and mitigation measures
- iv. include an Environmental Policy.

In preparing the CEMP the following shall be undertaken:

1. consultation with government agencies and relevant service/utility providers (as required)
2. a copy of the CEMP submitted to the EMR for review
3. a copy of the CEMP submitted to the Associate Director Environmental Management (ADEM) for approval upon completion of the EMR review period

CoA Condition

4. review and update the CEMP at regular intervals, and in response to any actions identified as part of the EMR's audit of the document
5. ensure updates to the CEMP are made within seven days of the completion of the review or receipt of actions identified by any EMR audit of the document, and be submitted to the EMR for approval.

The CEMP must be approved by the ADEM prior to the commencement of construction work associated with the Project.

11. Environment Personnel

Suitably qualified and experienced environmental management personnel shall be available and be responsible for implementing the environmental objectives for the Project, including undertaking regular site inspections, preparation of environmental documentation and ensuring the Project meets the requirements of the Environmental Management System (EMS).

Details of the environmental personnel, including relevant experience, defined responsibilities and resource allocation throughout the project (including time to be spent on-site/off-site) are to be submitted for the approval of the ADEM, at least 21 days prior to commencement of construction of the Project (or such time as otherwise agreed by the ADEM).

Any adjustments to environmental resource allocations (on-site or off-site) are to be approved by the ADEM.

12. Environmental Management Representative

Prior to the commencement of construction, the ADEM shall appoint an EMR for the duration of the construction period for the Project.

The EMR shall provide advice to the ADEM in relation to the environmental compliance and performance of the Project. The EMR shall have responsibility for:

- a) considering and advising TfNSW on matters specified in these conditions and compliance with such
- b) reviewing and where required by the ADEM, providing advice on the Project's induction and training program for all persons involved in the construction activities and monitoring implementation
- c) periodically auditing the Project's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with authority approvals and licences, the CEMP and associated plans and procedures, including carrying out site inspections weekly, or as required by the ADEM
- d) reporting weekly to TfNSW, or as required by the ADEM
- e) issuing a recommendation for work to stop immediately, if in the view of the EMR circumstances so require. The stop work recommendation may be limited to specific activities if the EMR can easily identify those activities
- f) requiring reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts
- g) reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections
- h) providing reports to TfNSW on matters relevant to the carrying out of the EMR role as necessary
- i) where required by the ADEM, providing advice on the content and implementation of the CEMP and Environmental Controls Map (ECM) in accordance with the conditions
- j) reviewing and approving updates to the CEMP.

The EMR shall be available during construction activities to inspect the site(s) and be present on-site as required.

13. Environmental Controls Map

An Environmental Controls Map (ECM) shall be prepared and implemented in accordance with TfNSW's *Guide to Environmental Controls Map* (SD-015) prior to the commencement of

CoA Condition

construction for implementation for the duration of construction. The ECM is to be endorsed by the EMR and may be prepared in stages, as set out in the CEMP.

A copy of the ECM shall be submitted to the EMR for review and endorsement. The EMR is to be given a minimum period of seven days to review and endorse the ECM. Following receipt of the EMR's endorsement, the ECM shall be submitted to the ADEM for approval, at least 14 days prior to commencement of construction (or such time as is otherwise agreed by the ADEM).

The ECM shall be prepared as a map – suitably enlarged (e.g. A3 size or larger) for mounting on the wall of a site office and included in site inductions, supported by relevant written information.

Updates to the ECM shall be made within seven days of the completion of the review or receipt of actions identified by any EMR audit of the document and submitted to the EMR for approval.

Hours of Work

14. Standard Construction Hours

Construction activities shall be restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); 8:00 am to 1:00 pm (Saturday) and at no time on Sundays and public holidays except for the following works which are permitted outside these standard hours:

- a) any works which do not cause noise emissions to be more than 5dBA higher than the rating background level (RBL) at any nearby residential property and/or other noise sensitive receivers
- b) out of hours work identified and assessed in the EIA or the approved Out of Hours Work Protocol (OOHWP)
- c) the delivery of plant, equipment and materials which is required outside these hours as requested by police or other authorities for safety reasons and with suitable notification to the community as agreed by the ADEM
- d) Emergency Work to avoid the loss of lives, property and/or to prevent environmental harm
- e) any works authorised under the *Environmental Planning and Assessment (COVID-19 Development – Infrastructure Construction Work Days No. 2) Order 2020* (whilst the Order is in effect)
- f) any other work as agreed by the ADEM and considered essential to the Project, or as approved by EPA (where an EPL is in effect).

15. High Noise Generating Activities

Rock breaking or hammering, jack hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel and any other activities which result in impulsive or tonal noise generation shall not be undertaken for more than three hours, without a minimum one hour respite period unless otherwise agreed to by the ADEM, or as approved by EPA (where relevant to the issuing of an EPL).

Noise and Vibration

16. Construction Noise and Vibration

Construction noise and vibration mitigation measures shall be implemented through the CEMP, in accordance with TfNSW's *Construction Noise and Vibration Strategy* (ST-157) and the EPA's *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009). The mitigation measures shall include, but not limited to:

- a) details of construction activities and an indicative schedule for construction works
- b) identification of construction activities that have the potential to generate noise and/or vibration impacts on surrounding land uses, particularly sensitive noise receivers
- c) detail what reasonable and feasible actions and measures shall be implemented to minimise noise impacts (including those identified in the EIA)
- d) procedures for notifying sensitive receivers of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise and vibration complaints

CoA Condition

- e) an Out of Hours Work Protocol (OOHWP) for the assessment, management and approval of works outside the standard construction hours identified in Condition 1414 of this approval, including a risk assessment process which deems the out of hours activities to be of low, medium or high environmental risk, is to be developed. All out of hours works are subject to approval by the EMR and/or ADEM or as approved by EPA (where relevant to the issuing of an EPL). The OOHWP should be consistent with the TfNSW *Construction Noise and Vibration Strategy* (ST-157)
- f) a description of how the effectiveness of actions and measures shall be monitored during the proposed works, identification of the frequency of monitoring, the locations at which monitoring shall take place, recording and reporting of monitoring results and if any exceedance is detected, the manner in which any non-compliance shall be rectified.

17. Vibration Criteria

Vibration (other than from blasting) resulting from construction and received at any structure outside of the Project shall be limited to:

- a) for structural damage vibration – British Standard BS 7385-2:1993 *Evaluation and measurement for vibration in buildings Part 2* and German Standard DIN 4150:Part 3 – 1999: *Structural Vibration in Buildings: Effects on Structures*
- b) for human exposure to vibration – the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: A Technical Guideline* (Department of Environment and Conservation, 2006) which includes British Standard BS 6472-2:1992 *Guide to Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz)*.

These limits apply unless otherwise approved by the ADEM through the CEMP.

18. Non-Tonal Reversing Beepers

Non-tonal reversing beepers (or an equivalent mechanism) shall be fitted and used on all construction vehicles and mobile plant regularly used on-site (i.e. greater than one day) and for any out of hours work.

19. Piling

Wherever practical, piling activities shall be completed using non-percussive piles. If percussive piles are proposed to be used, approval of the ADEM shall be obtained prior to commencement of piling activities.

20. Noise Impacts on Educational Facilities

Potentially affected pre-schools, schools, universities and any other affected permanent educational institutions shall be consulted in relation to noise mitigation measures to identify any noise sensitive periods (e.g. exam periods). As much as reasonably practicable noise intensive construction works in the vicinity of affected educational buildings are to be minimised.

Contamination and Hazardous Materials

21. Unidentified Contamination (Other Than Asbestos)

If previously unidentified contamination (excluding asbestos) is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and report prepared to determine the nature, extent and degree of any contamination. The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA guidelines, including the *Guidelines for Consultants Reporting on Contaminated Sites* (Office of Environment and Heritage, 2011).

A copy of any contamination report shall be submitted to the EMR for review. The EMR is to be given a minimum period of seven days to review.

A revised copy of the report shall be submitted to the ADEM for consideration upon completion of the EMR review period. The ADEM shall determine whether consultation with the relevant council and/or EPA is required prior to continuation of construction works within the affected area.

Note: *In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent*

CoA Condition

the preparation of a single investigation report to satisfy the requirements of both Condition 21 and Condition 22.

22. Asbestos Management

If previously unidentified asbestos contamination is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and a report prepared to determine the nature, extent and degree of the asbestos contamination. The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA, Safe Work Australia and SafeWork NSW guidelines and include the proposed methodology for the remediation of the asbestos contamination. Remediation activities must not take place until receipt of the investigation report.

Works may only recommence upon receipt of a validation report from a suitably qualified contamination specialist that the remediation activities have been undertaken in accordance with the investigation report and remediation methodology.

Note: *In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both Condition 21 and Condition 22.*

23. Storage and Use of Hazardous Materials

Construction hazard and risk issues associated with the use and storage of hazardous materials shall be addressed through risk management measures, which shall be developed prior to construction as part of the overall CEMP, in accordance with relevant EPA guidelines, TfNSW's *Chemical Storage and Spill Response Guidelines (SD-066)* and Australian and ISO standards. These measures shall include:

- a) the storage of hazardous materials, and refuelling/maintenance of construction plant and equipment are to be undertaken in clearly marked designated areas designed to contain spills and leaks
- b) spill kits, appropriate for the type and volume of hazardous materials stored or in use, to be readily available and accessible to construction workers. Kits are to be kept at hazardous materials storage locations, in site compounds and on specific construction vehicles. Where a spill to a watercourse is identified as a risk, spill kits are to be kept in close proximity to potential discharge points in support of preventative controls
- c) all hazardous materials spills and leaks to be reported to site managers and actions to be immediately taken to remedy spills and leaks
- d) training in the use of spill kits to be given to all personnel involved in the storage, distribution or use of hazardous materials.

Erosion and Sediment Control

24. Erosion and Sediment Control

Soil and water management measures shall be prepared, implemented and maintained as part of the CEMP for the mitigation of water quality impacts during construction of the Project. The management measures shall be prepared in accordance with *Managing Urban Stormwater: Soils and Construction Volume 1 4th Edition* (Landcom, 2004).

Heritage Management

25. Aboriginal and Non-Aboriginal Heritage

If previously unidentified Aboriginal or non-Aboriginal heritage/archaeological items are uncovered during construction works, the procedures contained in the Transport for NSW *Unexpected Heritage Finds Guideline (SD-115)* shall be followed and all works in the vicinity of the find shall cease. The EMR shall be immediately notified to co-ordinate a response, which may include seeking appropriate advice from a suitably qualified and experienced Heritage Advisor (in consultation with Heritage NSW, and/or the Energy, Environment and Science Group of the Department of Planning, Industry and Environment, as applicable). Works in the vicinity of the find shall not re-commence until clearance has been received from Transport for NSW and/or the Heritage Advisor.

CoA Condition

Flora and Fauna

26. Removal of Trees or Vegetation

Separate approval, in accordance with Transport for NSW's *Removal or Trimming of Vegetation Application* (FT-078), is required for the trimming, cutting, pruning or removal of trees or vegetation where the impact has not already been identified in the EIA for the Project. The trimming, cutting, pruning or removal of trees or vegetation shall be undertaken in accordance with the conditions of that approval.

27. Replanting Program

All cleared vegetation shall be offset in accordance with Transport for NSW's *Vegetation Offset Guide* (ST-149). All vegetation planted on-site is to consist of locally endemic native species, unless otherwise agreed by the ADEM, following consultation with the relevant council, where relevant, and/or the owner of the land upon which the vegetation is to be planted.

Lighting

28. Lighting Scheme

A lighting scheme for the construction and operation of the Project is to be developed by a suitably qualified lighting designer and prepared in accordance with *AS 1158 Lighting for Roads and Public Spaces* and *AS 4282 Control of the Obtrusive Effects of Outdoor Lighting*. The lighting scheme shall address the following as relevant:

- consideration of lighting demands of different areas
- strategic placement of lighting fixtures to maximise ground coverage
- use of LED lighting
- minimising light spill by directing lighting into the station/car park/pathways
- control systems for lighting that dim or switch-off lights settings according to the amount of daylight the zone is receiving
- motion sensors to control low traffic areas
- allowing the lighting system to use low light or switch off light settings while meeting relevant lighting Standards requirements, and
- ensuring security and warning lighting is not directed at neighbouring properties.

Property

29. Property Condition Surveys

Subject to landowner agreement, property condition surveys shall be completed prior to piling, excavation or bulk fill or any vibratory impact works including jack hammering and compaction (Designated Works) in the vicinity of the following buildings/structures:

- a) all buildings/structures/roads within a plan distance of 50 metres from the edge of the Designated Works
- b) all heritage listed buildings and other sensitive structures within 150 metres from the edge of the Designated Works.

Property condition surveys need not be undertaken if a risk assessment indicates that selected buildings/structures/roads identified in (a) and (b) will not be affected as determined by a qualified geotechnical and construction engineering expert with appropriate registration on the National Professional Engineers Register prior to commencement of Designated Works.

Selected potentially sensitive buildings and/or structures shall first be surveyed prior to the commencement of the Designated Works and again immediately upon completion of the Designated Works.

All owners of assets to be surveyed, as defined above, are to be advised (at least 14 days prior to the first survey) of the scope and methodology of the survey, and the process for making a claim regarding property damage.

A copy of the survey(s) shall be given to each affected owner. A register of all properties surveyed shall be maintained.

CoA Condition

Any damage to buildings, structures, lawns, trees, sheds, gardens, etc. as a result of construction activity direct and indirect (i.e. including vibration and groundwater changes) shall be rectified at no cost to the owner(s).

Sustainability

30. Sustainability Officer

A suitably qualified and experienced Sustainability Officer shall be appointed who is responsible for implementing the sustainability objectives for the Project, in line with the overarching Sustainability Strategic Management Plan for the Program.

Details of the Sustainability Officer including defined responsibilities, duration and resource allocation throughout the appointment are to be submitted to the satisfaction of the Associate Director Sustainability, Planning & Development (ADSPD) prior to the preparation of the Sustainability Management Plan.

31. Sustainability Management Plan

A Sustainability Management Plan (SMP) which details the approach to managing sustainability requirements and opportunities during design and construction shall be prepared. The SMP shall include the following as a minimum:

- a) a completed electronic checklist demonstrating compliance with the Infrastructure Sustainability Council of Australia (ISCA) scorecard demonstrating credits targeted to meet an Infrastructure Sustainability Rating Scheme (v1.2) for 'Design' and 'As-Built'.
- b) a statement outlining the Construction Contactor's own corporate sustainability policies, obligations, goals, targets and commitments
- c) a description of the processes and methodologies for encouraging and identifying innovative sustainability outcomes on the Project, and the areas targeted for innovative sustainable solutions to be explored and/or implemented on the Project
- d) the approach to the identification of opportunities to reduce carbon emissions, energy use and embodied lifecycle impacts of the Project. This should include a summary of initiatives proposed for implementation to meet energy and carbon management objectives and targets
- e) the approach to sustainable procurement including how procurement processes have taken in to account the principles of ISO 20400: 2017 – Sustainable Procurement in the selection of all materials, products and services
- f) a description of the processes, standards and procedures for undertaking climate change risk assessments and strategies for mitigation of risks associated with climate change and extreme weather events.

A copy of the SMP shall be submitted to the ADSPD at least 30 days prior to the commencement of construction, for approval (or such time as is otherwise agreed by the ADSPD).

32. Infrastructure Sustainability Council of Australia (ISCA) Ratings

The Project shall be registered with the Infrastructure Sustainability Council of Australia (ISCA), and shall aim to achieve a minimum 'Infrastructure Sustainability Rating Tool' (v1.2) 'Excellent' rating with an overall score for the 'Design' and 'As-Built' components of the Project.

Traffic, Transport and Access

33. Traffic Management Plan

A construction Traffic Management Plan (TMP) shall be prepared as part of the CEMP which addresses, as a minimum, the following matters:

- a) ensuring adequate road signage at construction work sites to inform motorists and pedestrians of the work site ahead to ensure that the risk of road accidents and disruption to surrounding land uses is minimised
- b) maximising safety and accessibility for pedestrians and cyclists
- c) ensuring adequate sight lines to allow for safe entry and exit from the site

CoA Condition

- d) ensuring access to railway stations, businesses, entertainment premises and residential properties (unless affected property owners have been consulted and appropriate alternative arrangements made)
- e) managing impacts and changes to on and off street parking and requirements for any temporary replacement provision
- f) parking locations for construction workers away from stations and busy residential areas and details of how this will be monitored for compliance
- g) routes to be used by heavy construction-related vehicles to minimise impacts on sensitive land uses and businesses
- h) details for relocating kiss-and-ride and rail replacement bus stops if required, including appropriate signage to direct customers, in consultation with the relevant bus operator. Particular provisions should also be considered for the accessibility impaired
- i) measures to manage traffic flows around the area affected by the Project, including as required regulatory and direction signposting, line marking and variable message signs and all other traffic control devices necessary for the implementation of the TMP.

Consultation with the relevant roads authority must be undertaken during the preparation of the TMP, as required. The performance of all Project traffic arrangements must be monitored during construction.

34. Road Condition Reports

Prior to construction commencement, road condition surveys and reports on the condition of roads and footpaths to be affected by construction shall be prepared. Any damage resulting from the construction of the Project, aside from that resulting from normal wear and tear, shall be repaired at the Proponent's expense.

35. Road Safety Audit

A Road Safety Audit shall be undertaken as part of the detailed design process and on completion of construction. The Road Safety Audit shall include but not be limited to the safety of Railway Parade and mitigation measures proposed must be implemented. Measures would consider but not be limited to:

- raised pedestrian crossings
- speed humps
- reducing the speed limit
- traffic calming kerb alignments.

The Road Safety Audit is to be submitted to and accepted by Transport for NSW. The findings of the Road Safety Audit shall be provided to Hornsby Shire Council for consultation.

Urban Design and Landscaping

36. Urban Design and Landscaping Plan

An Urban Design and Landscaping Plan (UDLP) for the Project shall be prepared and submitted to TfNSW for endorsement by the Precincts and Urban Design Team. The UDLP is to address the fundamental design principles as outlined in *'Around the Tracks' – urban design for heavy and light rail* (TfNSW, Interim 2016). At a minimum, the UDLP shall:

- a) demonstrate a robust understanding of the Project site through a comprehensive site analysis to inform the design direction, demonstrate connectivity with street networks, transport modes, active transport options, and pedestrian distances
- b) identify opportunities and challenges
- c) establish site-specific principles to guide and test design options
- d) demonstrate how the preferred design option responds to the design principles established in *Around the Tracks*, including consideration of Crime Prevention through Environmental Design Principles.

The UDLP is to include the Public Domain Plan for the chosen option and shall provide analysis of the:

CoA Condition

- (i) landscape design approach including design of pedestrian and bicycle pathways, street furniture, interchange facilities, new planting and opportunities for public art
- (ii) materials schedule including materials and finishes for proposed built works, colour schemes, paving and lighting types for public domain, fencing and landscaping
- (iii) an Artist's Impression or Photomontage to communicate the proposed changes to the precinct.

The following design guidelines are available to assist and inform the UDLP for the Project:

- *TAP Urban Design Plan Guidelines* (TfNSW, Draft 2018)
- *Commuter Car Parks Urban Design Guidelines* (TfNSW, Interim 2017)
- *Managing Heritage Issues in Rail Projects Guidelines* (TfNSW, Interim 2016)
- *Creativity Guidelines for Transport Systems* (TfNSW, Interim 2016)
- *Water Sensitive Urban Design Guideline SD-106* (TfNSW, 2017).

The UDLP shall be:

- prepared in consultation with councils and relevant stakeholders
- prepared by a registered architect and/or landscape architect
- prepared to inform/support the concept design and submitted to TfNSW for review at this design milestone
- finalised and submitted to TfNSW at the completion of design documentation.

Site Specific Conditions

37. Kiss and Ride

Opportunities for the provision a kiss and ride bay on The Esplanade shall be further investigated as part of detailed design.

38. Relocate Timed Parking Spaces

Opportunities to relocate timed parking spaces shall be investigated as part of detailed design in consultation with Hornsby Shire Council.

39. Heritage Interpretation

Opportunities for Heritage interpretation in the forecourt adjacent to The Esplanade relating to the Zig Zag Railway and Quarry Heritage item shall be investigated as part of detailed design.

40. CPTED Measures

A CPTED investigation shall be undertaken as part of the detailed design process. The investigation shall include but not be limited to the safety of the walkway between Wells Street and Railway Parade and mitigation measures proposed must be implemented. Measures must consider but not be limited to:

- installation of CCTV for the entire walkway
- installation of new lighting for the entire walkway
- alterations to the walkway
- other CPTED improvement measures.

41. Tree Protection Measures

The construction of the Project is to proceed in accordance with the Tree Protection Plan (TPP) as outlined in the *Thornleigh Station Upgrade Arboricultural Impact Assessment and Tree Protection Plan* (Witten, 2020) to protect trees that would be retained. The TPP includes provisions for:

- tree protection fencing
- site inspections by a qualified arborist at key project stages
- specific measures to protect trees at the Railway Parade station access (Trees 1, 2, 3 and 4).

CoA Condition

Implement protection measures for the four Sydney Blue Gum saplings to be retained near the Railway Parade station access to protect these saplings during construction and post construction work. The measures are to include identification of the saplings on ground using high visibility flagging tape to clearly mark the locations of the trees to be avoided, and setback of the construction footprint a minimum of 2 metres from these saplings.

Any departure from these requirements may only occur with the agreement of the ADEM.
