Epping to Thornleigh Third Track

Urban Design and Landscape Plan

JUNE 2014

Australian Government

NSW GOVERNMENT

ETT ALLIANCE

AECOM

Prepared for

ETTT Alliance

Prepared by

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Quality Information

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Executive summary

Executive summary

The Epping to Thornleigh Third Track (ETTT) Project involves construction of six kilometres of new and upgraded track within the rail corridor between Epping and Thornleigh stations on the western side of the existing tracks. The new (third) track will separate northbound freight from all-stops passenger train movements along the steep incline between Epping and Thornleigh. This will help provide additional capacity for northbound (interstate container) freight trains, particularly during the daytime when passenger trains currently have priority.

The ETTT Project will have a significant impact on the community. One of the key categories of impact will be changes to visual amenity due to clearing of vegetation and the presence of new and altered infrastructure.

This Urban Design and Landscape Plan (UDLP) informs the design for the ETTT Project by outlining how visual impacts will be managed, and minimised where possible. The UDLP focuses on how the project interfaces with the built and natural environments at station precincts and through the corridor. The UDLP builds on the concept-level information provided in the EIS (published in September 2012) and Submissions Report (published in March 2013).

The UDLP has been prepared to address the requirements of the ETTT Project's EIS, Submissions Report and Conditions of Approval (CoA) as set by the NSW Department of Planning and Infrastructure (DP&I).

The UDLP takes into consideration feedback received from the community during the exhibition of the Environmental Impact Statement (EIS) in late 2012, through 2013.

✓ The UDLP also addresses feedback received during the exhibition of the UDLP from 29 November 2013 to 10 January 2014.

Many positive changes to the project's design have been made as a result of community feedback. Changes from recent consultation are listed in Section 1.2 and are highlighted throughout this plan in yellow shading and ticks (for easy identification).

✓ **Changes made based on the community consultation during December 2013**

To manage visual impacts, urban design and landscape objectives were prepared to underpin how the ETTT Project would be integrated with the existing conditions. To achieve the objectives the following design principles and strategies have been considered:

- Conservation: Conserve the existing landscape and local character wherever possible, including the heritage look and feel, community amenity and privacy
- Accessibility: Retain, and improve (where possible) access and connectivity at stations and along / across the rail corridor
- Sustainability: Protect our environment for future generations and consider whole of life maintenance
- Safety in design: Provide a design that is safe and secure for the public, rail users and infrastructure maintainers
- The travel experience: Maintain a quality travel experience for commuters
- Legibility: The 'Keep it Simple' principle will be applied to the corridor design to deliver a clean urban design outcome, devoid of unnecessary clutter or embellishments.

These design principles are specifically targeted to minimise impacts along the entire corridor but with an emphasis in the heritage zone (Cheltenham and Beecroft) and where native vegetation is to be removed. Planting of trees within the rail corridor is not possible due to the limited space available and the requirement to comply with Transport for NSW (TfNSW) and Sydney Trains requirements regarding safety, proximity of vegetation to the operating tracks and overhead wiring.

The UDLP also includes an assessment of the visual impacts to private property following completion and establishment of landscaping.

In addition to the impacts described above, there will be some benefits to the community and rail users as a result of the ETTT project. These benefits include:

- Improved reliability of the passenger rail service (by separating uphill freight trains from all-stops services)
- Improved lighting at station car parks on The Crescent and Sutherland Road (Cheltenham) and Wongala Crescent (Beecroft)
- Expansion of the playground at Beecroft
- Installation of anti-throw screens on existing bridges over the tracks at Cheltenham, Beecroft and Pennant Hills, improving train safety
- New 'kiss and ride' parking at Cheltenham station
- Existing platforms at Cheltenham will be raised, meaning the platforms will be at the same level as the train doors
- Better disabled access at Cheltenham station, especially between platforms and the car parks
- More of the anticipated future growth in interstate freight will be borne by the rail network not the road network.

✓ This UDLP was made available for public consultation from 29 November 2013 until 10 January 2014. Following public exhibition of the UDLP, comments and feedback have been considered and where reasonable and feasible incorporated into the design. This final UDLP has been reviewed and approved by the DP&I.

Operational noise mitigation measures for the ETTT Project will be considered and assessed as part of the separate Operational Noise and Vibration Review (ONVR) process. Depending on the ONVR findings and mitigation measures to be implemented, additional consultation with affected communities will be undertaken.

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01

1. Introduction

1.1 Purpose of this document

This Urban Design and Landscape Plan (UDLP) has been prepared to meet the requirements of relevant technical engineering design standards; the Epping to Thornleigh Third Track (ETTT) Project Environmental Impact Statement (EIS); ETTT Submissions Report and the Conditions of Approval (CoA) dated 17 July 2013.

The UDLP describes the urban design and landscape principles for the proposed ETTT Project. The EIS for the project was on public exhibition between September and November 2012 and the Department of Planning and Infrastructure (DP&I) approved the project on 17 July 2013. The UDLP was publicly exhibited between 29 November 2013 and 10 January 2014.

This UDLP has considered feedback from the community as identified in the Submissions Report (March 2013), from the UDLP community consultation process and other general consultation activities prior to then. Key issues raised by the community with respect to urban design and landscape issues were focused around:

- Heritage look and feel
- Landscape character of the area, including plant types.
- Visual impact, including station finishes
- Vegetation (removal and revegetation).

The UDLP describes the visual, landscape and cultural/heritage qualities of the corridor and surrounding urban context. It considers the visual impacts of the proposed development mostly during the operational phase of the ETTT and recommends urban and landscape design strategies to, where possible, protect and enhance the existing site conditions. Being prepared concurrently with the engineering design has allowed for early coordination with the technical disciplines and informed the latter stages of detailed design by:

- Providing guidance to detailed design. In particular, this has included the materials, profile and finish of walls, bridges and fences as well landscape strategies for rehabilitation and embellishments at station precincts
- Ensuring an integrated, ‘whole-of-team’ outcome through alignment of the design principles and objectives.

The UDLP also supports the ETTT Project in communicating with the community to clearly illustrate the design intent of the station precincts and corridor. Detailed information regarding community engagement is outlined in Section 1.5, Appendix B and Appendix C.

1.2 Changes as a result of community feedback

Community consultation – during the public exhibition

We are pleased to confirm the following list of items we have been able to amend as a result of community feedback received during the public exhibition phase:

- Implement vegetation screening along The Crescent car park at Cheltenham
- Use alternative finishes for vertical elements at Cheltenham station including the lift shaft cladding, roof fascias and throw screen solid panel
- Implement the Beecroft playground extension which includes provision of new landscaping, seating, play and other family friendly equipment as well as retention of existing trees within the playground extension area
- Modification of the drainage design through Beecroft Gardens to minimise the impact on vegetation and parkland. The removal of the catch drain works will help protect one of the Bunya Pines, however, this approach is yet to be endorsed by the Asset Standards Authority. Even with such an endorsement the project arborist will make the final determination on whether or not that Bunya Pine is viable for retention. The other Bunya Pine will be removed
- Use brick pavers for the footpath in front of the Wongala Crescent carpark retaining wall at Beecroft
- Implement, where possible, changes to plant types as proposed by residents, the various community groups and Hornsby Shire Council.
- Implement alternative finishes to the Pennant Hills Station footbridge ramp wall, collision protection wall and stair undercroft wall
- Implement an alternative (green) roof colour at Pennant Hills Station
- Additional upgrades to footpaths near the corner of Yarrara Road and Pennant Hills Road, Pennant Hills
- Provide additional information regarding the proposed position of bins and seats
- Implement public art at Cheltenham, Beecroft and Pennant Hills Station precincts
- Carry out seed collection of specific local trees with a view to reflecting the original plant community, and re-introduce some less common but locally occurring species into the project
- Propose locations for additional vegetation planting in public areas, for agreement with Council
- Extend the plant establishment period from 12 months to two years
- Extend the consultation period for the UDLP.

1.3 The proposal

1.3.1 Project description

The ETTT Project includes (refer Figure 1-1)

- Construction of approximately six kilometres of new track on the western side of the existing track between Epping and Thornleigh
- An access upgrade to Cheltenham Station to make it compliant with the Disability Discrimination Act (DDA) and associated Regulations. The new design would include construction of a concourse (on the southern side of the existing overbridge) to allow space for ticketing facilities, two new lifts and stairs to provide access to the existing platforms
- Modifications to the pedestrian underpass and commuter car park (retaining existing numbers of parking spaces) at Beecroft Station.
- Construction of a new rail bridge crossing the M2 Motorway and Devlins Creek
- Extension of Pennant Hills Station concourse, including a new lift and stairs and modifications to Yarrara Road footpath and roadway, and a replacement footbridge south of the station
- Widening of a number of cuttings along the alignment to accommodate the new third track
- Modifications to existing services within the rail corridor and in some public areas.

ETTT UDLP development process

The UDLP is a key part of the project development. Figure 1-1 illustrates the process undertaken to finalise the UDLP.

Figure 1-1 Epping to Thornleigh Third Track development process diagram

1.3.2 Key impacts

The key visual impacts as a result of the ETTT Project being located on the western side of the existing main northern railway line are:

- The new track will be 6m to 15m closer to existing properties (including residential, commercial and open space), than the current alignment
- Excavation to widen existing cuttings, both through sandstone and shale geology, which will also require removal of bushland, including EECs
- A new bridge and viaduct over the M2 Motorway
- Modification of existing overbridges including the addition of anti-throw screens
- Removal of vegetation at Cheltenham, Beecroft and Pennant Hills stations
- Removal of one – and refurbishment of two other - station buildings at Cheltenham to accommodate the third track
- Installation of a concourse at Cheltenham Station
- Modifications to Beecroft Station underpass
- Modifications to Pennant Hills Station
- Commuter carparking modifications at Cheltenham and Beecroft
- New retaining walls and areas of rock cuttings required to accommodate the third track.

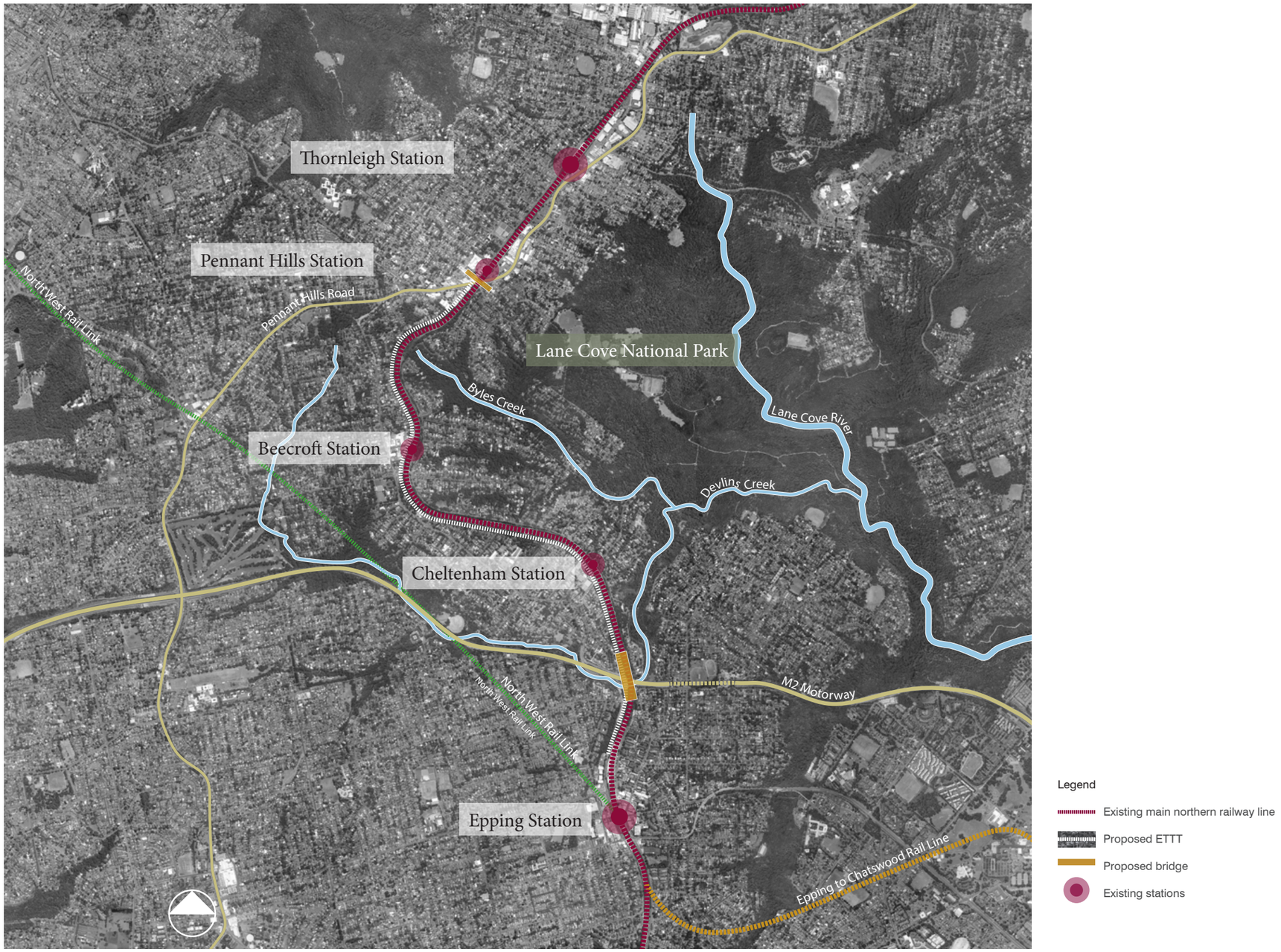

Figure 1-2 ETTT subject area site context

1.4 Conditions of Approval

The Director Generals Conditions of Approval have been addressed in this UDLP as follows:

Condition 31 (C31) - A Design and Landscape Plan shall be prepared and implemented for the SSI. The Plan shall be prepared by appropriately qualified person(s) in consultation with RailCorp, relevant Councils and the community and shall present an integrated design and landscape plan for the SSI. The Plan shall include, but not necessarily be limited to:		
Requirement		**Location in Report**
a)	identification of design principles and standards based on: i. local environmental and heritage values ii. urban design context iii. sustainable design and maintenance iv. transport and land use integration v. passenger and community safety and security vi. community amenity and privacy vii. relevant design standards and guidelines such as the NSW Sustainable Design Guidelines for Stations (v2.0, TfNSW, 2011), Bridge Aesthetics Design guidelines to improve the appearance of bridges in NSW (RMS, 2012), Guidelines for the Development of Public Transport Interchange Facilities (Ministry of Transport, 2008) and Crime Prevention Through Environmental Design Principles (Department of Urban Affairs and Planning, 2001), and relevant Agency and Council design standards.	Refer to Section 02
b)	the location of existing and retained vegetation and landscaping;	Refer to Section 07 – Appendix D
c)	a description of disturbed areas and details of the strategies to progressively rehabilitate regenerate and/ or revegetate these areas. Details of species to be replanted/ revegetated shall be provided, including their appropriateness to the area and habitat for threatened species;	Refer to Section 06
d)	specific measures to limit the visual impacts of the proposed elevated concourse of Cheltenham Station, including limiting privacy and overshadowing impacts;	Refer to Section 03 - Part 3.3
e)	design details of built elements (retaining walls, bridges, viaducts, stations, parking areas etc) and measures to minimise the impact of these elements, including an embankment and retaining wall plan that avoids, where feasible and reasonable, the use of shotcrete;	Refer to Section 03 and Section 06
f)	an assessment of the visual screening effects of existing vegetation and the proposed landscaping and built elements. Where receivers have been identified as likely to experience a moderate or high visual impact as a result of the operation and residual impacts are likely to remain, the Proponent shall, in consultation with affected receivers, identify opportunities for providing at-receiver landscaping to further screen views of the SSI. Where agreed to with the landowner, these measures shall be implemented during the construction of the SSI;	Refer to Section 05
g)	graphics such as sections, perspective views and sketches for key elements of the SSI, including, but not limited to built elements of the SSI;	Refer to Section 03
h)	monitoring and maintenance procedures for the built elements (including graffiti management), rehabilitated vegetation and landscaping (including weed control) including performance indicators, responsibilities, timing and duration and contingencies where rehabilitation of vegetation and landscaping measures fail; and	Refer to 6.5.5
i)	evidence of consultation with the relevant council and community on the proposed urban design and landscape measures prior to its finalisation. Purpose of this document is for community engagement.	To date, the project team has had preliminary briefings with Council and the Community

1.5 Consultation

The NSW Minister for Planning and Infrastructure approved the ETTT Project on 17 July 2013 under Part 5.1 of the *Environmental Planning and Assessment Act 1979*.

In accordance with the ETTT Project Environmental Impact Statement (EIS), Submissions Report, and CoA, this UDLP has been developed for consultation with Sydney Trains, Hornsby Shire Council and the local community before being finalised for approval by DP&I. It also responds to community consultation undertaken to date. The UDLP outlines the principles, targets and methodology for re-establishing the parts of the local area most visually impacted by the project.

Extensive community consultation for the ETTT Project has been undertaken before, during and after the EIS. Consulting closely with the community and stakeholders in order to ensure they are well informed of the project is a core principle of the ETTT Project and at the heart of the project's objectives.

The UDLP has been developed in line with local values and preferences and minimises the project's environmental footprint, wherever possible. Following is an outline of UDLP consultation completed to date and planned consultation for the life of the project.

Consultation objectives are to:

- Create stakeholder and community awareness of the project
- Ensure the local community and stakeholders are given the opportunity to provide feedback during the development period
- Demonstrate an understanding of community concerns and values
- Clearly explain how the community and stakeholders can participate in the project and how their input will be used
- Provide the community and stakeholders an opportunity to ask questions and identify areas of concern regarding the project
- Develop solutions that address community expectations where possible.

1.5.1 EIS consultation

A total of 426 submissions were received from the community during exhibition of the EIS. A further six submissions were received from government agencies, which included Hornsby Shire Council, the NSW Environment Protection Authority (EPA) and the NSW Office of Environment and Heritage (OEH).

Existing noise levels, operational noise impacts and mitigation, historic heritage and amenity related impacts (particularly at Cheltenham and Beecroft) were among the main issues raised by the community.

Since consultation started on the project in 2012, many people have expressed how much they value the local character of their area and how important it is to minimise the visual impacts of the project. This interest in the local character of the area resulted in wholesale design changes to Cheltenham Station to make it less imposing on the surrounding environment.

The March 2013 Submissions Report documents and considers all the submissions received and outlines TfNSW's response to them. Key items from the Submissions Report deferred to the UDLP include:

- Loss of vegetation along the corridor and at the Stations – covered in Section 3
- Visual impacts and mitigation measures – covered in Sections 3 and 5
- Lighting impacts – covered in Section 3.3, 6.3.4, Appendix B and Appendix C
- Maintaining the existing triangle motif at Pennant Hills Station – Covered in Section 3.5 and Appendix C
- Retaining wall treatments – Covered in Section 6.1
- Noise wall design – this will depend upon the outcomes of the Operational Noise and Vibration Review, and will be addressed at a later date where applicable.

1.5.2 Community consultation – from April to November 2013

Consultation on the ETTT Project continued in April 2013 and then throughout 2013.

Design principles

Based on an initial assessment of the site and project by our design team and consideration given to issues raised by the community, a number of principles were identified to guide the delivery of urban design and landscaping on the project

As can be seen from these figures, a high percentage of respondents that provided feedback in April 2013 indicated that these principles were either important or very important which gives us confidence that the design intent is in line with community expectations. These principles remain unchanged as a result of public exhibition.

- Over 250 people attended community information sessions at the Beecroft Station gardens and Cheltenham Station forecourt on 6 and 9 April 2013. While the key areas of concern the residents raised were about existing and future operational noise, various feedback and questions were also received on the redesign of Cheltenham Station, vegetation removal and urban design and landscaping consultation. More than 100 people at these sessions provided feedback on the preliminary aspects of the UDLP including preference for plant types and furniture styles at the station precincts and rail corridor
- 'Urban design and landscape feedback' forms were handed out to session attendees but also mailed to all residents along the project corridor encouraging them to provide feedback on the preliminary aspects of the UDLP
- The two August 2013 information sessions were attended by over 110 residents and provided an opportunity for the community to learn about the construction milestones and next steps of the project. Design, construction and environmental team members were present to answer questions which included urban design and landscaping related questions/concerns
- Feedback was also received at various site meetings, MP briefings, conversations over the phone and email correspondence.

1.5.3 Public UDLP exhibition 29 November 2013 to 10 January 2014

The UDLP was placed on public exhibition from 29 November 2013 until 10 January 2014. Over 12,000 flyers and feedback forms were distributed to residents living along the rail corridor between Epping and Thornleigh and handed out at the five local train stations.

The UDLP was made available on the Project Website, and at local displays held at Epping Library, Pennant Hills Library and Cheltenham Recreation Club. CD Copies of the UDLP were mailed out to residents living immediately adjacent to the rail corridor and were made available to others upon request. Hard copies of the UDLP were also provided to community groups and local MPs.

UDLP community information sessions were held on 4 December at the Pennant Hills Bowling Club and on 7 December at the Cheltenham Recreation Club with approximately 100 people attending the two sessions. At the community information sessions, UDLP flyers – have your say forms were distributed for comments and suggestions. These forms (see Appendix C) also provided the following:

- A summary of the changes adopted as a result of previous community feedback including design, revegetation and furniture
- A request for the community to provide their preferred option for the screening at the children's playground at Beecroft Station
- An area to provide comments and feedback on any aspect of the UDLP document

During these information sessions the following issues were raised

- Design of Cheltenham Station not reflecting the heritage look and feel of the surrounding precinct
- Design of Pennant Hills Station not sympathetic to the existing station
- Comments on the proposed extension of the Children's playground at Beecroft Station
- Number of large trees being planted
- Consultation duration and methods
- Location of compounds and extent of clearing at specific locations.
- Project justification
- No lift at Beecroft Station
- Expected impact on the 2 Bunya Pines at Beecroft Station
- Introduce more carparking at stations
- Add noise walls for noise attenuation and visual screening.

During this public exhibition, a total of 238 submissions were received, including submissions from local community groups and Hornsby Shire Council. A summary of key issues raised through submissions included:

- Extent of vegetation removal and rehabilitation
- Appearance/design of Cheltenham and Pennant Hills stations
- Beecroft playground preferred option
- Access
- Commuter parking
- Infrastructure /utilities
- Environmental management
- Operational noise management
- Project communications
- Property impacts

Briefings were also held with Hornsby Shire Council, Sydney Trains, Beecroft and Cheltenham Civic Trust and Pennant Hills District Civic Trust in November/December 2013. A list of community questions/ suggestions and responses can be found in Appendix C.

1.5.4 Consultation findings

Qualitative feedback

Some of the most useful information received before and during the public exhibition phase was in the 'comments' section of the feedback forms. Key themes raised were:

- Alternative planting suggestions and a preference for native plants
- Design at Station Precincts, including the Beecroft play area
- Weed management and maintenance
- Screening options/alternatives where vegetation is being removed
- Improved lighting and safety at stations and car parks
- Alternative colour options and improvements to materials presented
- Appreciation of the opportunity to provide input.

A table of questions and suggestions from the community and responses to these is included in Appendix B and Appendix C.

Plant types and revegetation

Some of the strongest concern was voiced around our need to remove vegetation in the Bushland Shire to make room for the third track and associated infrastructure. We are extremely aware of the community's appreciation of the existing vegetation and what it means to see trees removed. While the project team is required to remove vegetation within approved areas to construct the new third track and associated infrastructure, we are committed to retaining as many trees as possible.

The following was adopted as a result of consultation undertaken during early 2013:

- Grevillea was the most popular plant style at station precincts and has now been included at all 3 stations
- Crepe Myrtle was the most popular plant style at commuter car parks. The Crepe Myrtle which was most popular will be used at Cheltenham and Beecroft Station entrances but is not suitable for the car parks due to its size
- Lily of the Nile (*Agapanthus* 'Snowball') was the least preferred example plant style and as such has been removed from the plant species list

- Along the rail corridor Blueberry Ash (*Elaeocarpus reticulatus*) was the preferred plant style, followed by Rough-Barked Apple (*Angophora floribunda*) and Sweet Bursaria (*Bursaria spinosa*). Respondents stated that the colour of these options would enhance the travel experience.

Additional changes have been made as a result of UDLP public exhibition and include:

- An appropriate native alternative has been proposed at Cheltenham Station instead of the *Fraxinus griffithii* (Evergreen Ash). Proposed species include *Angophora floribunda* (Rough Barked Apple) and *Cupaniopsis anacardioides* (Tuckeroo)
- Planting at Beecroft Station has been reviewed and Trachelospermum jasminoides has been replaced with a *Grevillea* species and the final selection of flowering pear species has been changed to *Pyrus betulaefolia* 'Southworth Dancer'. The species selection at Pennant Hills has been reviewed and will be a predominantly native scheme. The Flowering Pears to Yarara Road have been replaced with *Cupaniopsis anacardioides* (Tuckeroo)
- Ruby Saltbush (*Enchylaena tomentose*) will be retained as part of the corridor for the Sydney Turpentine Ironbark Forest revegetation areas but the % quantities will be reduced
- Inclusion of trees within the western car park at Cheltenham using permeable paving and structural soil. Native tree species such as *Angophora floribunda* (Rough Barked Apple) are proposed
- Plant maintenance period will be extend to two years from the original 12 months proposed.

It should be noted that planting of large trees within or in close proximity to the rail corridor is not possible due to TfNSW Guidelines which do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree.

We also received feedback regarding a desire to plant more advanced, mature size plants, at the time of installation in the corridor. The Project will only use tubestock size plants as these will provide the best long term solution for a robust landscape. Semi-mature sized plants will be installed at station precincts.

Opportunities to plant trees at the modified car parks are limited due to the Project's requirement to maintain the number of parking spaces currently available. Additional tree planting or vegetation retention at the carparks has only been nominated where the number of spaces the ETTT Project would leave behind is not reduced.

Some examples of where the Project team worked to retain existing vegetation are:

- The ETTT Project has agreed with a representative of the Beecroft Bushcare Group to carefully dig up the Gleichinia Fern that is growing within the rail corridor just north of the Cheltenham Station and provide it to the Hornsby Shire Council Nursery on Brittania Street in Pennant Hills for storage before propagating in local areas
- Rail systems enabling works being carried out in the vicinity of a large fig tree adjacent to the rail corridor fence along The Crescent at Cheltenham have been completed without damaging the root system of the tree. Further arborist inspections will be carried out prior to major earthworks occurring in this location, with the objective of retaining the tree in the long-term (although some branch trimming will be required on the third track side)
- We received specific interest and request from the community and the local MP to investigate saving three different trees at the Cheltenham Station car park: a Canary Island Date Palm tree, a Lemon Scented Gum tree and a Camphor Laurel. Due to proximity of construction works and expected impact on root structure the Lemon Scented Gum and Camphor Laurel cannot be saved however the Canary Island Date Palm will be relocated to a position nearby, to be determined in consultation with Hornsby Shire Council. The currently-preferred location is on the verge between the footpath and road outside 52 The Crescent. Further investigations are underway regarding the presence of buried services at this location.
- Amendments have been made to species percentages used in planting mixes to better reflect the original ecological communities, in line with feedback provided by a local resident and horticulturist, Graham Ross
- The ETTT Project will collect seeds from two endemic Eucalyptus species including a stringy bark (*Eucalyptus globoidea ssp. globoidea*) and ironbark. The seed will be propagated for re-use in revegetation areas near Beecroft Road at Epping.

Detailed planting palettes for each station precinct can be found in Sections 3.3.7, 3.4.7 and 3.5.6.

Furniture styles

New furniture will be required in station areas affected by construction. The community preferred furniture styles as shown in sections 3.3.6, 3.4.6 and 3.5.5 will be utilised at the station precincts in recognition of the community preference.

More detail is now provided on furniture styles in public areas, versus furniture styles within operational parts of railway stations (mainly on platforms). Standard platform furniture has been adopted which is consistent with the rest of the rail network.

Cheltenham Station precinct

Community feedback was received regarding the original Cheltenham Station design during the EIS exhibition period (late 2012) and further comments were received during latter consultation in early 2013 and in response to the draft UDLP.

The community reported that they value the existing station's

- Heritage look and feel
- Modest appearance
- Landscaping – vegetation, gardens and rock cuttings.

In response to community feedback the following was incorporated into the redesign of the station;

- The design of the pedestrian plaza near the corner of The Crescent and Cheltenham Road was modified to include a level area adjacent to Cheltenham Road and terraced steps providing better access from The Crescent car park
- The anti throw screens that will be installed along the bridge as well as the concourse areas will include a coloured solid panel at the bottom that matches the fascia colour of the concourse to break up the visual impact as expressed by the community
- The lift shaft cladding colour changed to a light sand colour to compliment the heritage values of the precinct, the timber soffit and station signage
- Additional vegetation between the car park wheel stops and the footpath to provide screening along the car park at this location which will also help to reduce the visual impact of the drainage channel. The proposed trees will be approximately 2m tall when planted and grow to a mature height of between 5m and 9m
- A diagram showing lighting levels resulting from the reconfigured parking areas is included in the UDLP.

We were not able to change the design of Cheltenham Station to incorporate brick into the concourse and lift shafts to make it look more like other buildings (heritage character), in the area because the building design is a contemporary response to compliment the heritage setting rather than compete with it.

Additional undergrounding of power lines in close proximity to Cheltenham Station is not within the ETTT Project's funded scope.

Beecroft Station precinct

Concerns were raised about the proposed impacts on the Beecroft Station gardens and the Bunya Pines in particular. In line with community preferences we can confirm that the catch drain between Copeland Road and the playground (past the Bunya Pines) has been eliminated from the design and the fence will be positioned on top of the capping beam. The capping beam is a simple concrete beam that sits on top of walls and cuttings to provide a neat edge for maintenance purposes and to provide consistency between the different constructed elements of the corridor.

The relocated fence position creates more space for landscaping and reduces the impact on the parkland area. This, in addition to the revised drainage design will assist in protecting the southern Bunya Pine. This approach, however, is yet to be endorsed by the Asset Standards Authority. Even with such endorsement the project arborist will make the final determination on whether or not the Bunya Pine is viable for retention. The northern Bunya is too close to the new third track and is required to be removed.

A suggestion was made to use face brick on the retaining wall along the Wongala Crescent carpark at Beecroft Station however due to space constraints this is not possible. We will however include a brick paved footpath in this location to compliment the existing brick paving through the village centre. Space constraints are also the main reason additional vegetation screening cannot be placed between the commuter carpark and the rail corridor. We investigated the option of planting creeper plants along the fence however these pose a long term maintenance problem for the asset and were not supported.

While much feedback has again been received requesting inclusion of lifts at Beecroft Station, this item is not within the ETTT Project's scope of works and will not be delivered as part of the project.

Beecroft Playground

The project recognises the importance of the train themed playground on the southern side of the pedestrian underpass, and that it is an important icon for the community and local families.

Following feedback from the community, the proposal to extend the playground to the south was explicitly supported by 90%, providing that no additional trees were removed as a result. The final design as shown in section 3.4, incorporates the extension.

The public exhibition process provided options to screen the playground from the rail corridor. Option 1 was a vegetation screen with seating and option 2 was a masonry wall with coloured glass viewing holes. Of the 142 respondents that expressed a preference about the playground, 66% preferred option 1, 23% preferred option 2 while, 8% would like to see a combination of both and 3% did not support either option.

Following community feedback the playground extension design will include:

- A vegetation screen along ¾ of the playground with a short section of a "play" wall with viewing holes
- Additional vegetation screening for the relocated isolation transformer
- Seating, both along the new garden beds and separate seats within the playground area
- Additional playground equipment will include springers and spinners, with appropriate soft fall surface amendments
- A drinking fountain
- A design that ensures no additional trees are required to be removed as result of the extension. That is, the existing Jacaranda trees to the south of the playground will be retained
- Modifications to nearby footpaths in order to accommodate the playground extension and improve pedestrian circulation near the bus stop.

Hornsby Shire Council has advised that they do not support shade structures in parks due to maintenance issues and as such none have been included in the playground design.

Pennant Hills Station

The amended station design has reorientated the new lift; eliminated the northern stairs and has limited the narrowing of Yarrara Road to a maximum of 40cm over a distance of approximately 80m in the vicinity of Ramsay Road. Traffic modelling has indicated that this narrowing will not result in any traffic impacts, and the same number of lanes will remain (notwithstanding that further narrowing will be required temporarily during construction).

In response to community feedback during the public exhibition about the Pennant Hills Station precinct, we have incorporated:

- A tile-finish with designed eucalypt-inspired pattern on the western face of stairs/ramp at the pedestrian footbridge and the stair undercroft wall. For a visual representation, please see Section 3.5
- The colour of the new station roof has been changed to 'Mangrove' from the Contemporary Colorbond range. We are not able to match the existing colour as it is no longer available and due to weathering would be impossible to match. The new Mangrove green while not the same as existing would complement the existing colour
- At the completion of this project there will be an inconsistency in the roof colour between the new roof section and the part of the existing roof that is proposed to be retained. In the future, if the existing roof is to be upgraded there may be an opportunity to match it with the new proposed roof colour (Mangrove), pending availability of the colour at the time
- Additional upgrade of the footpath near the corner of Yarrara Road and Pennant Hills Road which previously was not included in the ETTT Project scope.

Platform canopy shape

Feedback was received regarding the butterfly shaped canopies to the stair and platform at Pennant Hills and how these shapes are not favoured by the community. Further advice is provided below as to the design standards and constraints that have been considered.

The design principle for the canopies to the stair and platform is to ensure good coverage for the protection from inclement weather and sun (it is good practice to design the canopy close to the platform edge as this is permissible within the standards). The design is also required to comply with TfNSW standards which call up coverage, heights, extent and maintenance access as defined constraints.

As such the design of the platform canopies has been developed taking into consideration the following:

- TfNSW standards require that unless the gutters are set back 1300mm from the platform edge they cannot be maintained without a track shutdown
- The design sought to locate the gutter as far from the canopy edge as possible for safe maintenance access, whilst providing the widest platform coverage.
- The intention of the canopy design is to provide a seamless form that "fits" with the existing and proposed roof lines, but that sits separately from it to promote views and ventilation. The architects have created a contemporary design that responds to the requirements for: safety, maintenance, weather protection and maximum coverage to platforms. The gap in the canopies has also been subject to a weather study and the overhangs designed to reduce exposure to rainfall to an acceptable level.

Pedestrian footbridge design

Feedback was received that the design of the new pedestrian footbridge south of Pennant Hills Station is not appropriate. The new pedestrian footbridge between Yarrara Road and Railway Street is longer than the existing footbridge it replaces as a result of the third track and therefore it is a larger structure. It also is required to be designed to current Australian Bridge Standards. This requires it to be designed for a number of loading conditions including being sufficiently robust to cater for accidental impact from trains.

To keep disruption on the community and train services to a minimum the bridge is also to be largely prefabricated off-site and lifted into position. The final design of the bridge has kept the visual mass of a bridge to a minimum whilst meetings these performance requirements.

Alternative bridge designs were considered such as utilising a girder bridge, however, maintaining clearance for the trains means this would require the girder to sit above footpath level and create a large and visually heavy structure that would also limit open views to the bridge and therefore impact pedestrian safety.

Public art

As a result of community feedback The ETTT Project has initiated a public art strategy focussed on the three station precincts, Cheltenham, Beecroft and Pennant Hills. This art would add to and highlight the cultural uniqueness of the community and leave a lasting footprint that would be enjoyed by the thousands of residents and commuters.

The ETTT Project would engage an artist or artists to produce the artworks. The artwork will incorporate broad cultural themes such as symbols, images, events and/or words pertinent to the community. The artwork will be integrated into the new works either through: photographic tiles, terrazzo, object inlays, oxides or traditional mosaic.

Locations include: The under stair wall and footbridge ramp wall on Yarrara Road frontage at Pennant Hills, the upgraded footpath area on Wongala Crescent at Beecroft and the station entry area on Sutherland Road at Cheltenham.

It is proposed that the review panel will comprise members from Hornsby Shire Council and the ETTT Project.

1.5.5 Ongoing and future communications

All community feedback that was received in the development of the final UDLP has been considered, and where feasible amendments, additions and changes have been made accordingly.

The key areas that the ETTT Project has been able to feasibly provide flexibility and have amended in response to community feedback included:

- Plant types and species: For example, we have removed *Fraxinus griffithii* from the species list and replaced with small to medium sized native species that will thrive in the site conditions, meet TfNSW requirements for setbacks and maintain sightlines for pedestrians ensuring a safe streetscape
- Finishes and materials in station precincts that are more complimentary to existing heritage areas: For example, the colour of the lift shafts and lower section of the throw screen at Cheltenham station have been varied to provide a softer, sand coloured tone. These colours meet TfNSW requirements and complement the suburban character
- A Beecroft playground design that has been extended, and provides screening, seating and more gardens. This has been included to more than compensate for the impact on the northern section of the existing playground. The new playground is 40% larger.

The project team at ETTT will continue to communicate with local residents and stakeholder groups through:

- Monthly notifications
- Regular updates on the project website
- Community information sessions
- Letter box drops
- Individual briefings
- Phone calls.

Briefings with the Hornsby Shire Council and local Civic Trusts will continue at appropriate intervals until project completion.

Corridor-wide notification will be issued to the community following approval of the UDLP. The notification will include a summary of changes and provide a link to the final revision of the UDLP. Key stakeholder groups will be notified individually.

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02

2. Urban and landscape design objectives and principles

2.1 UDLP Vision

To deliver the ETTT Project safely and develop a design that fits in sensitively within the existing urban environment and makes a positive contribution to the rail users and community.

2.2 Urban design objectives

The modifications to the existing corridor have been developed to minimise impacts, particularly the operational phase impacts, in accordance with the following objectives:

- Achieve an outcome that integrates the new track within its urban context, including heritage precincts, and achieves the best fit within the existing landscape
- Maintain and enhance where possible existing connections across the corridor
- Provide a safe rail corridor for the community, rail users and employees
- Provide a good travel experience and sense of location for rail users
- Achieve a unified whole-of-corridor design of the new corridor elements with consideration to the impacts being mostly contained to one side
- Provide a landscape response that addresses the significance of the corridor heritage precinct.
- Achieve a design outcome that minimises maintenance and whole-of-life costs
- Implement a corridor landscape strategy that integrates Water Sensitive Urban Design.

A successful UDLP aims to have ownership from the community and meets all relevant safety and security requirements.

2.3 Principles

Key design principles have been developed to ensure that the project complements the local area and minimises the impact of the new infrastructure. Each principle is described in the table below, along with relevant examples of how each would be implemented.

Conservation

Conserve the existing landscape and local character including the heritage look and feel, community amenity and privacy. Examples:

- Develop landscaping styles that incorporate plant types reflective of the area
- Retain and refurbish some of the existing buildings at Cheltenham Station
- Use the existing road bridge to create a new Cheltenham Station entrance
- Use materials that are sympathetic to the area
- Install historical interpretation signage at Beecroft Station.

Accessibility

Retain and improve (where possible) access and connectivity at stations and along / across the rail corridor. Examples:

- Improve footpath conditions around stations
- Raise platforms to match train door level at Cheltenham Station.
- Improve lighting and public address systems and add lifts at Cheltenham Station
- Provide space for a potential future cycleway outside of the rail corridor by eliminating two existing ‘pinch points’ at Wongala Crescent and the tennis courts at Beecroft
- Replace footbridge at Pennant Hills Station with one built to current Australian standards and Council requirements.

Sustainability

Protect our environment for future generations and consider whole of life maintenance. Examples:

- Use passive irrigation instead of watering systems in landscaped areas
- Re-use earthwork spoil to avoid placement in landfill
- Procure biodiversity offsets for cleared native vegetation
- Use low-energy materials and equipment.

Safety in design

Provide a design that is safe and secure for the public, rail users and infrastructure maintainers. Examples:

- Provide lighting and CCTV camera surveillance within upgraded infrastructure, including at car parks
- Adopt Crime Prevention Through Environmental Design (CPTED) principles.

The travel experience

Maintain a quality travel experience for commuters. Examples:

- Continue use of natural sandstone cuttings where possible
- Maintain a consistent visual appearance for commuters travelling between stations along the project area
- Use high quality finishes to retaining walls near stations.

Legibility

The ‘Keep it Simple’ principle is applied to the corridor design to deliver a clean urban design outcome, devoid of unnecessary clutter or embellishments. Attention to detail is reflected in the construction documentation such as joints, junctions, profiles and finishes:

The ETTT design is based on relevant design standards and guidelines such as the NSW Sustainable Design Guidelines for Rail (v2.0, TfNSW, 2011), Bridge Aesthetics Design guidelines to improve the appearance of bridges in NSW (RMS, 2012), Guidelines for the Development of Public Transport Interchange Facilities (Ministry of Transport, 2008) and Crime Prevention Through Environmental Design Principles (Department of Urban Affairs and Planning, 2001), and relevant Agency and Council design standards.

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03

3. Concept Design

3.1 Corridor

The urban design for the corridor is one which builds on the existing natural assets of the alignment. In particular it strengthens the connection with the natural environment through the exposure of sandstone cuttings, integration of shale cuttings and strengthening of the vegetated back drop of the alignment. Built elements are handled with care so that details are simple and subtle, the strategies for these elements are illustrated in Section 6.

Figure 3-2 to Figure 3-4 illustrates in section some of the common key considerations and treatments. For design plans of the whole corridor refer to Section 7 – Appendix D

Generally, planting of trees within the rail corridor is not possible due to the limited space available and the requirement for the ETTT Project to comply with TfNSW and Sydney Trains requirements regarding safety, proximity of vegetation to the operating tracks and overhead wiring.

Shotcrete smooth finish

Concrete retaining wall smooth finish

Corridor interface with adjacent open space

Figure 3-1 Corridor treatment precedent images

All landscape works on the ETTT Project must be carried out in accordance with:

- TfNSW Revegetation Guide – EMS-09-GD-0074
- TfNSW Revegetation Technical Specification – EMS-09- TP-0066
- TfNSW Bush Regeneration Technical Specification Template – EMS-09-TP-64.

Landscaping must be installed to comply with:

- TfNSW Security Standard RSS-001
- AS 4419 ‘Soils for Landscaping and Garden use’
- AS 4454 ‘Composts Soil Conditioners and Mulches’
- TfNSW Crime Prevention Through Environmental Design
- TfNSW Environmental Management Standards – EMS- 09-GD-0066, 0067, 0068, 0074 and 0095.

Where possible, landscaping will be completed once works in distinct sections of the project are completed and made operational.

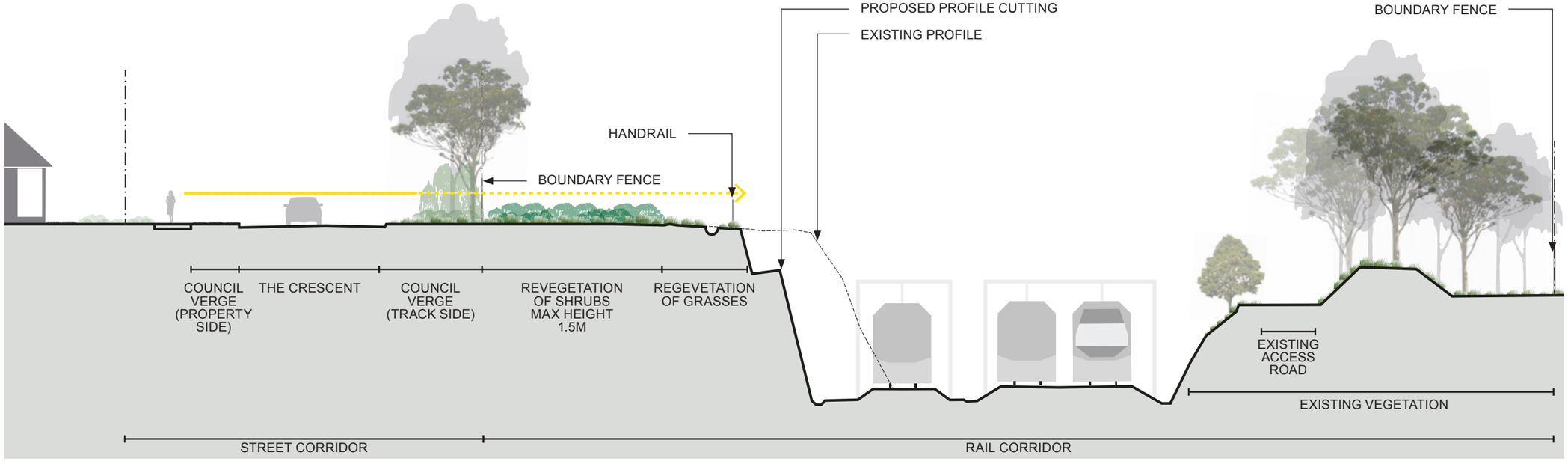

Figure 3-2 Typical cross section of tracks below street level and a cutting at The Crescent

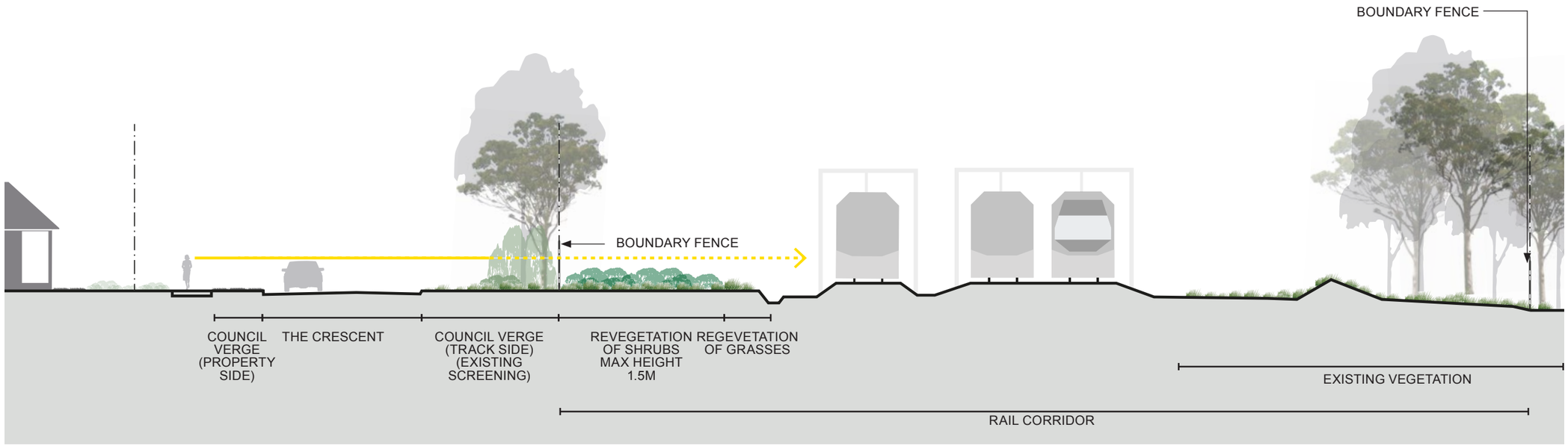

Figure 3-3 Typical cross section tracks level with the street at The Crescent

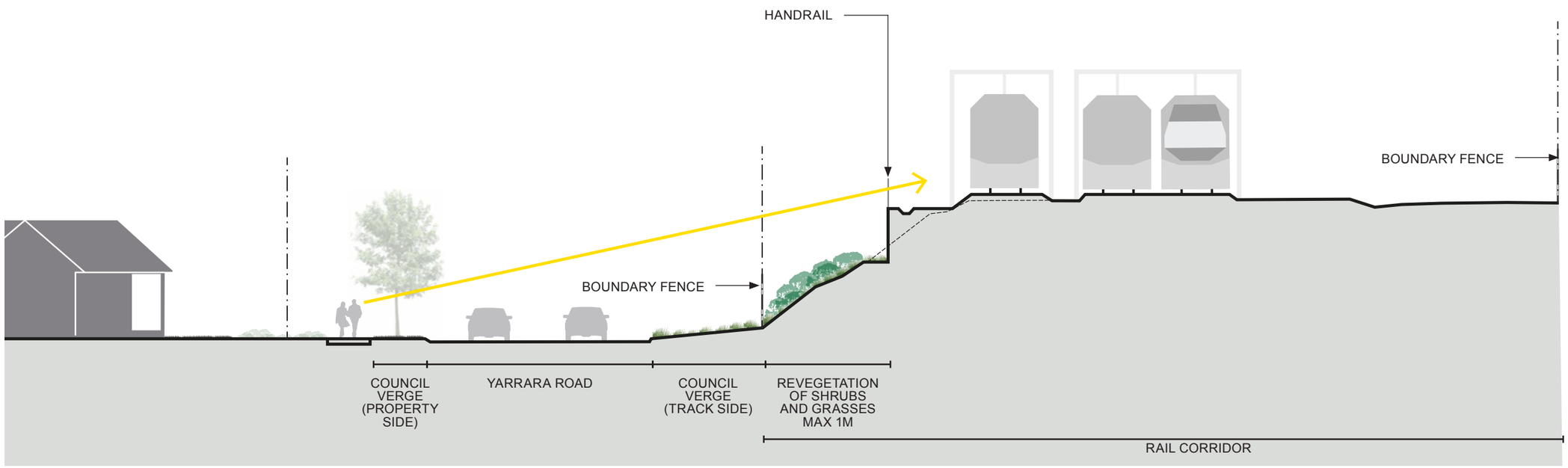

Figure 3-4 Typical cross section tracks above street level at Yarrara Road

3.1.1 Planting design principles and ecological plant community information

Planting design – corridor

The planting design of the corridor has been developed with regard to the following key principles:

- Planting designs should reflect the existing location and type of natural bushland communities found along the rail corridor, e.g. a suite of species from the Blue Gum High Forest community are used where this community currently occurs, or where it would have occurred. Planting design for the rail corridor must meet the requirements of the EIS, broadly as follows:
  - revegetation is limited to disturbed areas only
  - based on the area occupied by the permanent works, plus the area to be disturbed due to construction working space and access requirements.
- Planting design must meet the requirements of TfNSW standards, typically as follows:
  - tree planting within the corridor is to be restricted to locations that are at a distance from the rail line and associated infrastructure (e.g. overhead gantries) greater than the anticipated mature height of the tree species (refer Figure 3-5)
  - utilise groundcovers and grasses within two metres from the track and other infrastructure
  - no tree or shrub with a mature height of over 4 metres is to be planted within six metres of a rail line or within 2 metres of any access road (refer Figure 3-6)
  - Reinstate low maintenance, low height planting (generally no more than 4m in mature height) to locations that will be disturbed as part of the works, using species from adjacent bushland communities
  - Provide a native grassland suite of species to areas that are disturbed and required to be accessible by vehicle or by foot, as appropriate
  - Planting should provide replacement screening from adjacent residential areas over time where possible.

Within this framework, most of the planting within the corridor is comprised of ground layer and low shrub species. A relatively high number of species have been used within these areas to create stable plant associations that are:

- hardy / drought resistent
- able to adapt to / exploit a range of different niches
- self-regenerating
- able to withstand substantial weed colonisation pressures
- very low maintenance
- provide a buffer / supplementary species support for adjoining / adjacent remnant bushland communities.

Ecological plant communities along the rail corridor

All plant species located along the rail corridor (excluding the station precincts) have been derived from three native endemic plant communities these are Sydney Turpentine Ironbark Forest, Blue Gum High Forest and the Sydney Hinterland Transition Woodland. Refer to Section 4.1.3 and Figure 4-4 for more information and locations of the bushland communities.

The following information provides a snapshot of the communities and list of key species that belong to that plant community.

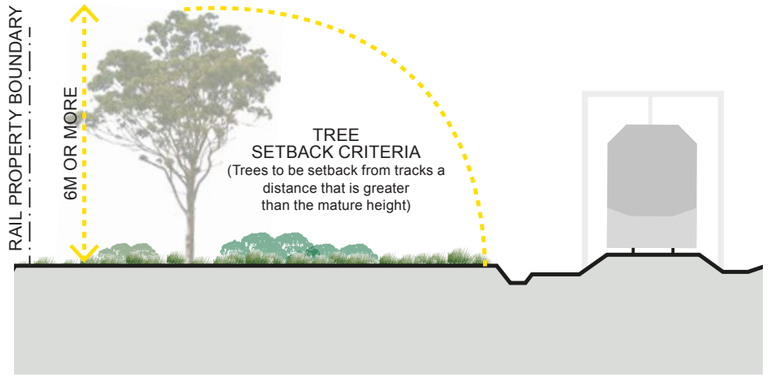

Figure 3-5 Typical diagram – tree setback from rail infrastructure

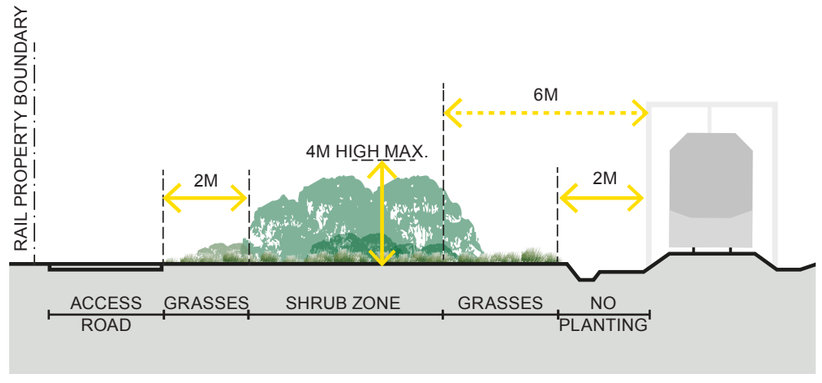

Figure 3-6 Typical diagram representing – grass and shrub and setbacks from tracks and access road

3.1.2 Plant communities

Sydney Turpentine Ironbark Forest (STIF)

Open forest, with dominant canopy trees including Turpentine *Syncarpia glomulifera*, Grey Gum *Eucalyptus punctata*, Grey Ironbark *E. paniculata* and Thin-leaved Stringybark *E. eugenoides*. In areas of high rainfall (over 1050 mm per annum) Sydney Blue Gum *E. saligna* is more dominant. The shrub stratum is usually sparse and may contain mesic species such as Sweet Pittosporum *Pittosporum undulatum* and Elderberry *Panax Polyscias sambucifolia*.

Occurs in Sydney and is heavily fragmented, with only 0.5 percent its original extent remaining intact. Remnants mostly occur in the Baulkham Hills, Hornsby, Ku-ring-gai, Parramatta, Ryde, Sutherland and Hurstville local government areas. Good examples can be seen in small reserves such as Wallumatta Nature Reserve and Newington Nature Reserve.

Occurs close to the shale/sandstone boundary on the more fertile shale influenced soils, in higher rainfall areas on the higher altitude margins of the Cumberland Plain, and on the shale ridge caps of sandstone plateaus.

Blue Gum High Forest (BGHF)

A moist, tall open forest community, with dominant canopy trees of Sydney Blue Gum (*Eucalyptus saligna*) and Blackbutt (*E. pilularis*). Forest Oak (*Allocasuarina torulosa*) and Sydney Red Gum (*Angophora costata*) also occur. Species adapted to moist habitat such as Lilly Pilly (*Acmena smithii*), Sandpaper Fig (*Ficus coronata*), Rainbow Fern (*Calochleana dubia*) and Common Maidenhair (*Adiantum aethiopicum*) may also occur. Contains many more species and other references should be consulted to identify these.

- Occurs only in areas where rainfall is high (above 1100 millimetres per year) and the soils are relatively fertile and derived from Wianamatta shale. In lower rainfall areas, it grades into Sydney Turpentine-Ironbark Forest
- The rainforest understorey species rely on birds and mammals to disperse their seeds and are vulnerable to fire
- Along the drier ridgelines, fire would have been more frequent and an important factor in maintaining understorey diversity
- The community also occurs on soils associated with localised volcanic intrusions, ‘diatremes’.

Sydney Hinterland Transitional Woodland (SHTW)

Open forest, with dominant canopy trees including Red Bloodwood (*Corymbia gummifera)*, Grey Gum (*Eucalyptus punctata)*, Sydney Red Gum (*Angophora costata)*, Turpentine (*Syncarpia glomulifera)*. Shrubs include Thyme Spurge (*Phyllanthus hirtellus)*, Narrow-leaved Geebung (*Persoonia linearis)*, Flaky-barked Tea-tree (*Leptospermum trinervium)*.

3.1.3 Native grasses (including groundcover species)

The species in Table 3-1 have been selected for the purpose of representing the style of planting along the rail corridor using the three native endemic plant communities. The planting layout will reflect the adjacent native plant community.

Table 3-1 Native grass species (including groundcover species)

Image	Botanical name	Common name	Container Size	Spacing (mm)	Per m²
Grasses and Groundcovers					
1	*Aristida ramosa*	Cane Wire-grass	Hiko	380	7
2	*Aristida vagans*	Three Awn Speargrass	Hiko	380	7
3	*Austrostipa ramosissima*	Stout Bamboo Grass	Hiko	380	7
4	*Billardiera scandens*	Appleberry	Hiko	380	7
5	*Commelina cyanea*	Native Wandering Jew	Hiko	380	7
6	*Cymbopogon refractus*	Barbed Wire Grass	Hiko	380	7
7	*Dianella caerulea*	Native Flax	Hiko	380	7
-	*Dianella caerulea var. producta*	Native Flax	Hiko	380	7
8	*Dianella revoluta*	Native Flax	Hiko	380	7
9	*Dichelachne rara*	Common Plume Grass	Hiko	380	7
10	*Echinopogon caespitosus*	Hedgehog Grass	Hiko	380	7
11	*Entolasia stricta*	Wiry Panic	Hiko	380	7
12	*Eragrostis brownii*	Brown's Lovegrass	Hiko	380	7
13	*Glycine tabacina*	Glycine	Hiko	380	7
14	*Goodenia hederacea*	Ivy Goodenia	Hiko	380	7
15	*Hardenbergia violacea*	Native Sarsparilla	Hiko	380	7
16	*Kennedia rubicunda*	Running Postman	Hiko	380	7
17	*Microlaena stipoides*	Weeping Rice Grass	Hiko	380	7
18	*Pandorea pandorana*	Wonga Wonga Vine	Hiko	380	7
19	*Pimelia linifolia*	Long-leaved Rice Flower	Hiko	380	7
-	*Poa affinus*	Tussock Grass	Hiko	380	7
20	*Poa labillardieri*	Tussock Grass	Hiko	380	7
21	*Themeda australis*	Kangaroo Grass	Hiko	380	7

Consideration has been given to community feedback from the most recent community consultation in December 2013. The key planting changes to native grasses and groundcovers arising from the feedback include:

- **The ETTT Project will work with Hornsby Shire Council Nursery and other commercial nurseries and seed suppliers to utilise endemic and location provenance seed wherever possible**
- **Reduction in the amount of grasses in some areas to accommodate additional shrubs.**


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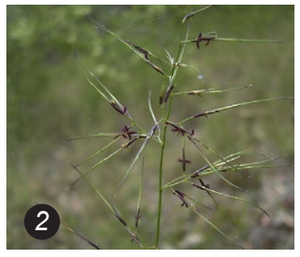
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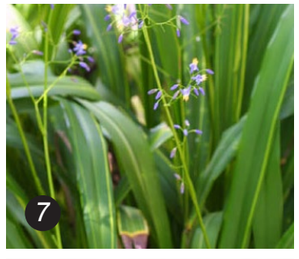
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3.1.4 Native shrub species

The shrub layer species list in Table 3-2 has been created for the purpose of representing the style of planting along the rail corridor using the three native endemic plant communities. The planting layout will reflect the adjacent native plant community.

Table 3-2 Native shrub species

Image	Botanical name	Common name	Container Size	Spacing (mm)	Per m²
Shrubs					
1	*Acacia falcata*	Sickle wattle	Hiko	1500	0.44
2	*Acacia ulicifolia*	Prickly Moses Wattle	Hiko	1200	0.69
3	*Banksia spinulosa*	Hairpin Banksia	Hiko	1200	0.69
4	*Bossiaea heterophylla*	Variable Bossiaea	Hiko	1200	0.69
-	*Bossiaea obcordata*	Spiny Bossiaea	Hiko	1200	0.69
5	*Bursaria spinosa*	Native Boxthorn	Hiko	1500	0.44
6	*Cassinea uncata*	Sticky Cassinea	Hiko	1500	0.44
7	*Dodonaea triquetra*	Large-leaved Hop-bush	Hiko	1200	0.69
8	*Enchylaena tomentosa*	Ruby Saltbush	Hiko	1200	0.69
9	*Grevillea linearifolia*	Linear-leaf Grevillea	Hiko	1200	0.69
10	*Grevillea sericea*	Spider Grevillea	Hiko	1200	0.69
11	*Hakea sericea*	Silky Hakea	Hiko	1500	0.44
12	*Hibbertia linearis*	Showy Guinea Flower	Hiko	1200	0.69
13	*Hovea linearis*	Hovea	Hiko	1200	0.69
14	*Indigofera australis*	Austral Indigo	Hiko	1200	0.69
15	*Isopogon anemonifolius*	Drumsticks	Hiko	1200	0.69
16	*Kunzea ambigua*	Tick Bush	Hiko	1500	0.44
17	*Leptospermum trinervium*	Slender Tea Tree	Hiko	1500	0.44
18	*Leucopogon juniperinus*	Prickly Beard-heath	Hiko	1200	0.69
19	*Leucopogon lanceolatus*	Lance Beard-heath	Hiko	1200	0.69
20	*Lomandra longifolia*	Spiny-headed Mat-rush	Hiko	1200	0.69
21	*Lomatia silaifolia*	Crinkle Bush	Hiko	1200	0.69
22	*Micromyrtus ciliata*	Heath-myrtle	Hiko	1200	0.69
23	*Ozothamnus diosmifolius*	Rice Flower	Hiko	1200	0.69
24	*Persoonia levis*	Broad-leaved Geebung	Hiko	1500	0.44
25	*Pittosporum revolutum*	Rough Fruit Pittosporum	Hiko	1500	0.44
26	*Pultenaea tuberculata*	Wreath Bush Pea	Hiko	1200	0.69
27	*Rubus parvifolius*	Native Raspberry	Hiko	1200	0.69
28	*Zieria smithii*	Dr Smith's Ziera	Hiko	1200	0.69

Consideration has been given to community feedback from the most recent community consultation in December 2013. The key planting changes to native shrubs arising from the feedback include:

- **The ETTT Project will work with Hornsby Shire Council Nursery and other commercial nurseries and seed suppliers to utilise endemic and location provenance seed wherever possible**
- **Amend the percentage mix of *Lomandra* and *Lomatia* species to limit the amount of *Lomandra* and ensure greater use of *Lomatia***
- **Limit the quantity of *Enchylaena tomentosa* (Ruby Saltbush).**


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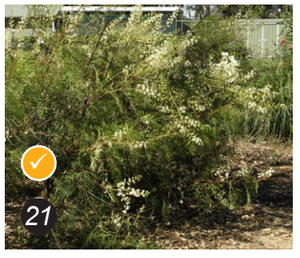
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3.1.5 Native trees species

The tree species list in Table 3-3 has been created for the purpose of representing the style of planting along the rail corridor using the three native endemic plant communities. The planting layout will reflect the adjacent native plant community.

Table 3-3 Native tree species

Image	Botanical name	Common name	Container Size	Spacing (mm)	Per m^2
Trees					
1	*Acacia linifolia*	White Wattle	Hiko	3000	0.11
2	*Acacia longifolia*	Long-leaved Wattle	Hiko	3000	0.11
3	*Angophora costata*	Smooth-barked Apple	Hiko	3000	0.11
4	*Angophora floribunda*	Rough-barked Apple	Hiko	3000	0.11
5	*Corymbia gummifera*	Red Bloodwood	Hiko	3000	0.11
6	*Elaeocarpus reticulatus*	Blueberry Ash	Hiko	3000	0.11
7	*Eucalyptus resinifera*	Red Mahogany	Hiko	3000	0.11
8	*Melaleuca decora*	White Feather Honey Myrtle	Hiko	3000	0.11
9	*Notelaea longifolia*	Large Mock-olive	Hiko	3000	0.11
10	*Polyscias sambucifolia*	Elderberry Panax	Hiko	3000	0.11
11	*Syncarpia glomulifera*	Turpentine	Hiko	3000	0.11
12	*Eucalyptus globoidea spp. globoidea*	White Stringybark	TBC	TBC	TBC

Consideration has been given to community feedback from the most recent community consultation in December 2013. The key planting changes to native trees arising from the feedback include:

- **The ETTT Project will work with Hornsby Shire Council Nursery and other commercial nurseries and seed suppliers to utilise endemic and location provenance seed wherever possible**
- **Additional opportunities for tree planting implemented**
- **Agreement to source seed from 2 locally significant trees *Eucalyptus globoidea spp. globoidea* and Ironbark species.**


1


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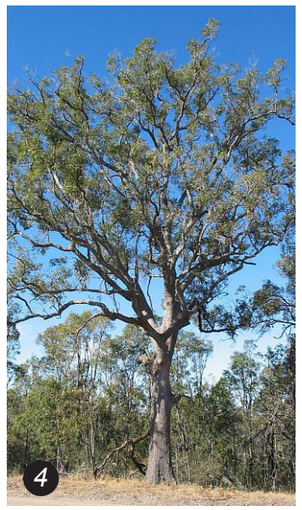
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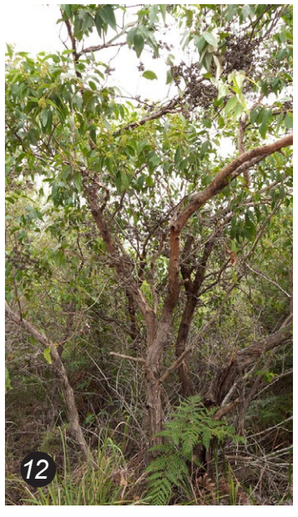

12

Image is not an exact representation of *Eucalyptus globoidea spp. globoidea*

3.2 Station precinct concept design

There are five stations within the ETTT Project, with minor works at Epping and no works at Thornleigh. Works required at the other three stations, Cheltenham, Beecroft and Pennant Hills are detailed in this section.

The station precincts include the areas that interface with the station buildings as well as carparks, footpaths and road access points (refer to Figure 3-7 and Figure 3-8).

While a whole-of-corridor approach has been adopted for the corridor, each station precinct has its own existing character and the intent of this project is to complement and enhance this character rather than establish a new design aesthetic. The key principles driving the design of the station precinct include:

- Complementing the existing village or neighbourhood (refer Figure 3-7)
- Integration with road and active transport (walking/cycling) options
- Defining the extent of the station precinct refer to Figure 3-8
- Complementing the heritage context (Cheltenham and Beecroft)
- Minimising impacts
- Retention of existing carpark numbers
- Safety.

The following considerations have been addressed in each of the station precincts:

- Planting within station areas is to be of a higher level of establishment to reflect increased prominence and importance of station locations
- Advanced planting stock to be chosen to ensure the appearance of a well-developed landscape and to minimise vandalism
- Trees in carpark areas are to be provided where possible to improve amenity of these areas. Refer to Figure 3-9 for an illustration on how this might be applied
- Control of fencing to ensure that fence types are limited to the precinct fencing and integrated with capping beams and walls.
- Pedestrian pavement materials to match existing palette where appropriate
- Meeting spaces, group gathering areas and space for peak passenger traffic at the adjoining street interface
- Lighting is limited to station buildings and carparks as per the Australian Standard. No additional feature lighting is proposed to the precinct areas except for lighting to the Pennant Hills footbridge.

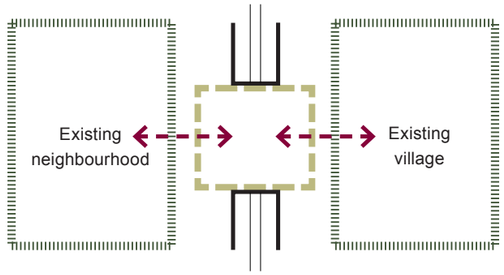


Figure 3-7 Complementing adjacent neighbourhoods

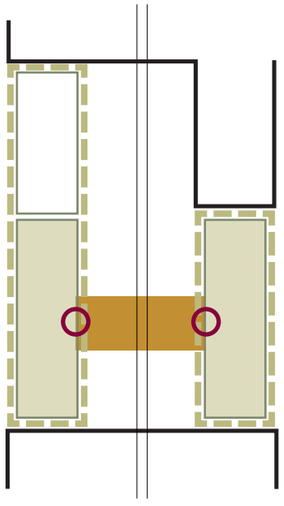


Figure 3-8 Defining the extent of the station precinct

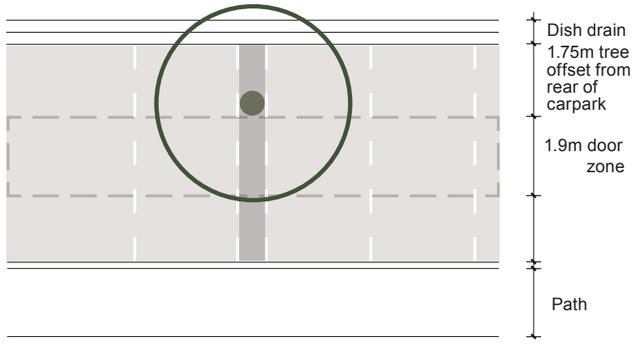


Figure 3-9 Addition of trees within paved areas has been implemented at Beecroft car park

Station design changes as a result of community feedback

- Additional tree planting along the new commuter carpark on The Crescent at Cheltenham Station
- Addition of steps at the south west corner of the new pedestrian plaza to better meet pedestrian movements.
- Extension of the Children's playground at Beecroft Station with additional screening, play equipment seating and additional planting around the isolation transformer
- Change of drainage design at Beecroft Gardens minimising the impact on the parkland. This will also maximise the chance of retaining the southern Bunya Pine
- Incorporation of a brick footpath along the Beecroft Station commuter car park to extend the village character
- Change of roof colour at Pennant Hills Station
- Implement alternative finishes at Pennant Hills Station to the footbridge ramp wall, collision protection wall and stair undercroft wall
- Additional footpath and pedestrian ramp upgrade work at Pennant Hills Station
- Further changes to the planting palette
- Public art opportunities.

3.3 Cheltenham Station

3.3.1 Works

A new station concourse accessed from the Cheltenham Road overbridge, just north of the existing station, is to be constructed. Two existing station buildings will be retained, refurbished and incorporated into the new station configuration. One existing station building and a signalling equipment building will be removed.

The new configuration includes reconfiguration of the existing carparks on the eastern and western sides of the station, and a new emergency egress tunnel and stair will be located at the southern end of the platform connecting with The Crescent. Along the Crescent improved overland stormwater flow management will be achieved with the inclusion of a new concrete drainage channel.

3.3.2 Existing condition

The existing condition of Cheltenham Station is illustrated in Figure 3-10 and Figure 3-11. The Station lies within a heritage conservation area as identified in the Draft Hornsby LEP 2011 and mapped in the Heritage Issues Report 2012 prepared by Godden Mackay Logan for ETTT. The area is significant for its rail history, given that the land was subdivided to raise funds for an important state-wide rail project. It also represents the Australian ideal of one house on one lot and demonstrates the impact of natural topography and vegetation on determining the street character.

Figure 3-12 further describes the functionality of the existing Cheltenham Station precinct. The precinct is characterised by informal plantings of both native and exotic species with bushland character closer to the corridor itself. The station buildings and carparks are not visually prominent due to their small scale and screening by vegetation.

Figure 3-12 identifies key pedestrian movements and facilities with the most notable points being:

- The nearest bus stop is over 500m away from the station
- The verge area on the west side of The Crescent has a steep embankment with informal cultural plantings and there are desire lines down this slope across from the main station entry point
- Bike racks are located on the west side of the station only.

3.3.3 Impacts and strategies

The likely urban and landscape impacts include:

- Loss of existing vegetation on the western side of the rail corridor due to cuttings required to fit the new track in addition to some vegetation on the eastern side required for construction of the new concourse, lifts and upgraded platforms. Vegetation to be removed includes cultural plantings that would have been typical of the plant palette at the time of establishing the suburb
- Trees removed as a result of the works are not likely to be replaced in a similar location given safety setback requirements to tracks
- New carparking areas along The Crescent and Sutherland Road
- Inclusion of anti-throw screens to Cheltenham Road overbridge
- New and refurbished station buildings
- New and upgraded electricity transformers along The Crescent.

A number of strategies to mitigate the impact of the works on Cheltenham Station precinct are described below:

- Carpark configurations that optimise numbers, opportunities for tree growth and improve safety
- Integration of structures such as fences, anti-throw screens, barriers, walls and capping beams to simplify and refine the design.

These strategies are in line with the feedback provided from the community. The community have strongly expressed that vegetation removal should be minimised where possible and that what they mostly value about the station are its:

- heritage look and feel
- small scale
- modest appearance
- vegetation, gardens and rock cuttings.

3.3.4 Design intent

In keeping with the project design principles of achieving an urban design outcome for the corridor that is integrated with the existing urban context and to consider the conservation zone requirements, the design for Cheltenham Station precinct includes:

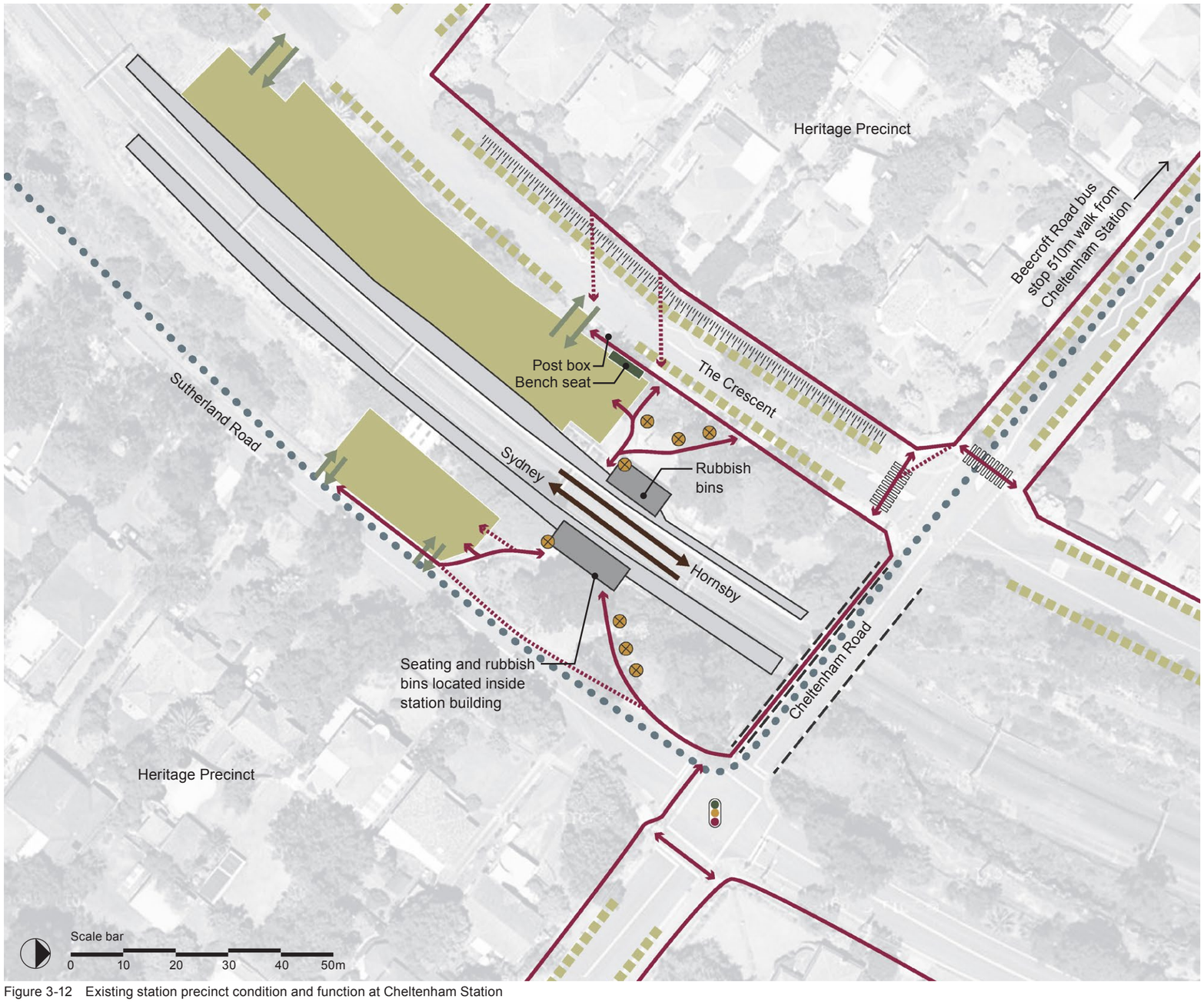
- Use of a materials and finishes palette that reflects the suburban context of Cheltenham such as concrete and bitumen, simple fence types and a mix of native and hardy exotic species
- Provide adequate space at the street interface for peak passenger flow, in particular Cheltenham Girls High School students.

The plan for Cheltenham Station has been re-designed following extensive community feedback and is illustrated in Figure 3-13. The new design is significantly different to what was proposed during the EIS. It is much smaller in size. Existing buildings on the eastern platform will be refurbished and the new smaller concourse is adjacent to the Cheltenham Road Bridge.

In addition a new set of stairs has been added to the southern end of the plaza on The Crescent to reflect pedestrian movements.

Figure 3-10 Existing intersection of Cheltenham Road and The Crescent with pedestrian crossing to bridge and station

Figure 3-11 Existing station from Cheltenham Road overpass looking south across platforms and stations buildings. Significant landscape buffers to both sides of station precinct.



Legend

- Formalised pedestrian paths
- Pedestrian desire line paths
- Pedestrian crossing
- Pedestrian scale pathway lights
- Traffic lights
- Off-street parking (non-timed)
- Access / egress to off-street parking
- On-street parking (non-timed)
- Existing station buildings
- Existing station platform
- Bins / telephone booths / post box
- Bike parking
- Steep batter
- Existing bridge barriers
- Hornsby Council bike route

Figure 3-12 Existing station precinct condition and function at Cheltenham Station

3.3.4.1 Cheltenham Station plan

The new station concourse is located at the Cheltenham Road overbridge with a secondary station entrance retained at the Sutherland Road side.

The opportunities for landscape and urban design improvements are mostly contained to the western side along the frontage to The Crescent and at the corner of Cheltenham Road and Sutherland Road. Screen planting to the rail corridor is possible in these locations and some new street trees can be incorporated along The Crescent.

Legend

1. Proposed, smaller station concourse integrated with the existing Cheltenham Road Bridge to address community feedback that the size and scale of the EIS concept for the concourse did not match the area.
2. New small trees to carpark area planted between the wheel stop and the footpath refer to Figure 3-18
3. Existing carpark re-graded (including Accessible parking)
4. Proposed third track - down relief
5. Proposed concrete lined drainage channel
6. Bicycle parking
7. Garden beds with trees to parking islands
8. Garden with grasses and groundcovers provides vegetated buffer between rail corridor and adjacent residences
9. Existing mature trees to be removed and area to be replanted with groundcovers and shrubs
10. Cutting finished with smooth concrete in charcoal colour
11. Secondary Station entrance
12. Kiss and Ride
13. Turfed emergency egress area - for emergency use only
14. Modified plaza for safe gathering adjacent pedestrian crossing refer to Figure 3-17
15. Existing buildings to be retained to address community feedback of valuing the existing look and feel of the station
16. Existing Canary Island Date Palm to be relocated to a position to be determined in consultation with Hornsby Council
17. New Signalling Bungalow
18. New location of existing Canary Island Date Palm
19. Maintenance access road and gate

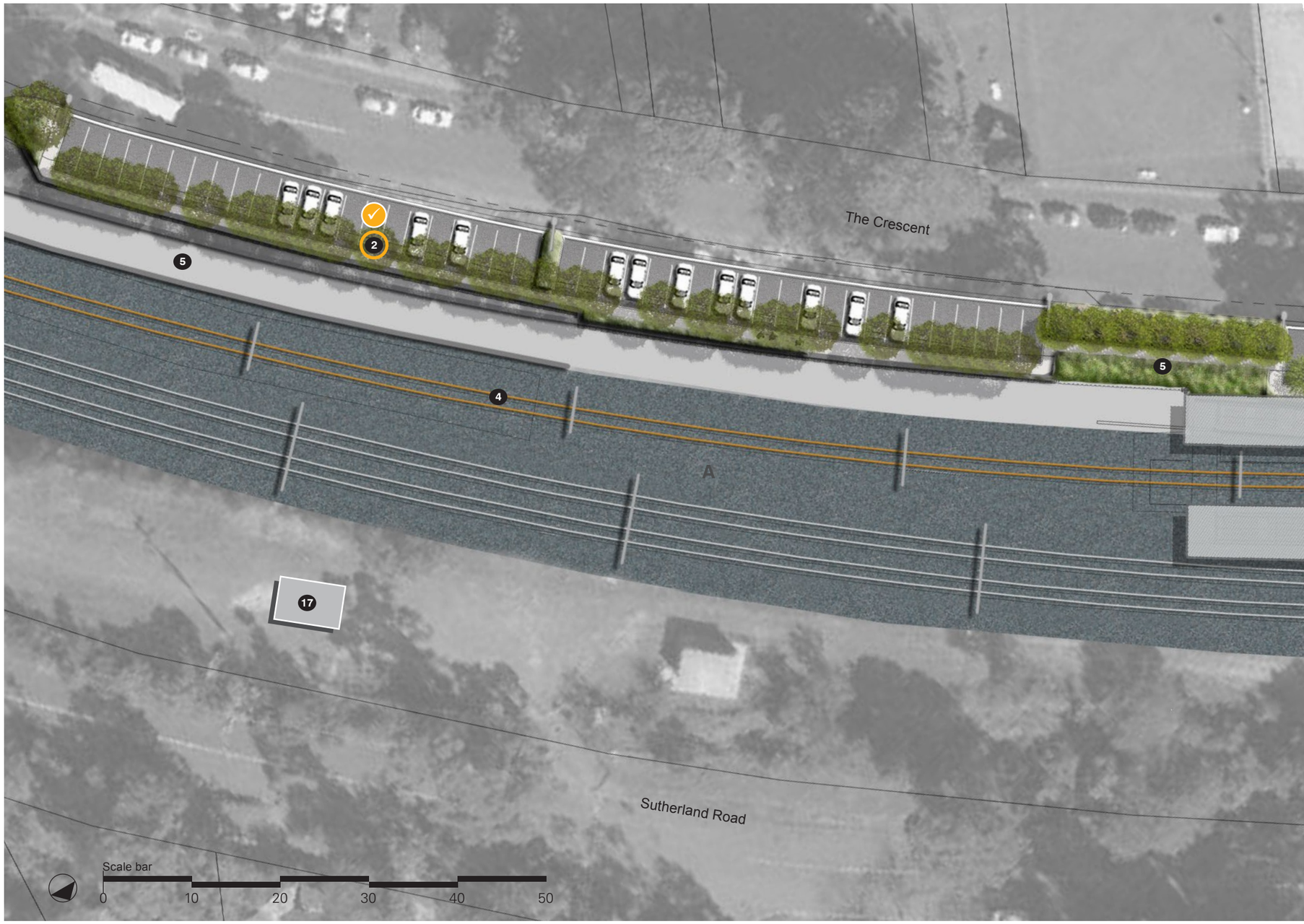


Figure 3-13 Cheltenham Station Precinct Landscape Master Plan


The Crescent
Cheltenham Road
Sutherland Road
18
14
12
8
10
16
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15
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19
2

Figure 3-14 Pre-construction works view - looking north towards the station, across the carpark, from The Crescent

Figure 3-15 Perspective, looking north towards the station, across the carpark, from The Crescent. ✓

Legend

1. New station concourse integrated with existing Cheltenham Road bridge
2. Perpendicular parking along The Crescent
3. Existing avenue of *Lophostemon confertus* (Brush Box)
4. New *Cupaniopsis anarcardioides* (Tuckeroo) (6m tall) tree planting at intermittent intervals through carpark between wheel stop and footpath. Angophora floribunda (Rough Barked Apple) is also proposed to the southern carpark area. ✓

Figure 3-16 Pre-construction works view - looking east from the corner of The Crescent and Cheltenham Road road towards the station

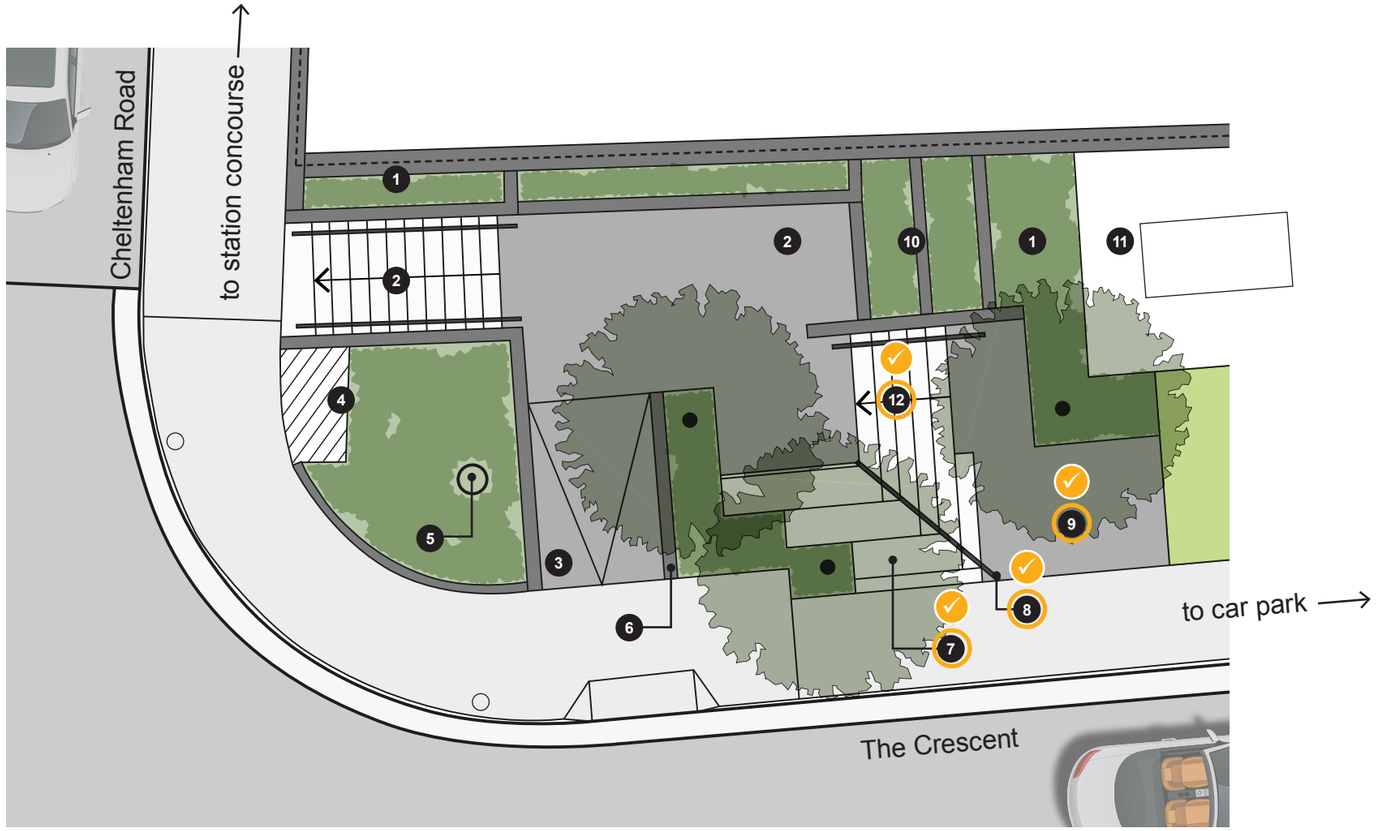
Figure 3-17 Perspective looking east from the corner of The Crescent and Cheltenham Road road towards the station.

Legend

1. New station concourse integrated with existing Cheltenham Road bridge
2. Anti-throw screens integrated with existing bridge barriers
3. Enhanced landscape area as visual buffer between road and rail corridor
4. Small plaza area to provide safe gathering space adjacent to pedestrian crossing and located near kiss and ride

Figure 3-18 Pre-construction works view - looking south-west along Cheltenham Road

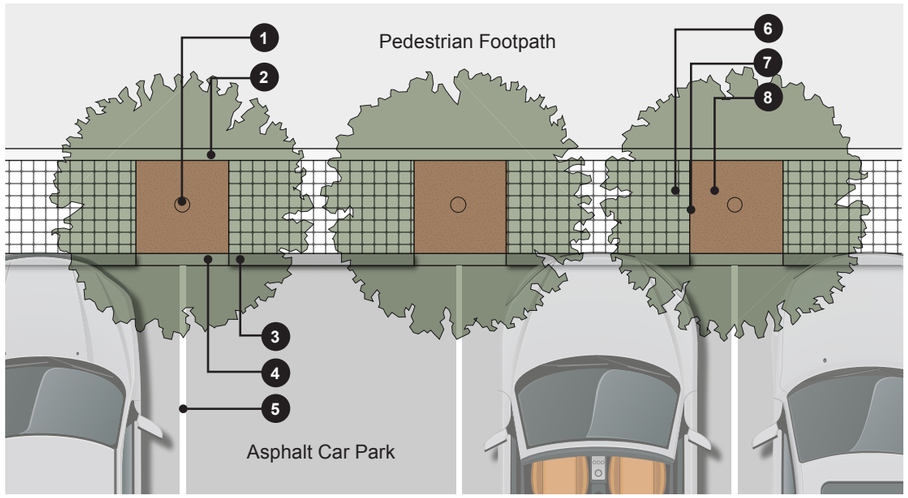
Figure 3-19 New Cheltenham Station concourse



Legend

1. Screen Planting
2. Access Stairs
3. Access Ramps
4. Exposed Bridge Abutment
5. Existing Power / Light Pole
6. Blade Wall
7. Seating Steps
8. Handrail / Balustrade
9. Entry / Address Plaza
10. Terrace Planting
11. Transformer Pad
12. Access Stairs to facilitate desire line movement

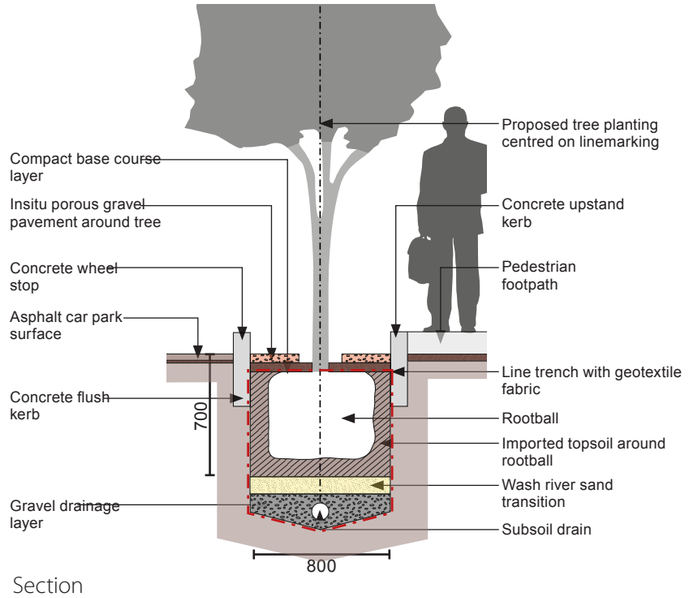
Figure 3-20 Cheltenham plaza modifications - plan



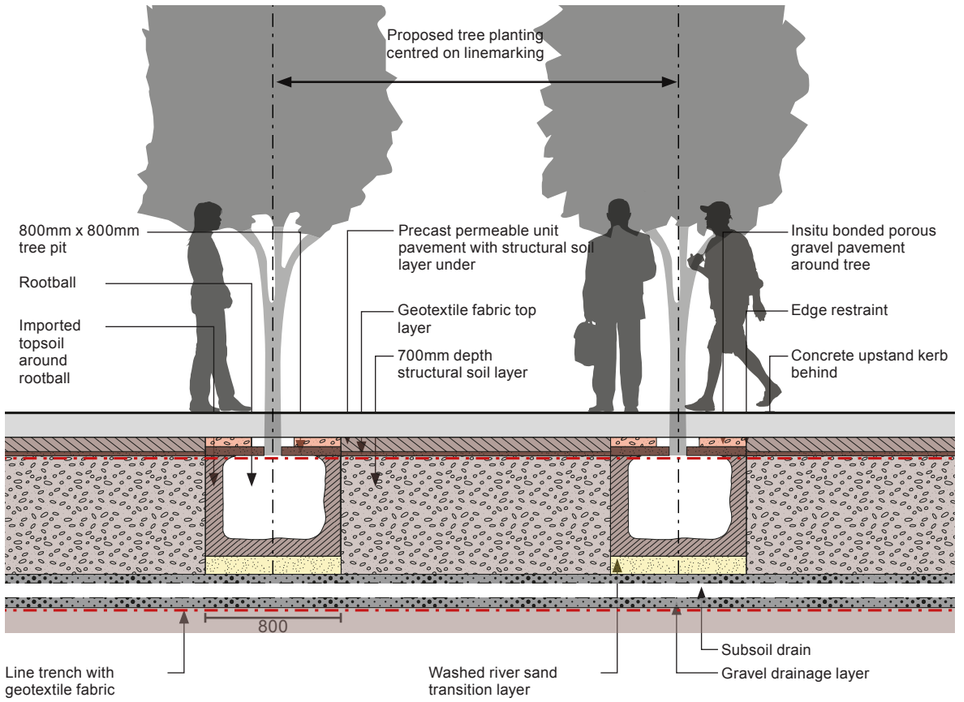
Plan

Legend

1. Proposed tree planted centred on linemarking
2. Concrete upstand kerb
3. Concrete wheel stop
4. Concrete flush kerb
5. Car park bay line marking
6. Precast permeable unit pavement with structural soil under
7. Edge restraint between pavement types
8. Hand applied insitu porous gravel pavement

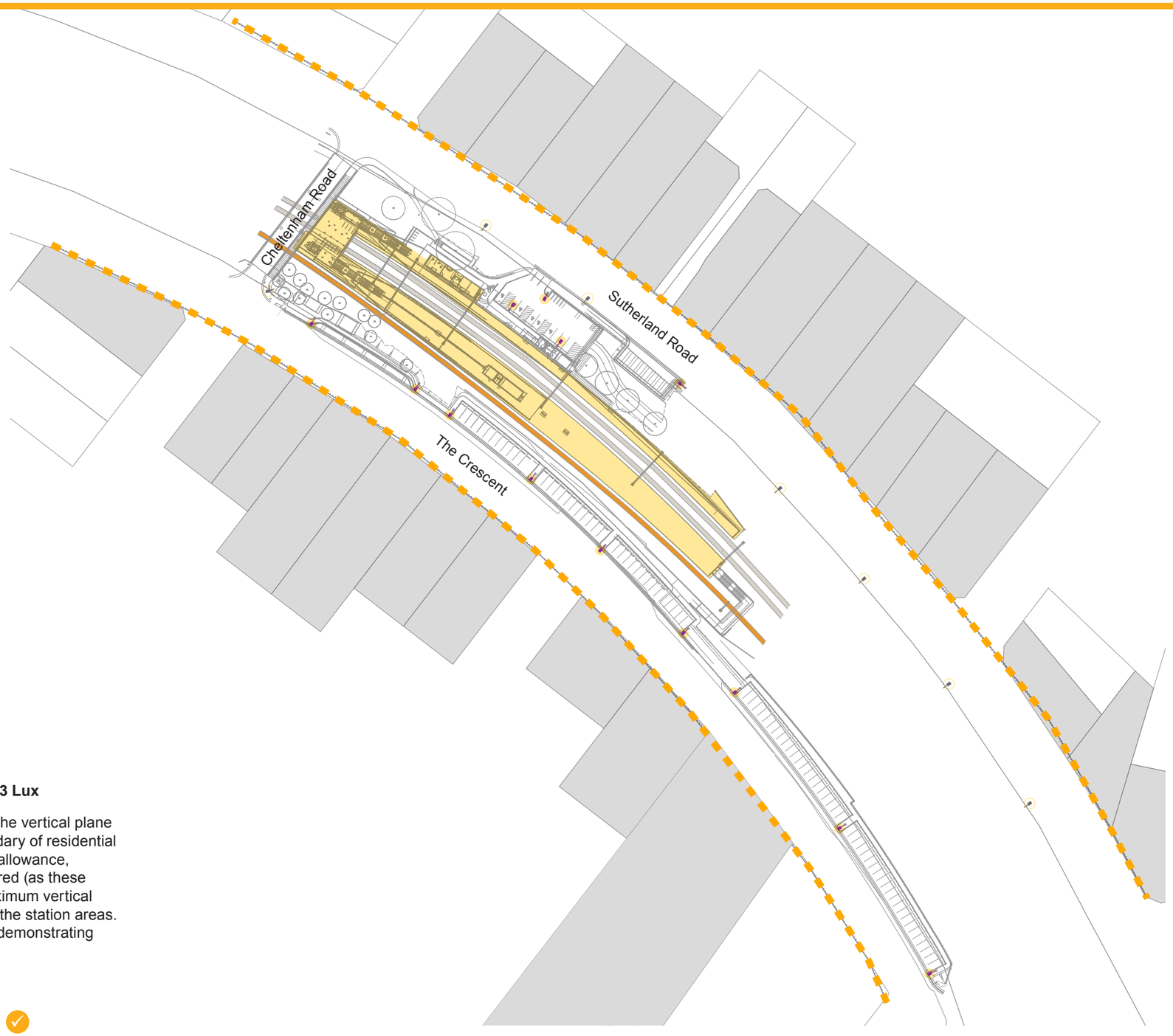


Section



Section

Figure 3-21 Cheltenham carpark new tree planting plan and sections



Legend

- Station concourse and platforms – new lighting provided
- Existing street lights
- Proposed street lights
- Calculation Vertical Plane Line (extent of >4 lux light spill)

Compliance with Australian Standards (AS 4282) 4.3 Lux

Australian Standard (AS4282) states that illumiance in the vertical plane must not exceed 10 lux in residential areas at the boundary of residential areas during pre-curfew hours. As this is the minimum allowance, other allowances such as curfew times are not considered (as these limits would be higher). The table above shows the maximum vertical illuminance at the residential property boundaries near the station areas. The modelled maximum vertical illuminance is 4.3 lux, demonstrating compliance.

Refer to LD6 in D for proposed planting.

Figure 3-22 Cheltenham Station precinct lighting levels diagram

3.3.5 Materials palette

Consistent with the project objectives the materials palette for Cheltenham Station reinforces the existing character. Robust and raw materials including low maintenance concrete-edged asphalt and in situ concrete walls provide easily maintained elements. The use of recycled site rock to embellish feature retaining walls complements the surrounding heritage neighbourhood and reflects the gardensque style of adjacent properties.

Figure 3-23 Asphalt pedestrian and road pavement

Figure 3-24 Broom finish concrete pedestrian pavement

Figure 3-25 Asphalt pedestrian pavement with concrete edge

Figure 3-26 Class 2 concrete retaining walls within station precinct

Figure 3-27 Permeable paving carpark

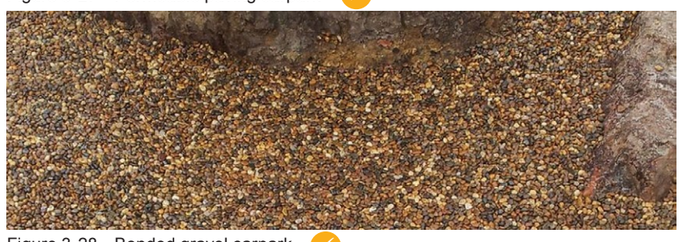


Figure 3-28 Bonded gravel carpark

Colour palette for materials, furniture and planting

3.3.6 Furniture palette

The furniture palette for Cheltenham Station was chosen as part of community feedback which complements the character of the heritage precinct by including timber park-style furniture. The timber seating reflects the character of existing Hornsby Shire Council furniture in a contemporary form.

Legend

- Seating
- Bin
- Bike Racks
- Station furniture to TfNSW standard
- Phone box (existing retained)

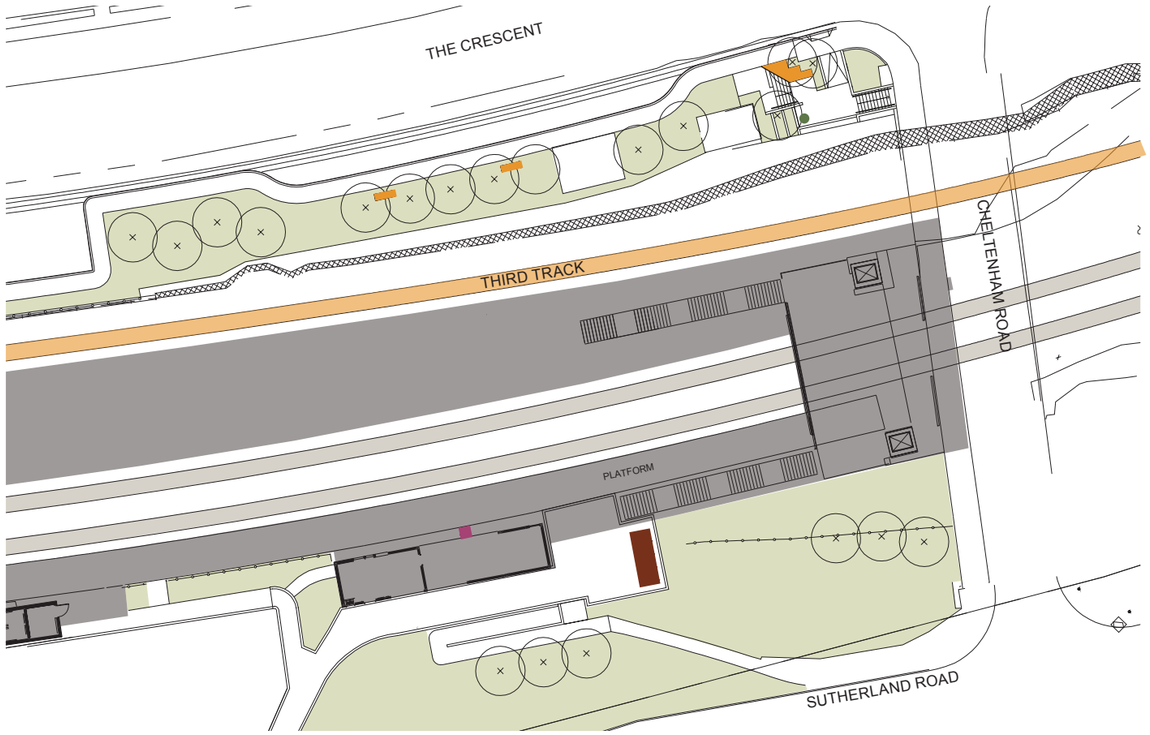


Figure 3-29 Furniture location diagram

Figure 3-30 Stained timber seat with black powder coated arm rests

Figure 3-31 Timber and stainless steel bin enclosure

Figure 3-32 Galvanised Steel bike racks

3.3.7 Planting palette

Consistent with the project objectives the planting palette at Cheltenham station retains the existing informal character of mixed native and exotic plantings. The station entrance planting utilises cultural plant choices (*Gordonia axillaris*) and native species such as *Acmena smithii* and *Westringia fruticosa*.

All plants selected are low maintenance and known to thrive in this area.

Consideration has been given to community feedback from December 2013. The key planting changes arising from the feedback include:

- Removal of *Fraxinus griffithii*
- Addition of *Cupaniopsis anacardioides*
- Addition of *Angophora floribunda.*

Table 3-4 Planting Palette - Station Entrance

	Botanical name	Common name	Mature Height (m)	Spread (m)	Pot size
	Trees and shrubs				
1	*Acmena smithii 'Hot Flush'*	Small Leaved Lily Pily	3-5m	2-3m	35L
2	*Gordonia axillaris*	Fried Egg Plant	3-5m	3-5m	1000L
3	*Buckinghamia celsissima*	Ivory Curl Tree	3-5m	3m	35L
4	*Lagerstroemia indica*	Crepe Myrtle	5m	5m	1000L
5	*Westringia fruticosa*	Coastal Rosemary	1.5m	1.5m	200mm
	Grasses & groundcovers				
6	*Grevillea Mt Tamboritha*	Grevillea	0.3m	2m	200mm
7	*Dianella* 'Little Jess'	Native Flax Lily	0.6m	0.6m	200mm
8	*Dietes bicolour*	Wild Iris	0.8m	1m	200mm

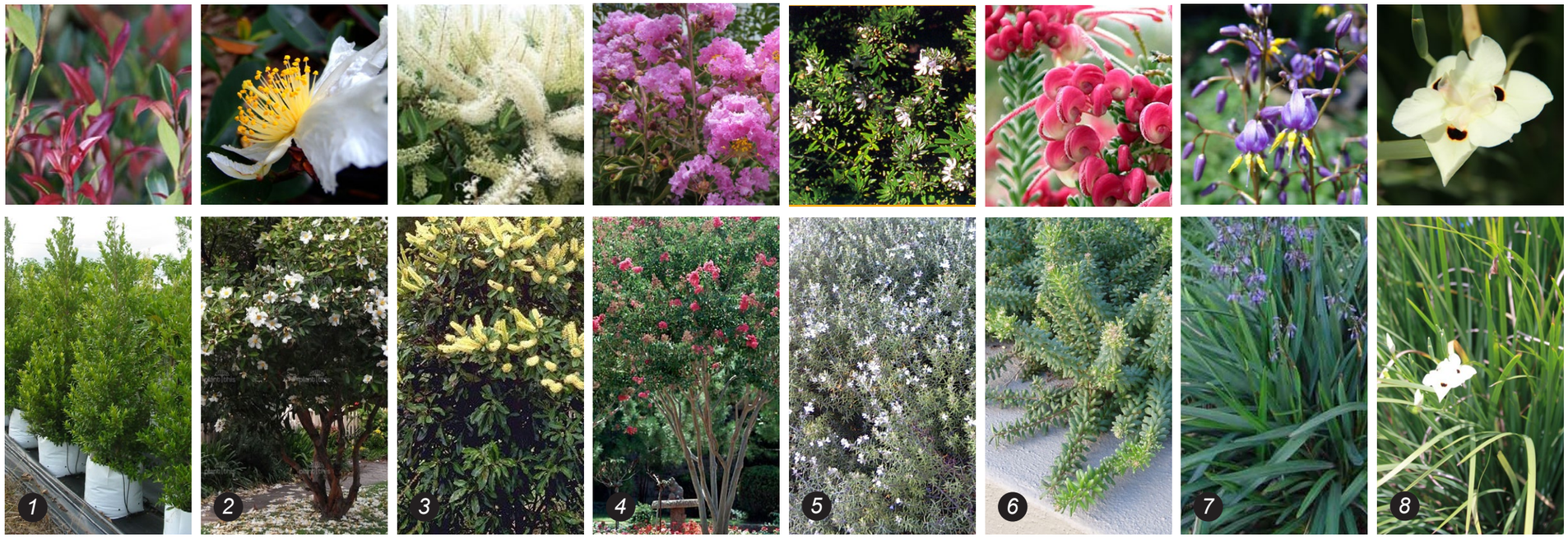


Table 3-5 Planting Palette - Carpark

	Botanical name	Common name	Mature Height (m)	Spread (m)	Pot size
	Trees & shrubs				
1	*Lophostemon confertus*	Brush Box	15m	7m	1000L
2	*Banksia integrifolia*	Coast Banksia	5m	3m	1000L
3	*Angophora floribunda*	Rough Barked Apple	13m	5m	400L
4	*Cupaniopsis anacardioides*	Tuckeroo	6m	4m	400L
5	*Callistemon citrinus*	Crimson Bottlebrush	4m	2m	35L
	Grasses & groundcovers				
6	*Dianella 'Little Jess'*	Native Flax Lily	0.6m	0.6m	200mm
7	*Dietes bicolour*	Wild Iris	0.8m	1m	200mm
8	*Lomandra* 'Tanika'	Tanika	0.6m	0.6m	200mm

Table 3-6 Planting Palette Overland flow path (WSUD)

	Botanical name	Common name	Mature Height (m)	Spread (m)	Pot size
	Trees & shrubs				
9	*Melaleuca decora*	White Honey Myrtle	4-5m	3m	35L
	Grasses & groundcovers				
10	*Carex appressa*	Tall Sedge	0.6m	0.6m	200mm
11	*Ficinia nodosa*	Nobby Club Rush	0.6m	0.6m	150mm

Note: Location of the current species requires evergreen tall shrub and medium tree for visual screening purposes. Crepe Myrtle would not be an appropriate replacement. Species selected for the carpark areas are hardy, drought tolerant and predominantly native.

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3.4 Beecroft Station

3.4.1 Proposed works

The most significant works to Beecroft Station include an extension of the existing subway that links the eastern and western sides of the station passing under the tracks. To accommodate the new track the subway structure will be extended to the west.

The existing carpark on the western side of the station is to be reconstructed. The existing rear to kerb angled street parking will be removed and equivalent off-street parking is to be provided in the carpark.

The new track works will encroach into the existing station gardens adjoining the western side of the station precinct and opposite the shopping village. The encroachment required removal of existing vegetation that screened the tracks.

The playground area has been affected by a new transformer located within the former northern end of the playground however the overall size of the playground is proposed to be increased. Refer Figure 3-35 to Figure 3-37 for more details.

3.4.2 Existing condition

Figure 3-30 illustrates the existing condition of Beecroft Station. The Station precinct lies within a heritage conservation area as identified in the Draft Hornsby LEP 2011 and mapped in the Heritage Issues Report 2012 prepared by Godden Mackay Logan for ETTT. The area is significant for its history associated with rail given that the land was subdivided to raise funds for an important state-wide rail project. It also represents the Australian ideal of one house on one lot and demonstrates the impact of natural topography and vegetation on determining the street character.

Beecroft Station and associated station gardens are integral to the village character and the gardens provide an opportunity for social interaction, passive recreation and a visual buffer to the rail corridor. The plantings are of both native and exotic species with bushland character mostly contained to the northern edge of the commuter carpark. Along the edge of the gardens a weedy but effective screen of vegetation provides visual relief from the rail corridor and shade in summer.

The streetscape and station garden areas have adopted the use of brick paving with low sandstone walls and, while some of the structures within the stations gardens are starting to tire, the gardens are well used and provide an attractive edge to the village precinct. Two memorials exist at the southern end of the station gardens that are not impacted by the works, therefore they will continue to define the entry to the village.

A train-themed playground on the western edge of the station has been observed to be well used by the community, with a vegetated buffer protecting the site from most of the visual impact of the passing trains. The dense tree canopy close to the playground and station entrance limits solar access in winter months.

Streets surrounding the station (on the eastern side) are predominantly non-timed for parking, giving commuters the opportunity to park near the station to catch the train. Two carparks (one on the eastern side and one on the western side of the station) provide formal, non-timed parking opportunities.

The subway (underpass) provides an important pedestrian connection linking the residential areas on the east with the shopping precinct on the west side of the rail corridor.

Figure 3-30 identifies key pedestrian movements and facilities with the most notable points being:

- The bus stop is located on the western side of the station and connects to the station via a ramp (gradient 1:8) and a pedestrian crossing links to the shopping /retail precinct
- The pedestrian path on the western edge of the commuter carpark is currently inhibited by car overhangs
- Lack of shade trees to the existing commuter carpark
- Non-timed, on-street carparking is available on the western side of the station and is well used. Pedestrian access along this edge is partly limited by a low vehicular fence
- Bike racks are currently not provided
- The existing vegetation between the rail corridor and station gardens on the western side provides a good visual screen and attractive edge to the gardens despite the weedy nature of the species.

3.4.3 Impacts and strategies

The likely urban and landscape impacts include:

- Loss of existing vegetation on the western side of the rail corridor due to widened cuttings required to fit the new track. The vegetation to be removed includes a significant amount of weed species; however, they provide an important visual screen to the tracks
- The northern end of the playground area is reduced in size due to the location of the new transformer (where the three Crepe Myrtles were). However, the playground area is proposed to be increased to the south as indicated on Figure 3-35
- Loss of some cultural trees including either one or two Bunya Pine trees and three crepe myrtles that are located within the playground but outside the soft-fall play area
- Loss of some Blue Gum High Forest to the northern edge of the reconfigured carpark.

A number of strategies to mitigate the impact of the works on Beecroft Station precinct are described below:

- Bushland vegetation and character should be maintained. If removal is necessary, the extent should be minimised and replanted with appropriate vegetation in terms of species, size and character
- Use the new carpark to reinforce the existing street tree planting of Flowering Pears and Plane Trees
- Retention of existing vegetation (both native and cultural) where possible
- Incorporate principles of WSUD into the carpark and landscape areas where possible
- Carpark configurations that optimises size, opportunities for tree growth and improves safety
- Integration of structures such as fences, anti-throw screens, barriers, walls and capping beams to simplify and refine the design
- Incorporation of interpretive signage for heritage items such as the former side platform to be removed.

3.4.4 Design intent

In keeping with the project design principles of achieving an urban design outcome for the corridor that is integrated with the existing urban context and to consider the conservation zone requirements, the design for Beecroft Station precinct includes:

- Use of a materials and finishes palette that reflects the suburban village context of Beecroft such as concrete or paving units to match the existing, simple fence types and a mix of native and hardy exotic species
- Minimise impact to the children's playground by extending the existing playground and development of options on how to screen the playground from the corridor
- Provide new screening vegetation along the station gardens upon completion.

The proposed concept plan for Beecroft Station is illustrated in Figure 3-34. The concept design is further illustrated in the Artist's impressions shown in Figure 3-38 and Figure 3-40.

3.4.4.1 Beecroft Station concept plan

The existing station entrance portal has been extended to allow for the Third Track on the western side of Beecroft Station.

The opportunities for landscape and urban design improvements are focused around three key areas; the station portal, the extended car park and the playground and park adjacent the corridor. Enhanced landscape including trees, shrubs and grasses to the station portal will enhance the entry experience from Beecroft Town Centre. The car park is being reconfigured and extended to the north and includes tree planting between parking spaces and in garden bed areas to allow shade cover. Reconfiguration of the playground immediately adjacent the station entrance due to required utilities provides opportunities for planted or structural screening between the playground and the corridor. Screen planting to the rail corridor is possible along the eastern boundary of the park.

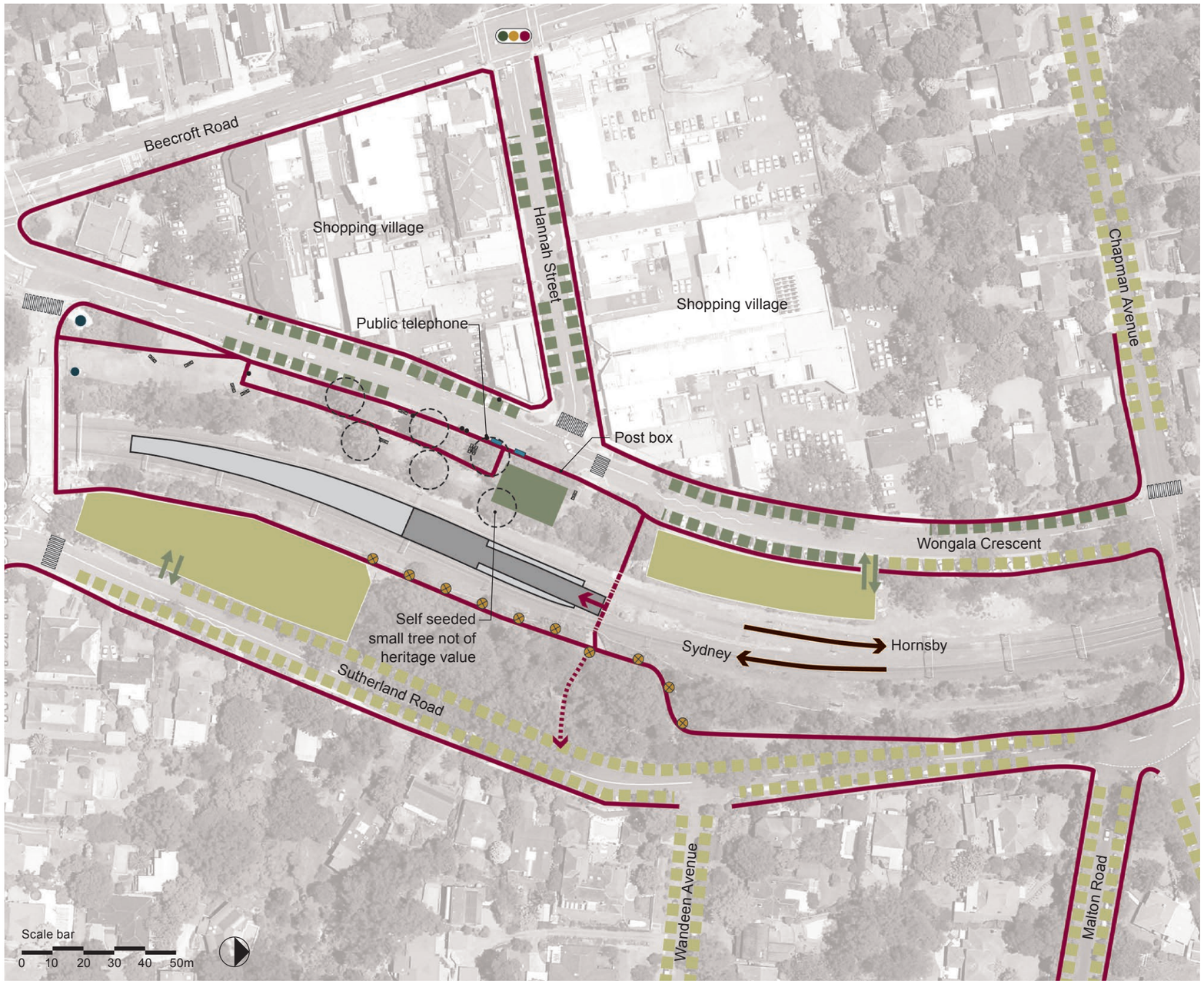


Figure 3-33 Existing station precinct condition and function at Beecroft Station

3.4.4.2 Bunya Pines

The ETTT Project is aware of the importance of the two Bunya Pines within the Beecroft Station gardens that have to be removed as part of the project. Discussion about these trees have occurred with numerous residents as well as the Beecroft Cheltenham Civic Trust. The key technical issue impacting the trees is the proximity of the two trees to the new cutting required for the new third track. The base of the northern tree is 1.2m and the southern one is 3.9m away from the edge of the new cutting. This cutting is expected to impact on definitely one tree and most likely the other as well.

The northern Bunya Pine is close to the third track and as a result much of the structural roots of the tree will be removed during the excavation works. In addition, the proximity of the tree to the new track and overhead wires makes the removal of large cones impractical, which is an essential part of maintenance for the parkland to avoid accidents.

The ETTT Project team is working towards saving the southern Bunya Pine through drainage design changes. These changes are yet to be endorsed by the Asset Standards Authority. Even with such an endorsement the project arborist will make the final determination on whether or not the Bunya Pine is viable for retention. At the time of the excavation the project arborist will be able to view the root system and make an assessment. The assessment will also consider the safety of park and rail users.

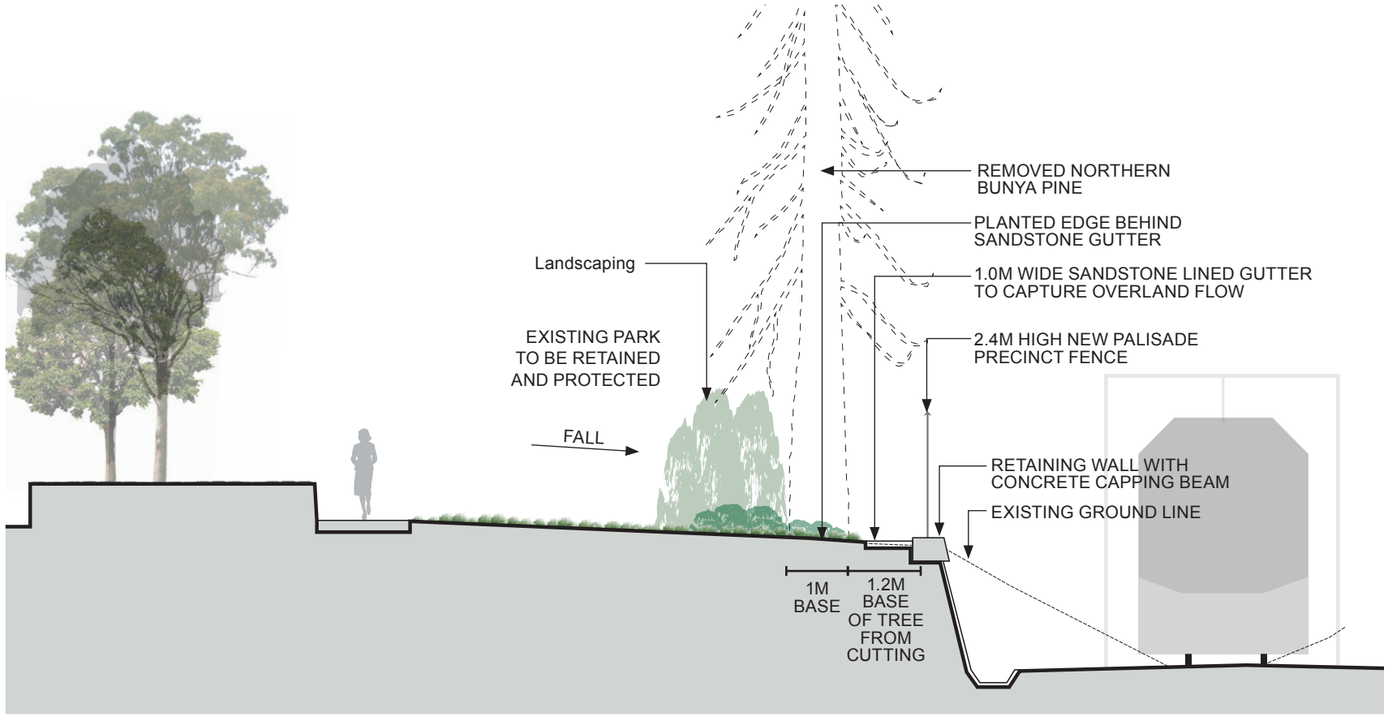


Figure 3-34 Typical cross section of the northern Bunya Pine

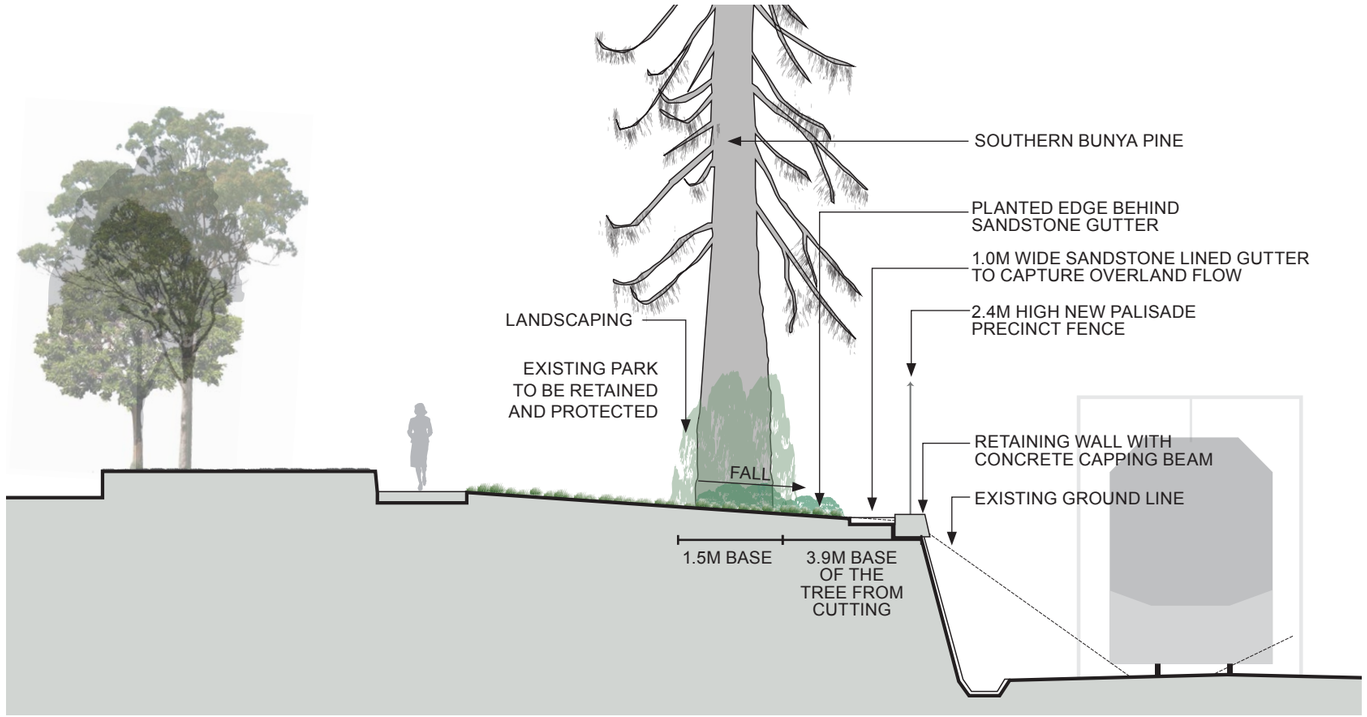


Figure 3-35 Typical cross section of the southern Bunya Pine

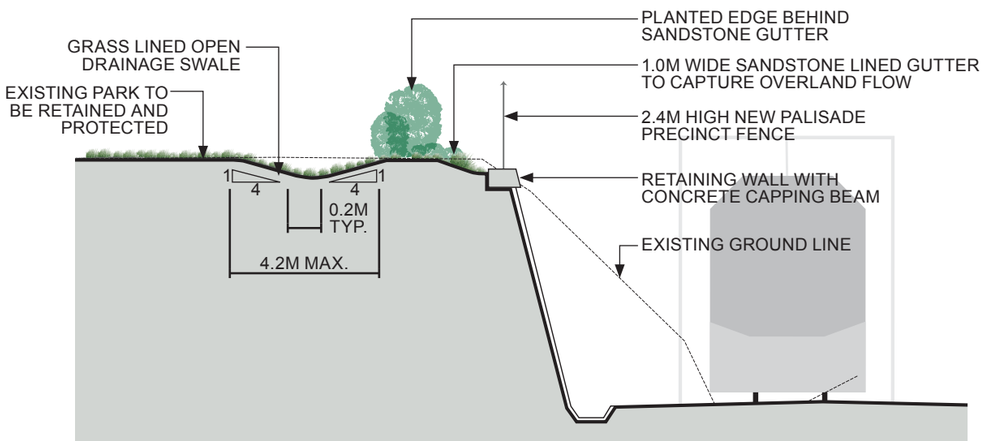


Figure 3-36 Typical cross section through grass lined open drainage swale

The ETTT Project team enquired about the possibility of relocating the two Bunya Pines however the advice received has concluded that it is not a feasible option. The advice provided was that:

- It would take approximately 3 years of pre-treatment to the root structure to prepare the tree for transplant
- Transplanting would need to be undertaken in winter (preferably a cold one) when the tree is dormant
- A 12m^2 x 3m deep root platform would need to be carefully excavated and placed onto a specially designed steel root raft to enable the tree to be lifted from the ground
- A similar sized excavation is required elsewhere in the park to place the tree. Site observations reveal no such space exists without clearing other areas of the established garden
- A 500 tonne crane would be needed to lift the tree (possibly a dual lift)
- Given the size of the tree and crane, the majority of the vegetation in the garden would need to be cleared and power lines removed to enable the crane to set up
- Some supporting wires would be required to keep the transplanted tree upright during the re-establishing process. One of those wires would potentially be in Wongala Crescent or very close to it
- The tree would need extensive care for approximately 5 years.

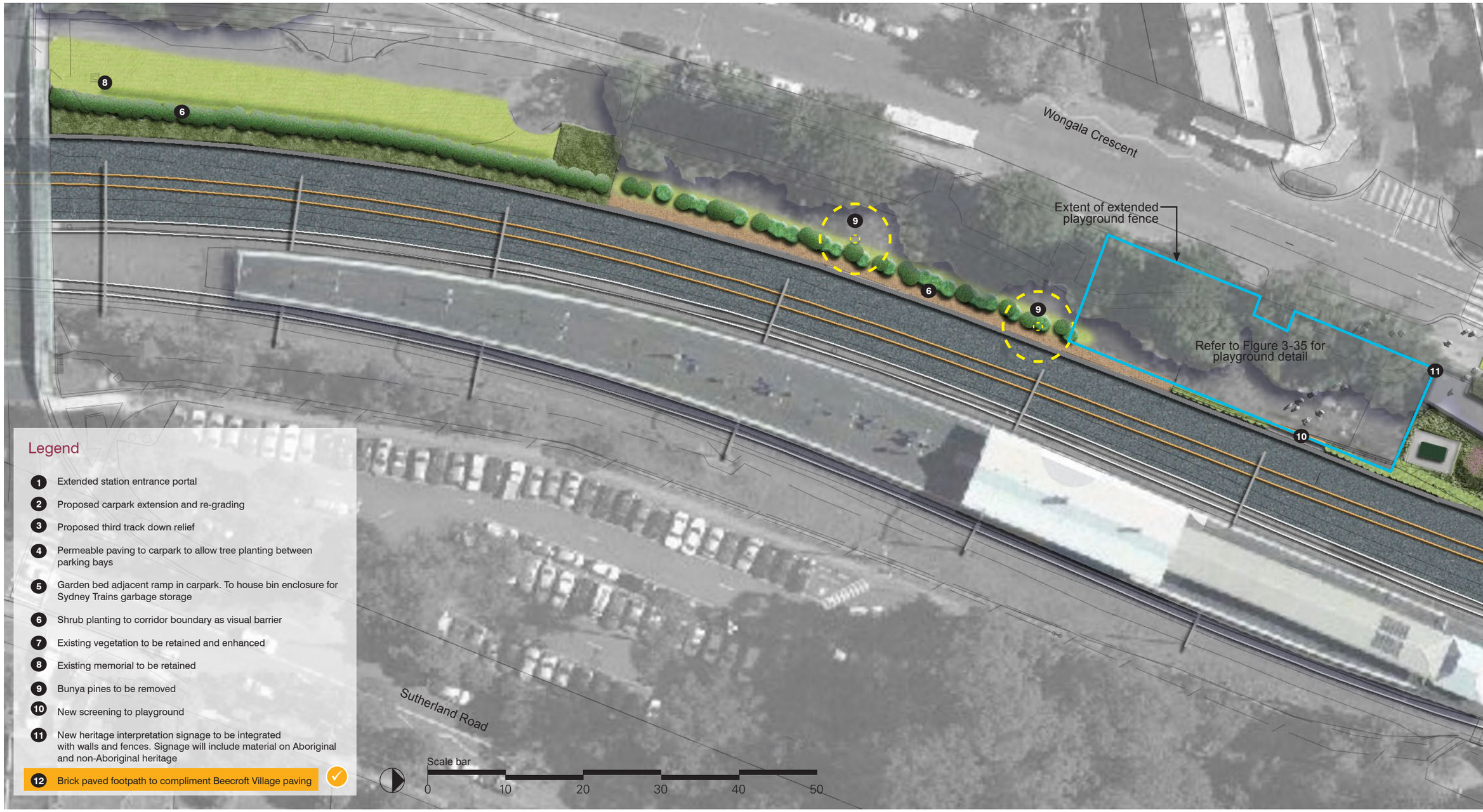
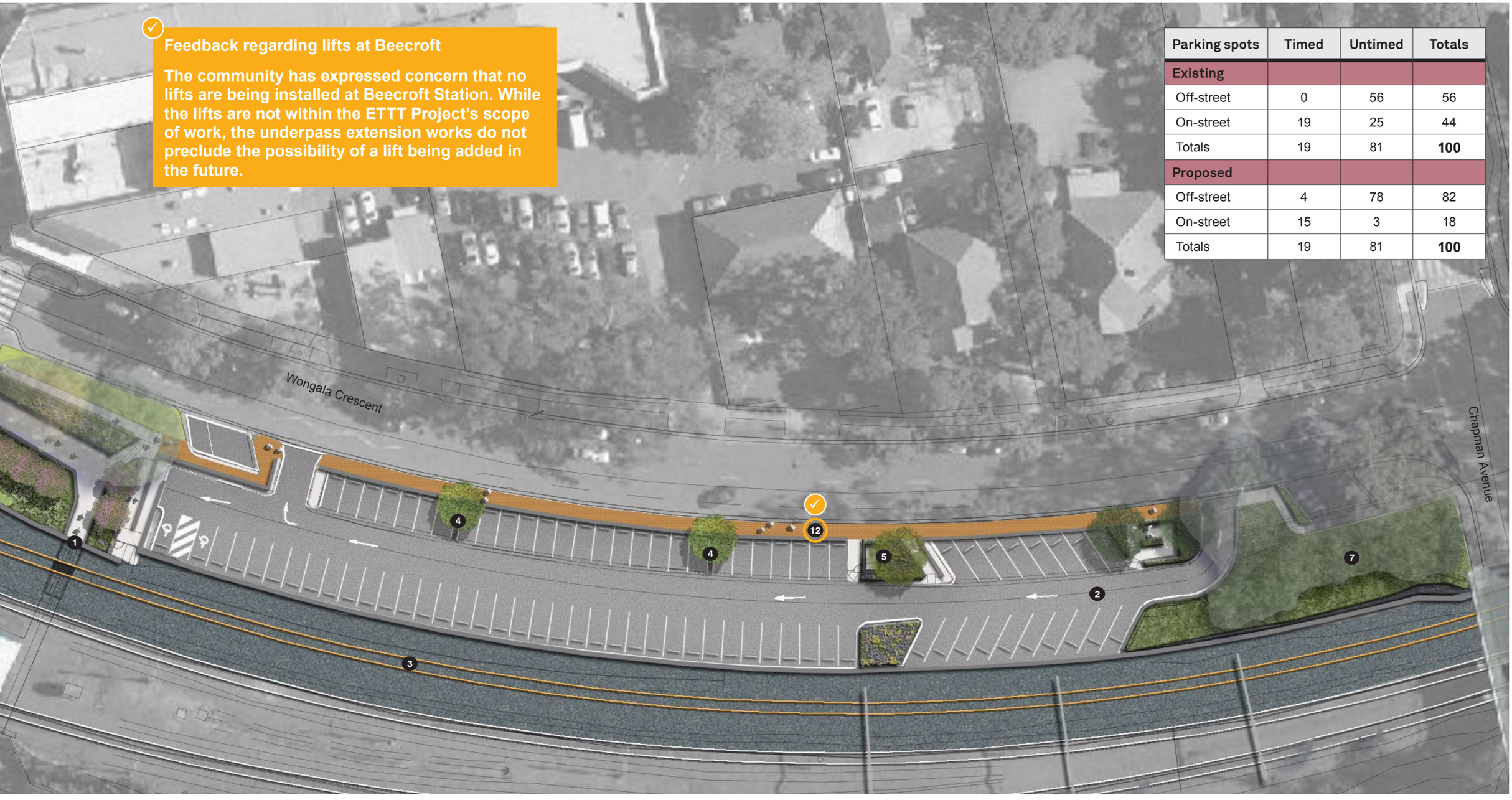


Figure 3-37 Beecroft Station Landscape Master Plan

Feedback regarding lifts at Beecroft

The community has expressed concern that no lifts are being installed at Beecroft Station. While the lifts are not within the ETTT Project's scope of work, the underpass extension works do not preclude the possibility of a lift being added in the future.

Parking spots	Timed	Untimed	Totals
Existing			
Off-street	0	56	56
On-street	19	25	44
Totals	19	81	**100**
Proposed			
Off-street	4	78	82
On-street	15	3	18
Totals	19	81	**100**



3.4.4.3 Children's playground

The train themed playground on the southern side of the station pedestrian underpass is an important local icon that is utilised by hundreds of families. The importance of this playground cannot be overstated and the ETTT Project intends to take great care in minimising temporary and permanent impacts on the playground.

Relocation of the existing electrical transformer that is currently on the northern side of the underpass to the southern side has resulted in removal of the existing three Crepe Myrtle trees. The same type of tree will be replanted around the transformer once work is completed.

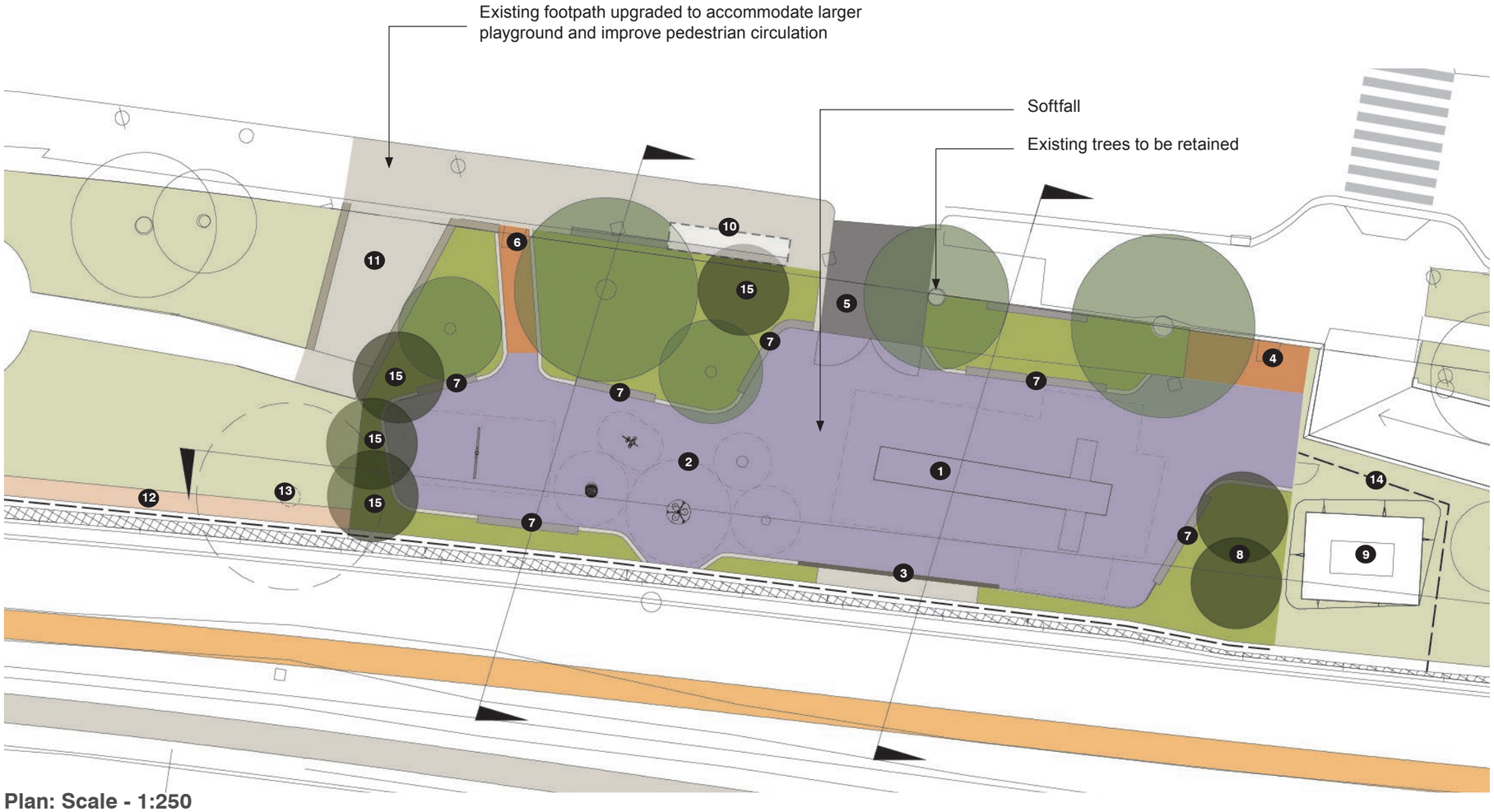
As a result of these impacts and feedback from the community, the playground area will be extended to the south. Figure 3-35 outlines the proposed extension design while Figure 3-36 and Figure 3-37 show how we propose to screen the corridor.

Of the 142 respondents that expressed a preference about the playground, 66% preferred seating and gardens to screen the corridor, 23% preferred a wall while, 8% would like to see a combination of both and 3% did not support either option. As a result of this feedback the latest design includes

- A vegetation screen along at least ¾ of the playground with a short section of a wall with viewing holes
- Additional vegetation screening to the relocated isolation transformer
- Additional seating, in addition to those already provided along the garden bed
- Additional playground equipment will include springers and spinners, with appropriate soft fall surface amendments
- A drinking fountain
- A design that ensures no additional trees are required to be removed as result of the extension
- New planting
- Swings to be retained and relocated.

We thank Hornsby Shire Council and the Beecroft Cheltenham Civic Trust for providing the ETTT Project team with the playground extension proposal.

For safety reasons, the playground and portions of the gardens will require closure for a period of time while upgrade works are carried out. Details will be included in the project works notifications, closer to the time.

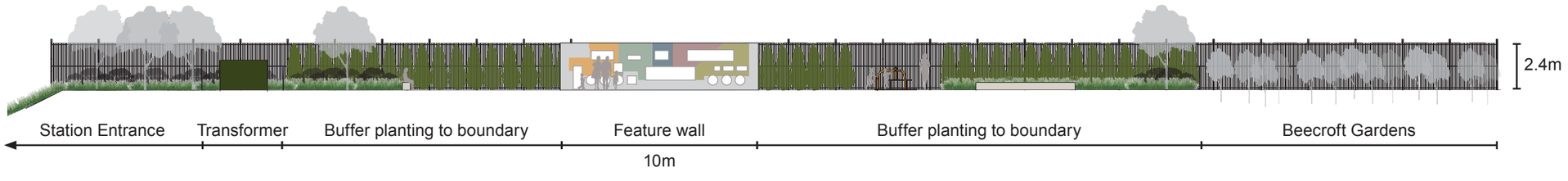


Legend

1. Existing train-themed equipment to be retained
2. New play equipment for 1-5 age group (spinners and springers)
3. Feature wall with coloured tile finish and viewing portals
4. Existing gate to be retained
5. Existing maintenance access to be retained
6. Relocated second entry
7. Concrete bench seating with planting behind
8. New tree and shrub planting to screen transformer
9. New transformer
10. Bus shelter relocated to create an additional width to footpath
11. New pedestrian ramp/path to Beecroft Gardens
12. Sandstone drainage gutter to Beecroft Gardens
13. Bunya Pine to be removed
14. Fence to transformer relocated to minimise visual impact
15. New Trees

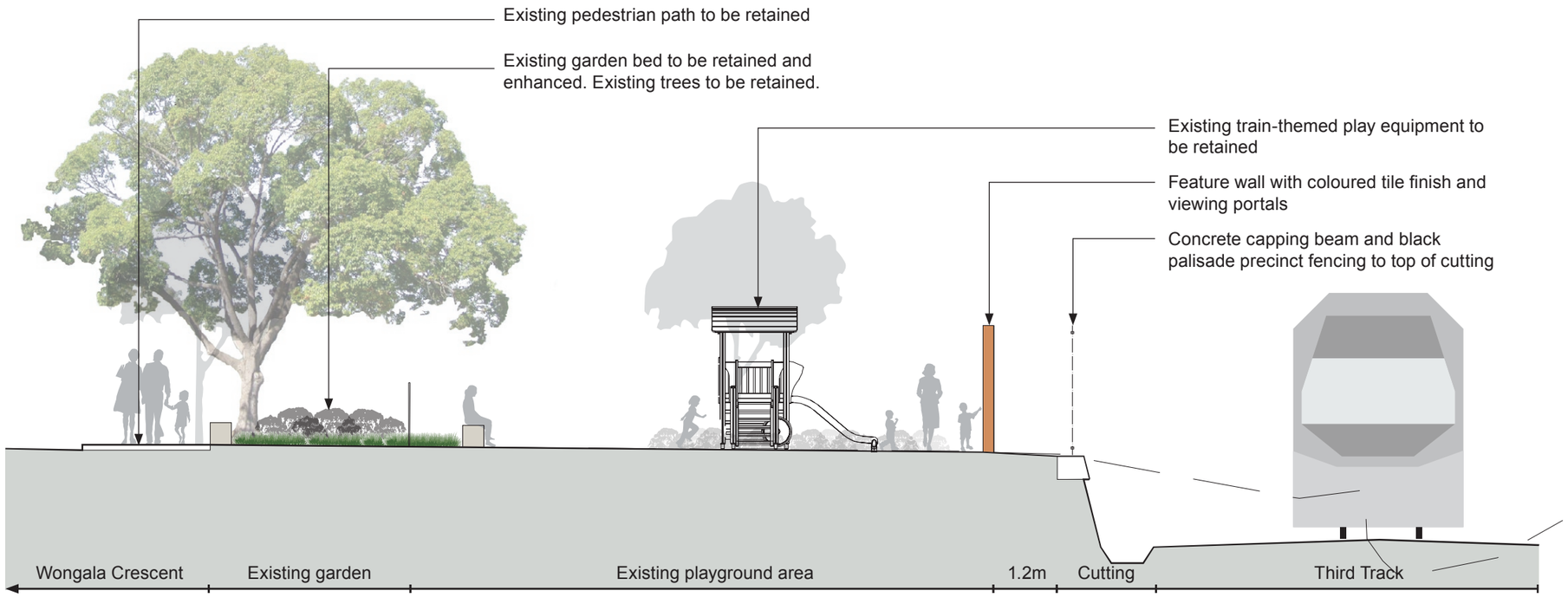
Note: No additional trees are required to be removed as a result of the revised playground design.

Plan: Scale - 1:250



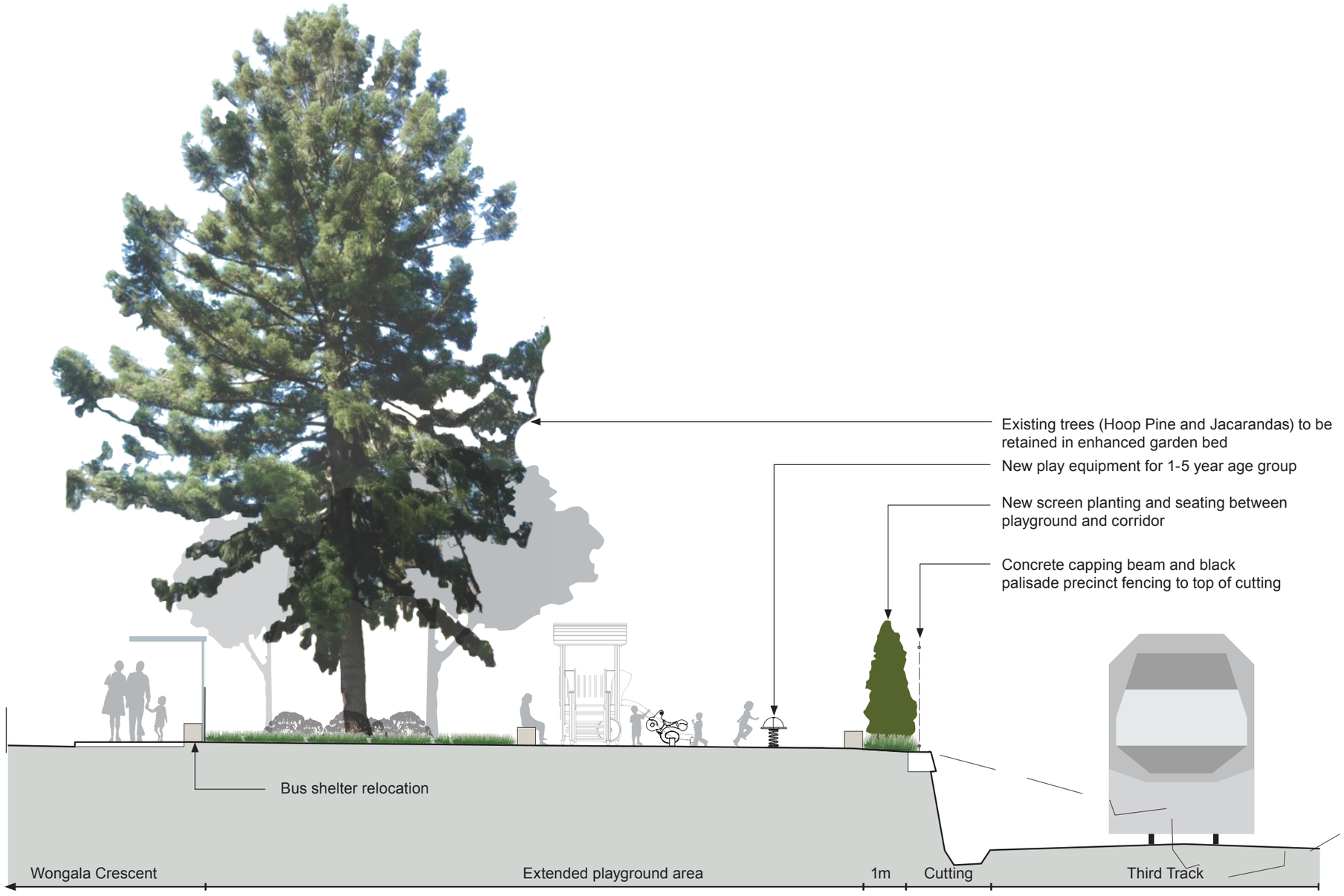
Elevation 1- Scale 1:250

Figure 3-38 Beecroft playground proposed amendments



Elevation 2 - Scale 1:100

Figure 3-39 Beecroft playground proposed amendments screening options



Elevation 3 - Scale 1:100

Figure 3-40 Beecroft playground proposed amendments screening options

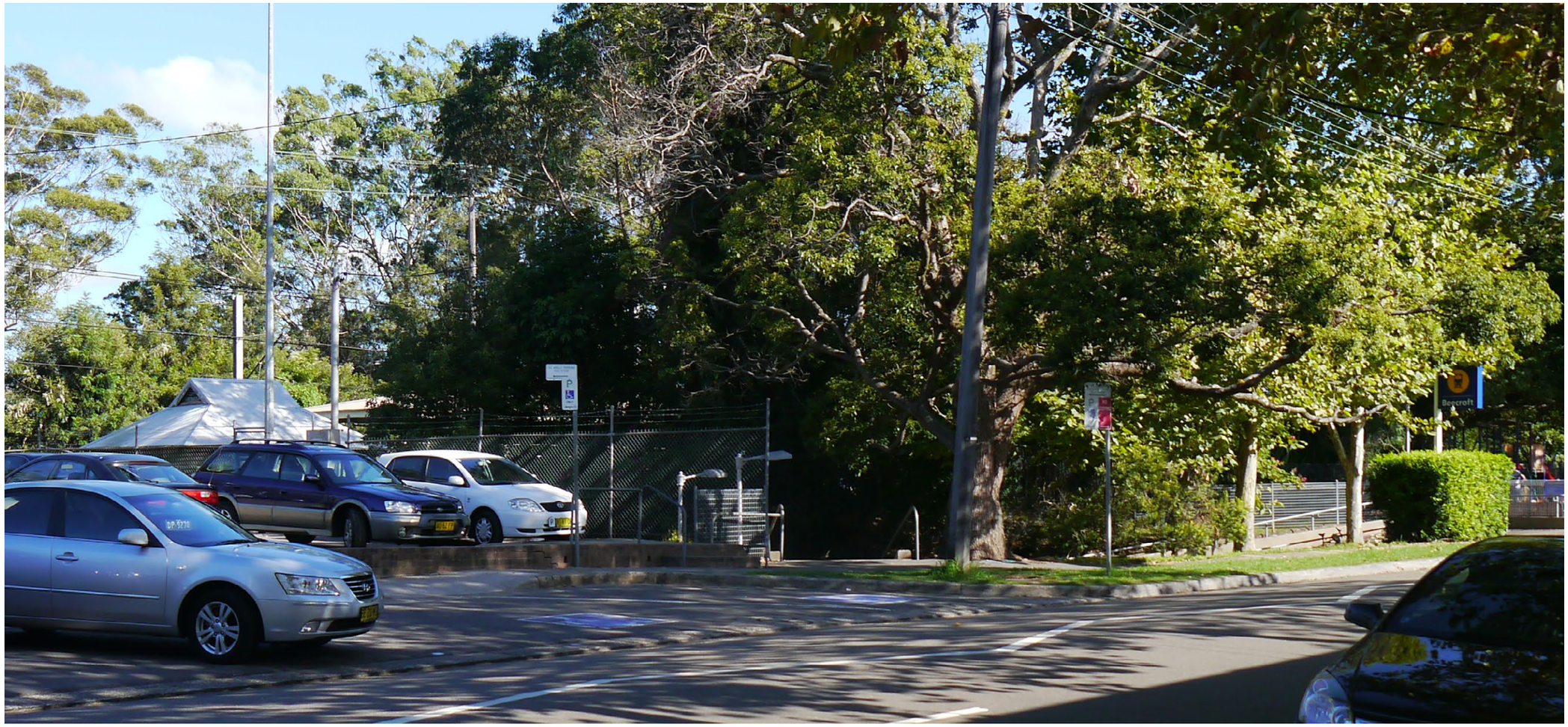


Figure 3-41 Pre-construction works view - looking south towards Beecroft Station entrance from Wongala Crescent

Figure 3-42 Beecroft Station - Perspective showing Beecroft Station entrance from on-street disabled parking

Figure 3-43 Detail of Beecroft Station entry

Legend

1. Extended station entrance portal with brick entrance wall and black palisade fencing to rail corridor (see detail)
2. Small paved plaza with bicycle stands
3. Existing Crepe Myrtles to be replaced with the same species
4. New Crepe Myrtle trees to enhance station entrance and provide shade
5. Existing Plane trees to be retained and understorey enhanced to include native and exotic shrub and grass species
6. Existing turf verge to be maintained
7. New isolation transformer to be separated from playground by fence
8. Enhanced garden bed
9. Existing playground
10. Accessible ramp to carpark
11. New smooth concrete (Class 2) retaining wall to carpark
12. Playground fencing/screening (refer to Figure 3-36 and Figure 3-37 for options)
13. Brick paved footpath to compliment Beecroft Village paving

Figure 3-44 Pre-construction works view - looking south along Wongala Crescent towards Beecroft Station

Figure 3-45 Beecroft Station carpark looking towards western station entrance from the north.

Legend

1. New smooth concrete (Class 2) retaining wall to carpark
2. Tree and shrub planting adjacent to the carpark ramp will be small when planted and will take a period of time to establish.
3. Bin enclosure
4. New shade trees in carpark
5. Brick paved footpath to compliment Beecroft Village paving

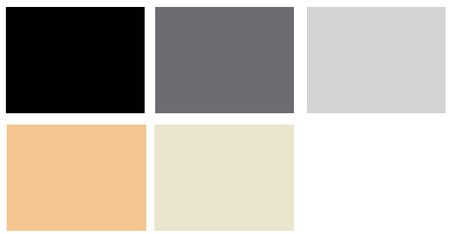
3.4.5 Materials palette

The materials palette reflects the existing materials used in and around Beecroft Village by matching the existing brick pavement for feature areas, and robust concrete for high use pedestrian paths.

Figure 3-46 Brick unit paving to station forecourt to match existing

Figure 3-47 Broom finish concrete paths to high pedestrian areas

Figure 3-48 Permeable paving to carpark to encourage passive irrigation of tree planting and support root growth through structural soils below.



Colour palette for materials and furniture

3.4.6 Furniture palette

The furniture palette for Beecroft Station was chosen as part of community feedback which complements the character of the heritage precinct by including timber park-style furniture. The timber seating reflects the character of existing Hornsby Shire Council furniture in a contemporary form.

Legend

- Seating
- Bollards (removable)
- Bin
- Water Fountain (Bubbler)
- Bus shelter
- Phone box (existing retained)
- Station Precinct furniture to TfNSW standards

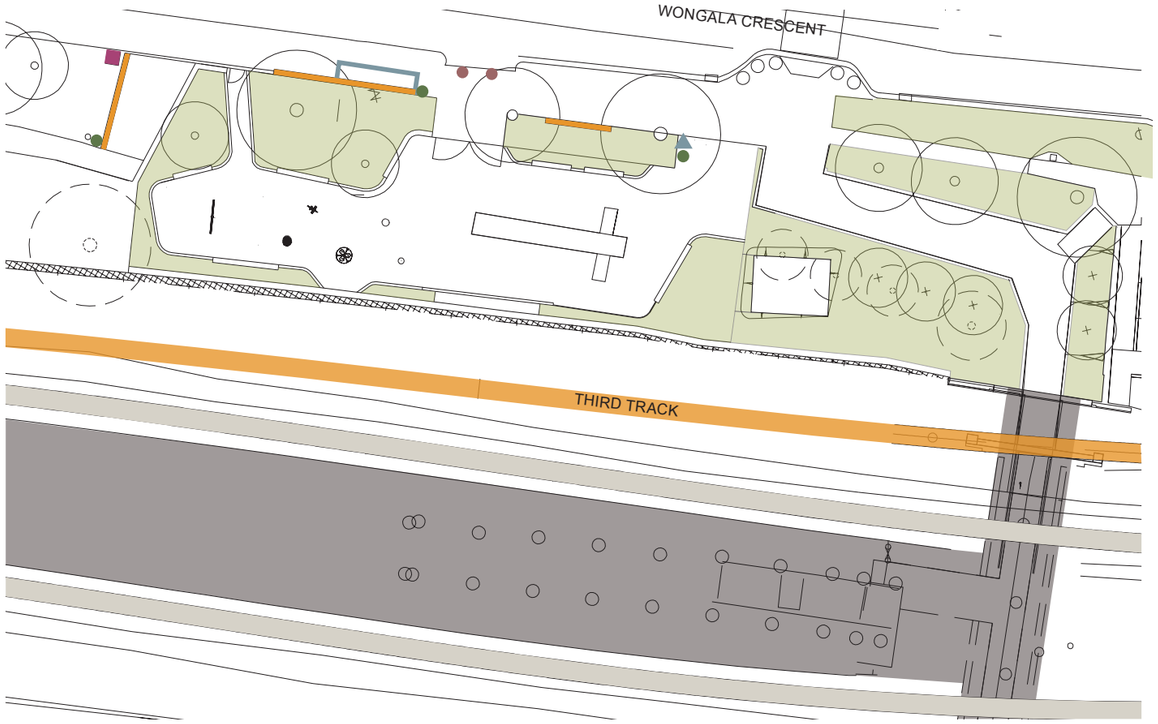


Figure 3-49 Furniture location diagram

Figure 3-50 Stained timber seat with black powder coated arm rests

Figure 3-51 Timber and stainless steel bin enclosure

Figure 3-52 Galvanised Steel arc bike racks

Figure 3-53 Federation style powder coated removable bollard to match existing.

3.4.7 Planting palette

Consistent with the project objectives the planting palette reinforces and enhances the existing planting of Beecroft Village. The station entrance, playground and Beecroft Station Gardens planting utilises a mix of exotic and native planting choices such as *Grevillea* and *Photinia*.

The carpark plant species enhance the visual amenity to the station precinct, with tree species also being selected from a range of exotic and native species. Trees will provide shade and filtered screening of the corridor.

All plants selected are low maintenance species that are known to thrive in this area.

Consideration has been given to community feedback from the most recent community consultation in December 2013. The key planting changes arising from the feedback include:

- A change in variety of Flowering Pear (Pyrus)
- Removal of *Trachelospermum jasminoides*
- Inclusion of *Photinia* “Red Robin” hedge

Table 3-7 Planting Palette - Station Entrance , Playground and Beecroft Gardens

	Botanical name	Common name	Mature Height (m)	Spread (m)	Pot size
	Trees & shrubs				
1	*Lagerstroemia indica*	Crepe Myrtle	5m	5m	1000L
2	*Photinia* ‘Red Robin’	Red Robin	4m	4m	5L
3	*Westringia fruticosa*	Coast Rosemary	1m	1m	5L
	Grasses & groundcovers				
4	*Dietes bicolour*	Wild Iris	0.8m	1m	200mm
5	*Grevillea Mt Tamboritha*	Grevillea	0.3m	2m	200mm
6	*Hardenbergia violacea* ‘Meema’	Native Sarsparilla	0.5m	2m	200mm
7	*Liriope muscari* ‘Variegata’	Variegated	0.5m	0.4m	150mm
8	*Lomandra longifolia* ‘Tanika’	Mat-Rush	0.6m	0.6m	150mm

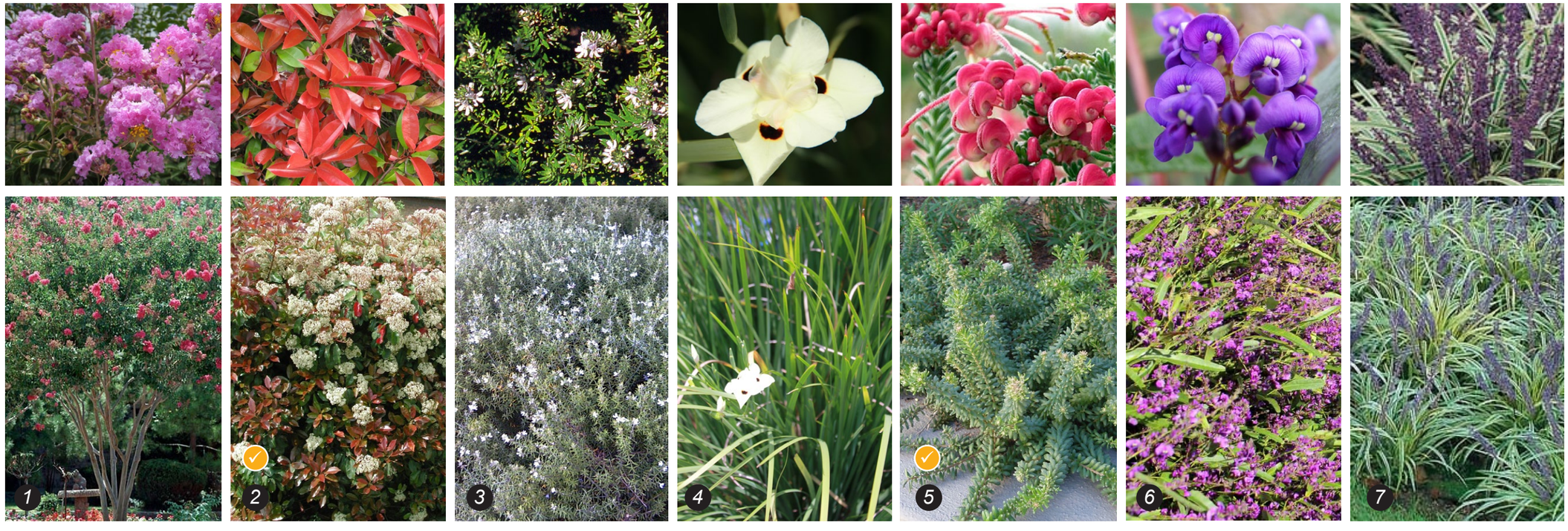


Table 3-8 Planting Palette - Carpark

	Botanical name	Common name	Mature Height (m)	Spread (m)	Pot size
	Trees & shrubs				
1	*Lophostemon confertus*	Brush Box	15m	7m	1000L
2	*Angophora floribunda*	Rough-barked Apple	12-18m	8-10m	1000L
3	*Pyrus betulaefolia* 'Southworth Dancer'	Ornamental Pear	7m	5m	1000L
	Grasses & Groundcovers				
4	*Ficinia nodosa*	Nobby club rush	0.6m	60cm	200mm
5	*Dianella caerulea* 'Breeze'	Native Flax Lily	0.6m	60cm	200mm
6	*Grevillea Mt Tamboritha*	Grevillea	0.3m	2m	200mm

3.5 Pennant Hills Station

3.5.1 Proposed works

To accommodate the third track the existing station building concourse is to be extended to the west. In addition, the widening will remove the existing garden beds and seating areas that currently exist on the eastern side of Yarrara Road between the footbridge and the station building.

The existing footbridge is to be replaced but will remain open during the construction phase of the project.

3.5.2 Existing condition

Pennant Hills Station is within an urbanised setting and in recent years the station building was upgraded incorporating heritage detailing that was popular in the 1980s and 1990s. The station and an existing footbridge across the tracks provide important connections across the rail corridor to link the bus interchange with the village centre. An additional footbridge over Pennant Hills Road currently connects the eastern side of Pennant Hills Road to the bus interchange area.

Legend

- Formalised pedestrian paths
- Pedestrian desire line paths
- Pedestrian overpass
- Pedestrian crossing
- Traffic lights
- On-street parking (non-timed)
- On-street parking (timed)
- Bike parking
- Existing station buildings
- Existing station platform
- Bus stop
- Taxi stand
- Seating
- Bins / telephone booths / post box
- Significant trees (Bunya Pines and Eucalypts)

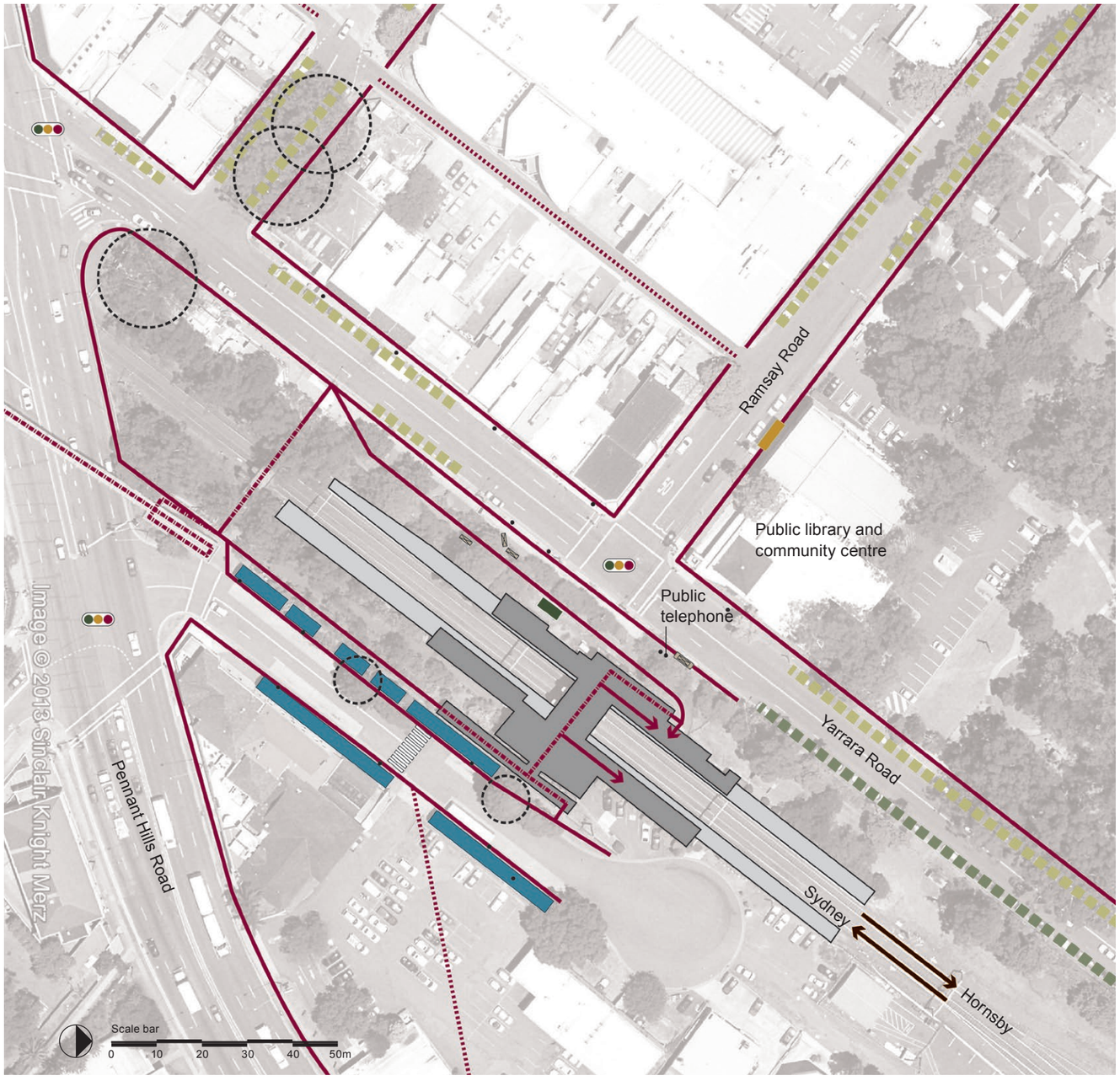


Figure 3-54 Existing station precinct condition and function at Pennant Hills Station

A narrow strip of vegetation and several large Eucalypt trees currently define the village entry off Pennant Hills Road. This vegetation also provides screening and amenity to the edge of Yarrara Road but will be removed to accommodate the third track.

Figure 3-49 illustrates key pedestrian movements and facilities with the most notable points being:

- The bus interchange, schools and shopping precinct are separated by the rail corridor and connected via the footbridge and the station building
- There are several significant trees that provide landmarks within the town centre and one that is prominent along Pennant Hills Road will be affected by the works
- The street frontage (west side) along Yarrara Road is not active and presents as being tired and in need of activation
- The library and community centre are opposite the train station on Yarrara Road which generates pedestrian movements north of the station as well as to the main town centre
- The edge to Yarrara Road between the station and Pennant Hills adjoining the rail corridor is characterised by formalised seating and planting areas. The Yarrara Road / Pennant Hills Road corner could be improved by using it to define the town centre entry
- Use of a materials and finishes palette that reflects the suburban and parkland character of the village
- Managing the visual impact from the loss of vegetation between the rail corridor and Yarrara Road through urban design embellishments of integrated fence and planter design.

3.5.3 Impacts and strategies

The likely urban and landscape impacts include:

- Loss of existing cultural planting on the western side of the rail corridor (Yarrara Road frontage) due to widened cuttings required to fit the new track. The vegetation to be removed currently provides an important visual buffer to the tracks
- The loss of one significant Eucalypt at the corner of Yarrara Road and Pennant Hills Road will remove an important landmark that identifies the intersection as the entry to Pennant Hills Village centre
- Extension of the existing station concourse, including construction of new roof canopies, lift and stair
- The new station concourse reduces the footpath width along Yarrara Road due to the required stairs and lift shafts
- Increased visual impact due to loss of vegetation and limited space available to re-plant
- The new footbridge requires a ramp and stairs as it finishes approximately 2m above the existing footpath level. The stairs and ramp also reduce the footpath width.

A number of strategies to mitigate the impact of the works on Pennant Hills Station precinct are described below:

- Retention of existing vegetation (both native and cultural), where appropriate
- Integration of structures such as fences, deflection walls, anti-throw screens, barriers, walls and capping beams to simplify and refine the design.

The proposed concept plan for Pennant Hills Station is illustrated in Figure 3-53.

The concept design is further illustrated in the Artist's impressions shown in Figure 3-54 through Figure 3-56.

Changes due to community feedback

- The roof colour to the new section of Pennant Hills Station has been changed to Colorbond "Mangrove" which is an olive green colour, reflecting the desire of the community to retain a predominantly green roof
- A range of new finishes has been applied to the walls on Yarrara Road frontage to soften the visual impact, such as: Evergreen climber to cover the wall in the undercroft area to the stair (pending confirmation of drainage system); feature tiled walls at the pedestrian ramp and stair wall to include a motif such as Eucalypt trunks
- Additional footpath upgrade to improve pedestrian amenity
- Planting palette changed as a result of Hornsby Shire Council and Pennant Hills District Civic Trust feedback to promote the predominant use of native species.

Figure 3-55 Existing pedestrian bridge linking village to bus interchange

Figure 3-56 Existing western station precinct bicycle parking

Figure 3-57 Existing western station entrance, verge landscape with formal pedestrian path and precinct fencing

3.5.3.1 Pennant Hills Station concept plan

The existing station entrance will be upgraded and the station concourse will be extended to allow for the Third Track on the western side of Pennant Hills Station. A new lift and stair will provide access to the extended concourse from Yarrara Road. Existing level access between Yarrara Road and Platform 2 will be lost due to the presence of the new track.

A replacement pedestrian footbridge, crossing the tracks, will be constructed on the northern side of the existing footbridge (i.e. closer to Ramsay Road).

The opportunities for landscape and urban design improvements are on the pavement and along the rail corridor boundary, between the footpath and the boundary fence to the corridor on either side of the new pedestrian bridge. Fourteen (14) new native evergreen trees will form a visual barrier from the commercial premises across the road and provide shade and visual amenity for the street. Buffer planting will occur in sections along the boundary fence; providing a screen and referencing existing vegetation in the area.

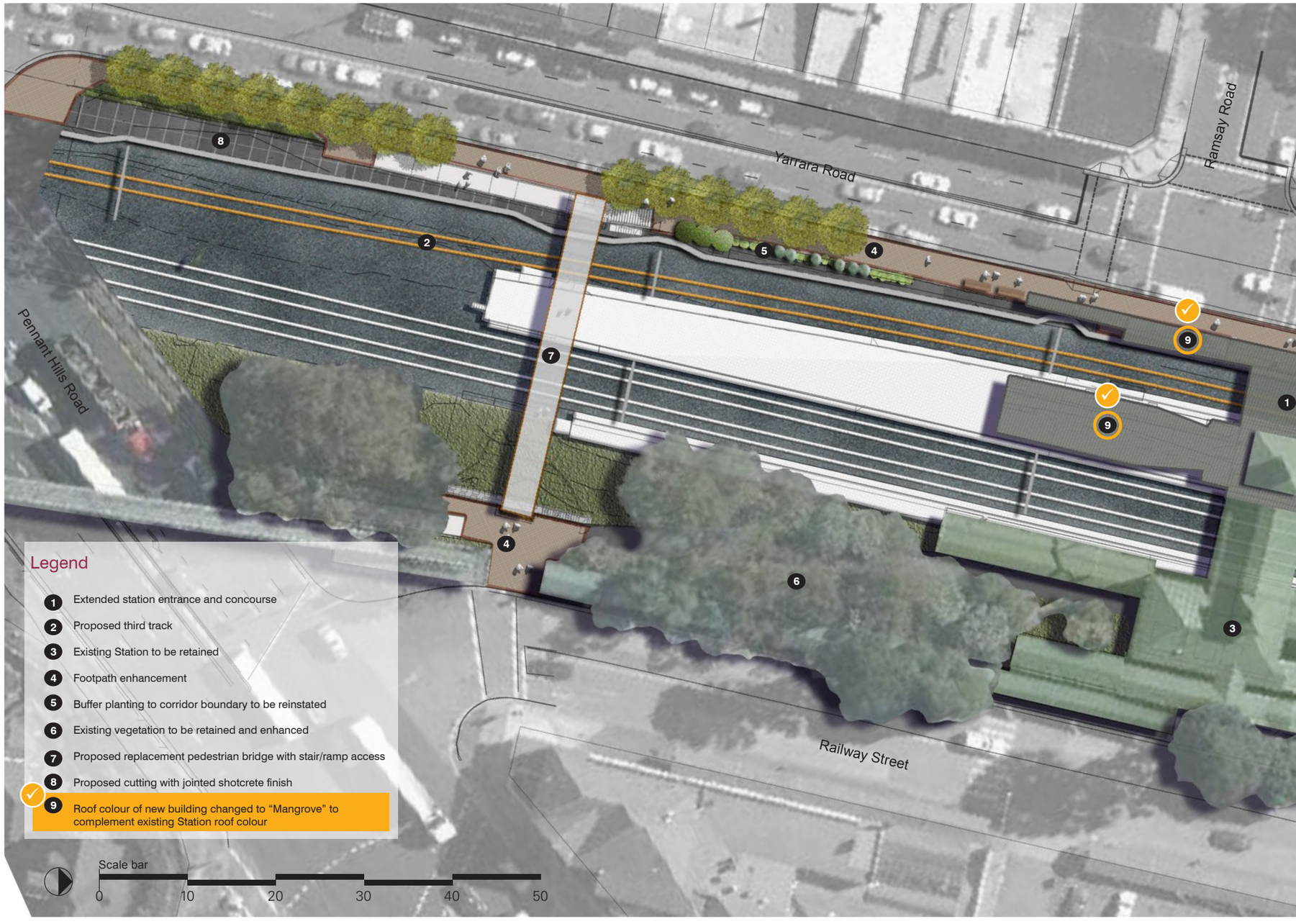


Figure 3-58 Pennant Hills Station Landscape Master Plan

The architect's preferred colour for the roof extension to Pennant Hills Station was a contrasting grey colour to the existing roof colour. In response to community feedback the selected colour for the roof to the Pennant Hills Station extension is to be Colorbond 'Mangrove' which is more green.

Figure 3-59 Extensions to existing station building Pennant Hills (Yarrara Road frontage)

Figure 3-60 Extensions to existing station building Pennant Hills (aerial view)

The architect's preferred colour for the roof extension to Pennant Hills Station was a contrasting grey colour to the existing roof colour. In response to community feedback the selected colour for the roof to the Pennant Hills Station extension is to be Colorbond 'Mangrove' which is more green.

Figure 3-61 Extensions to existing station building Pennant Hills (Yarrara Road frontage eye level view)

Legend

1. Proposed evergreen climber to cover the rear wall of the undercroft area (subject to further irrigation and drainage design to confirm feasibility)
2. Location for public art (feature wall)

3.5.4 Materials and furniture palette

The furniture palette for Pennant Hills Station was chosen as part of community feedback which complements the character of the precinct by including timber park-style furniture. The timber seating reflects the character of existing Hornsby Shire Council furniture in a contemporary form.

Colour palette for materials, furniture and planting

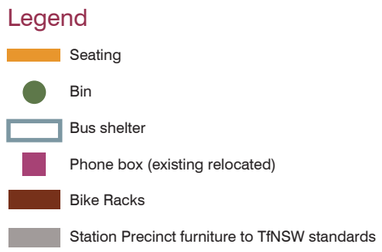
Figure 3-62 Brick paving

Figure 3-63 Resin-bound gravel to base of trees in pavement

Figure 3-64 Tile feature wall to pedestrian bridge stairs/ramp and Yarrara Road station entrance (indicative onl

3.5.5 Furniture palette

The furniture palette for Pennant Hills Station was chosen as part of community feedback which complements the character of the heritage precinct by including timber park-style furniture. The timber seating reflects the character of existing Hornsby Shire Council furniture in a contemporary form.



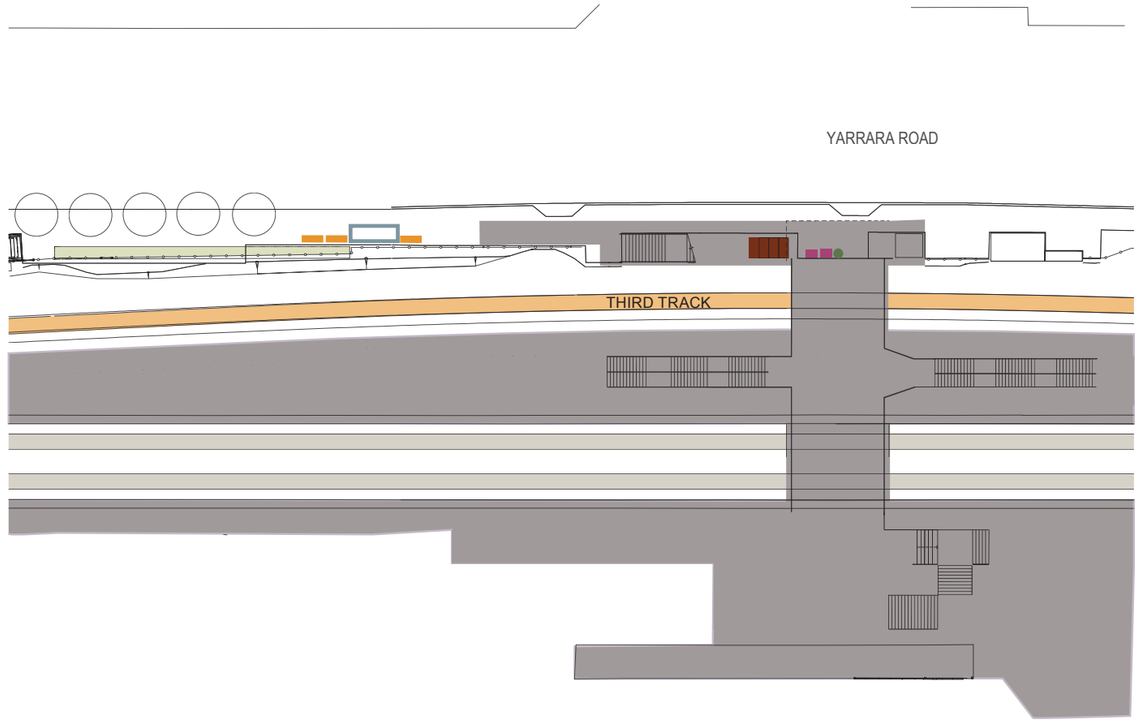


Figure 3-65 Furniture location diagram

Figure 3-66 Stained timber seat with black powder coated arm rests

Figure 3-67 Timber and stainless steel bin enclosure

Figure 3-68 Galvanised Steel arc bike racks

3.5.6 Planting palette

The planting palette for Pennant Hills Station was chosen to reinforce the surrounding urban and natural environments, drawing from nearby bush and parkland to enhance the character of the station.

Buffer planting utilises plants with upright forms (such as *Callistemon* and *Cupressus sempervirens* 'Glauca') where there is limited space for planting. Taking reference from the current planting around the station, *Leptospermum* has also been used in the new planting areas.

All plants selected are low maintenance species that are known to thrive in this area.

Consideration has been given to community feedback from the most recent community consultation in December 2013. The key planting changes arising from the feedback include:

- Replace the Flowering Pear street tree with *Cupaniopsis anacardioides* (Tuckeroo)
- Remove *Juniperus conferta* and *Plumbago auriculata*
- Add *Grevillea juniperina*, *Callistemon citrinus* and *Hardenbergia violacea* 'Meema'
- Replace *Leptospermum laevigatum* with *Leptospermum squarrosum*

Table 3-9 Planting Palette

	Botanical name	Common name	Mature Height (m)	Spread (m)	Pot size	
	Trees & shrubs					
1	*Cupaniopsis anacardioides*	Tuckeroo	6m	4m	400L	✓
2	*Cupressus sempervirens* 'Glauca'	Pencil Pear	4m	0.8m	50L	
3	*Leptospermum squarrosum*	Pink Tea Tree	4m	2m	25L	✓
4	*Callistemon citrinus*	Lemon Scented Bottlebrush	2.5m	2m	25L	✓
	Groundcovers					
5	*Banksia spinulosa* 'Birthday Candles'	Banksia	0.6m	1.2m	150mm	
6	*Grevillea juniperina*	Juniper Grevillea	0.6m	2m	200mm	✓
7	*Hardenbergia violacea* 'Meema'	Meema	0.8m	1m	200mm	✓

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04

4. Contextual analysis and landscape assessment

4.1 Contextual analysis

4.1.1 Landform

The landform of the subject area is illustrated in Figure 4-1. As can be seen from this figure, the rail line gently descends from Epping Station to the low point crossing at Devlins Creek and the M2. It then rises to steadily to Cheltenham Station. North of Cheltenham the line climbs more steeply passing through Beecroft and leveling out close to Pennant Hills Station.

Between Cheltenham and Pennant Hills stations the corridor is characterised by gently rolling topography, with small sub-catchments up slope of the rail corridor (to the west and south-west). Down slope to the east of the corridor drainage are generally stepper and more frequent. Intermittent views are afforded to the east and north-east between these stations.

The adjacent main roads run roughly parallel to the rail corridor connecting the stations. This includes The Crescent, Wongala Crescent and Sutherland Road). These roads follow gently undulating topography affording views into and beyond the rail corridor.

Between Pennant Hills and Thornleigh stations the rail line roughly follows the ridge line, with intermittent views afforded to the north-west.

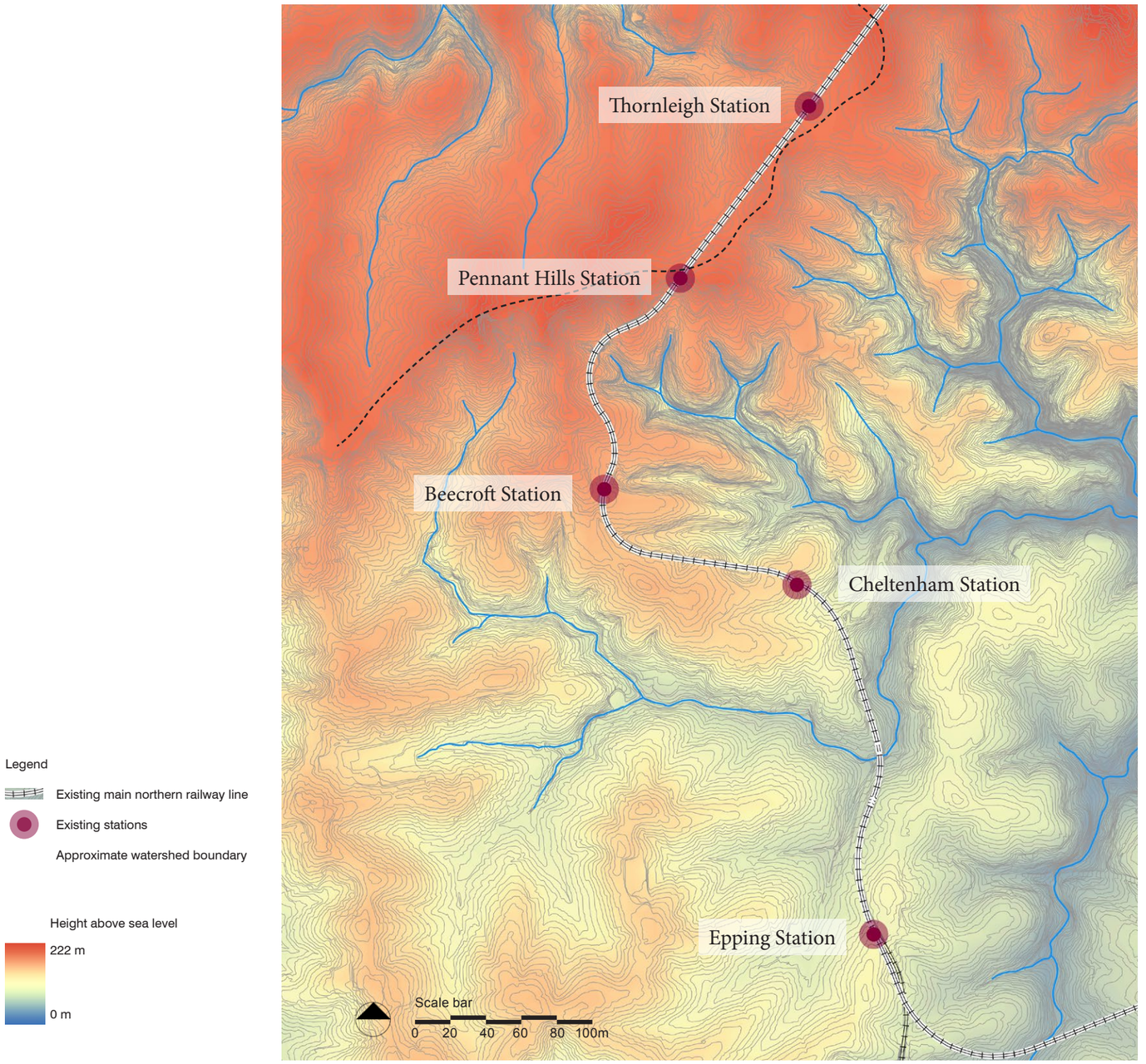

Figure 4-1 Landform

4.1.2 Geology

The geology of the subject area is depicted in Figure 4-2. The subject area comprises Hawkesbury Sandstone overlain by Wianamatta Shales. The geology is particularly pertinent to the project in the following ways:

- Plant community response: The rail corridor has three main plant communities associated with it. A key driver of differences in these communities is the underlying geology and derived surface soils, with:
  - Sydney Hinterland Transition Woodland (SHTW), located on sandstone derived soils (e.g. between the M2 and Cheltenham Station)
  - Sydney Turpentine Ironbark Forest (STIF), located close to the shale / sandstone boundary on the more fertile shale influenced soils (e.g. between Cheltenham and Beecroft Stations)
  - Blue Gum High Forest (BGHF), located within areas of deep clay soil derived from shale (e.g. north of Beecroft Station).
- Rock cuttings: Hawkesbury Sandstone tends to be a relatively strong rock, and generally suited to creating free-standing cuttings with steep faces. It is likely that the proposed ETTT Project sandstone cuttings will have substantially free-standing faces, thereby helping to maintain the bushland character of the corridor. By contrast, the Wianamatta Shales tend to readily weather, and subsequently need to be laid back to more gentle angles. Within the context of this project, the areas in shale geology that are proposed for cuttings have BGHF (an EEC) located on them, and so the extent of the cuttings will need to be reduced as far as practicable. The resultant steep shale cutting faces will therefore require reinforcement stabilisation, which may reduce the bushland character within the northern areas of the corridor.

4.1.3 Plant communities

Figure 4-3 illustrates the broad location of EECs within the subject area, being STIF and BGHF. A comparison with the geology map demonstrates the relationship between the location of these EECs relative to the underlying geology, as discussed in Section 4.1.2.

The third key plant community described in Section 4.1.2 (SHTW) is broadly located within the white areas of Figure 4-3, and shown in greater detail in Figure 4-4, which depicts the plant communities in relation to the underlying geology.

A further key group of plants within the rail corridor are weeds. These tend to be present in high concentration along most of the corridor, and include large woody weeds, vines, exotic herbs and grasses. These weed communities have the capacity to continue to colonise the native bushland communities where ongoing management is not present. Bushcare groups currently work in some areas adjoining the rail corridor. Highly visible weeds within the corridor include vines which smother colonised vegetation, and Bamboo which is present in large patches along parts of the corridor.

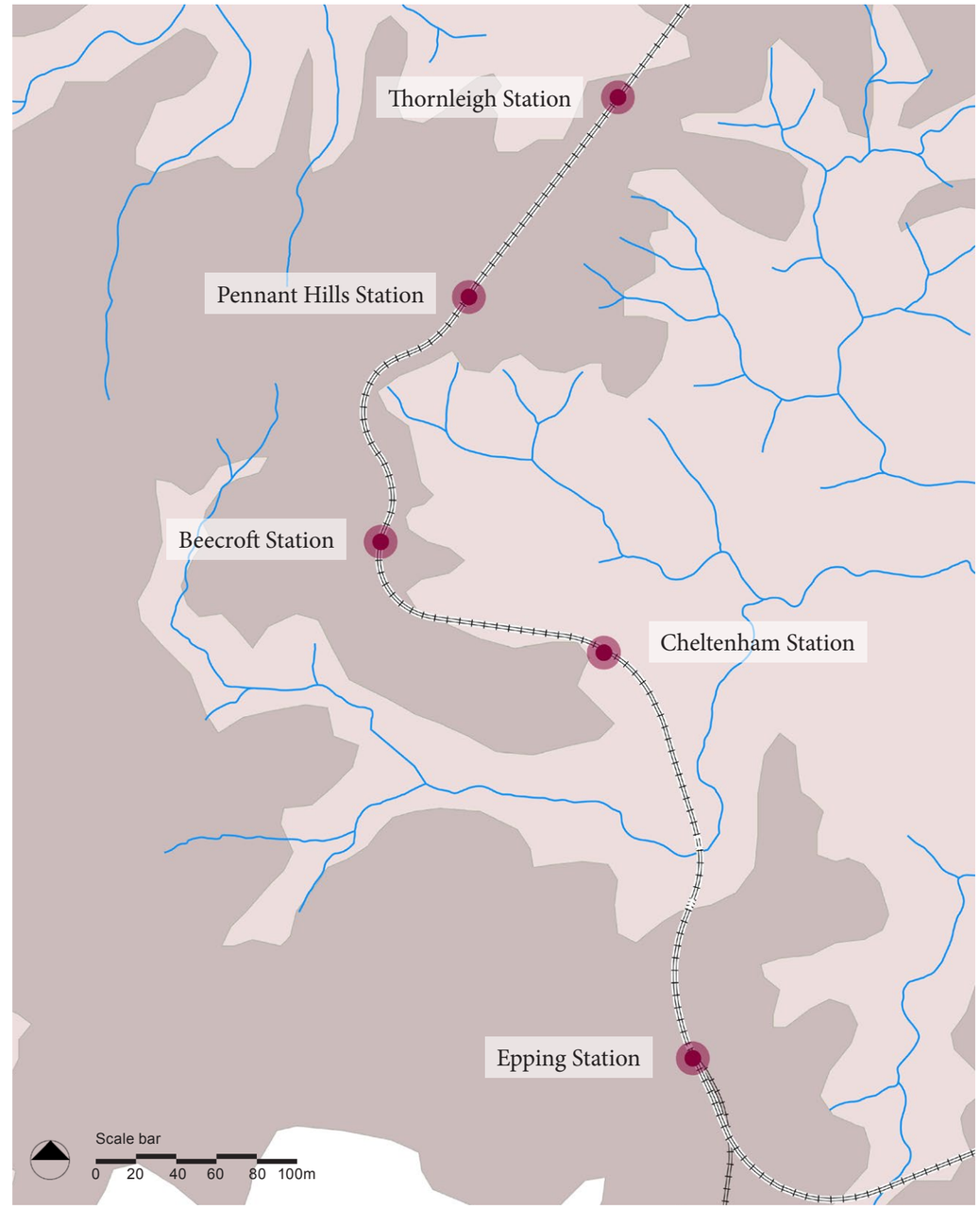

Figure 4-2 Geology

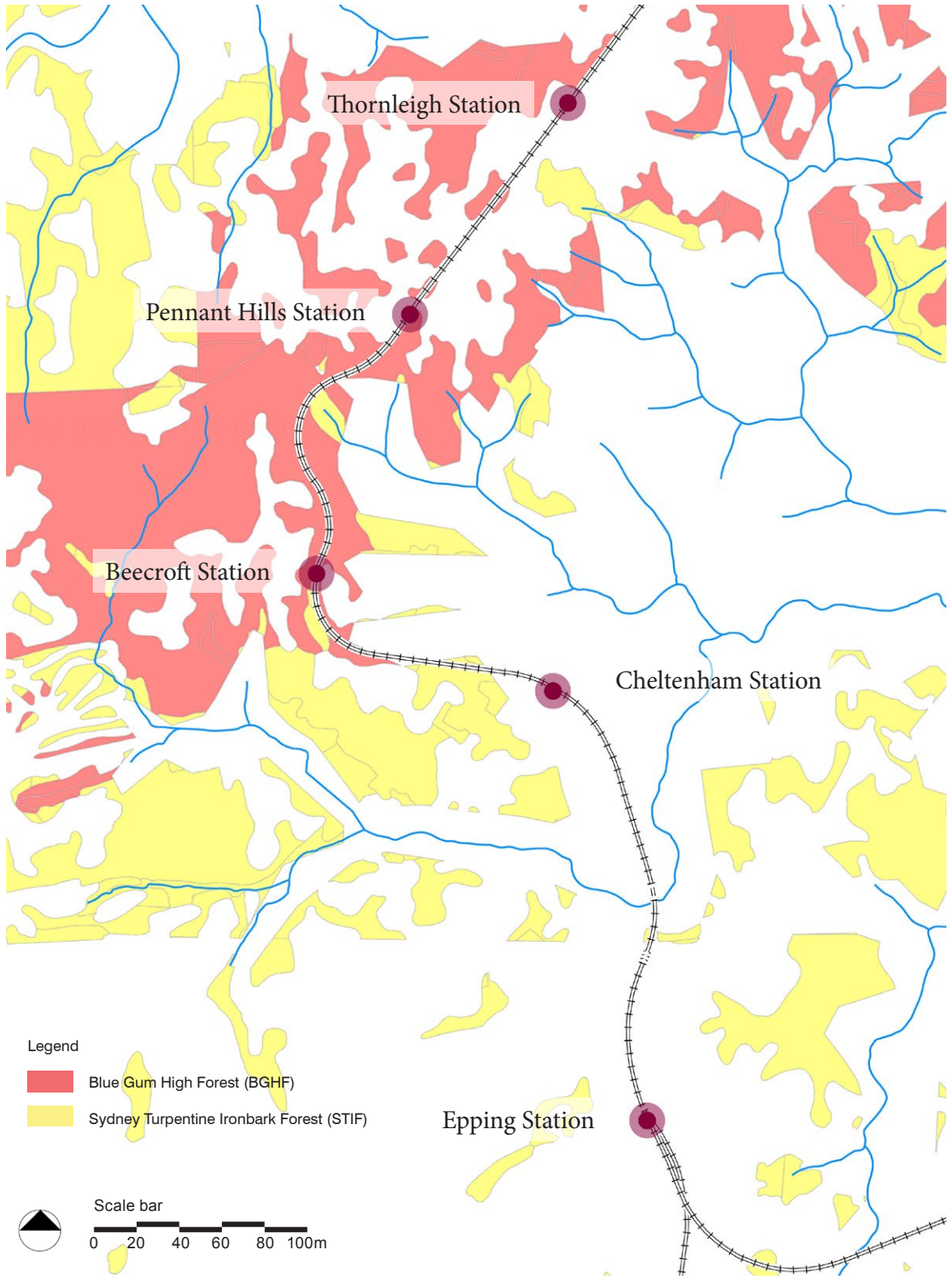

Figure 4-3 Endangered Ecological Communities (EECs)

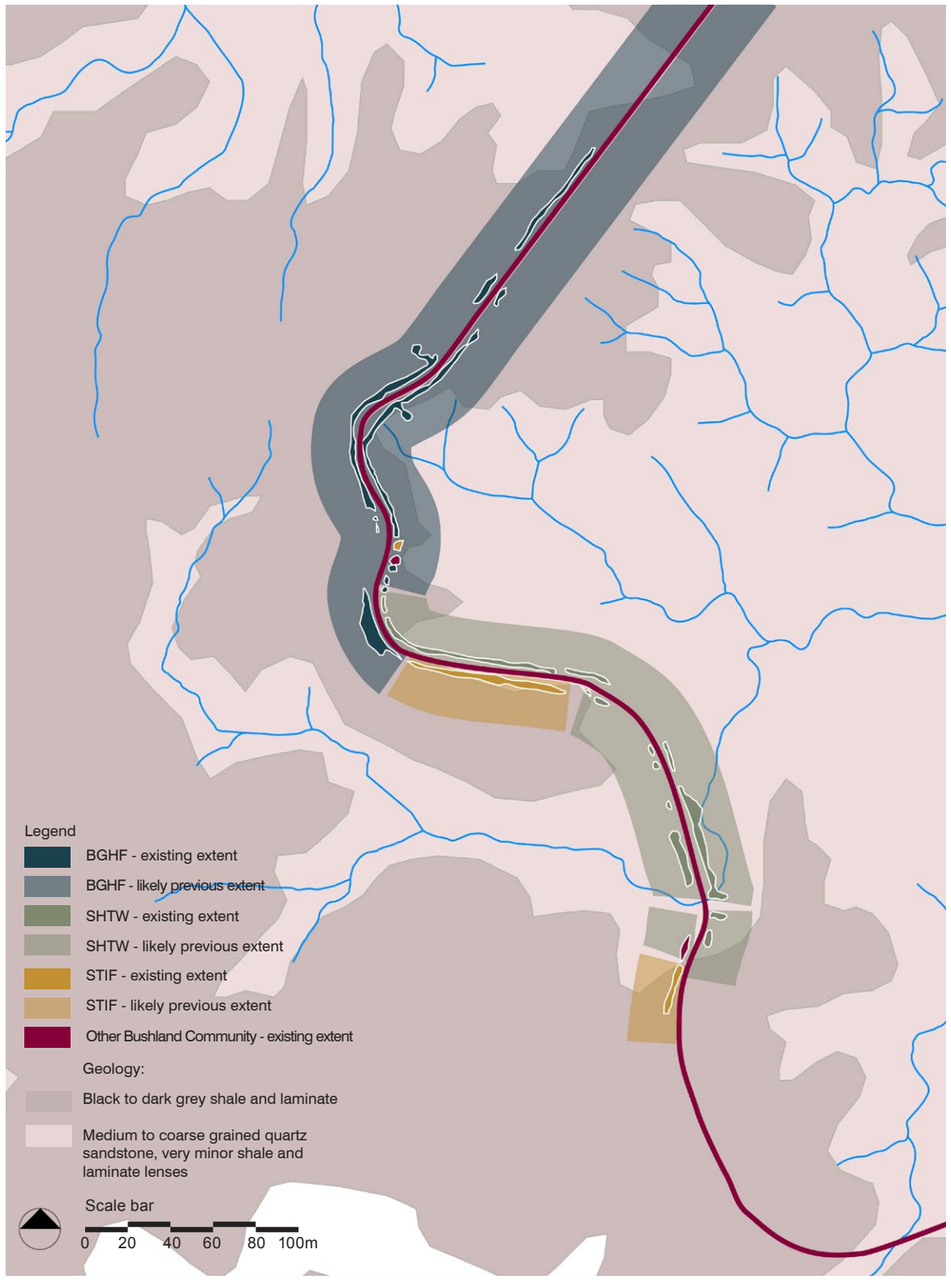

Figure 4-4 Location of existing and likely pre-development bushland communities overlaid with geology mapping

4.1.4 Heritage

Figure 4-5 shows a plan of listed heritage items and areas within the subject area. Issues of particular pertinence to the bushland character of the corridor are as follows:

- The bushland character of the rail corridor is recognised as an intrinsic zoning component of the Beecroft / Cheltenham Heritage Conservation Area
- The following areas of the rail corridor are separately heritage listed for their bushland qualities:
  - Between Beecroft Station and just south of Pennant Hills Station (Boundary Road) - listed by Sydney Trains on the s.170 register of the NSW Heritage Act 1977, and also listed by Council in its Local Environmental Plan (LEP)
  - Along the length of Wongala Crescent that adjoins the rail corridor (between Beecroft Station and Boundary Road, Pennant Hills) - listed by Council in its LEP
  - The bushland adjoining the western side of the rail corridor between Epping Station and the M2 - listed by Council in its LEP.
- The convict-built stone causeway over Devlins Creek is part of the Great North Walk, and an important element within the context of the Devlins Creek riparian corridor. The causeway is proposed to be earth-covered as a protection measure during the construction period.

Additionally, the following are also heritage listed within the vicinity of Cheltenham Station:

- Two houses
- One house and garden
- Three gardens
- Cheltenham Recreational Club grounds.

Beecroft Station and gardens is also heritage listed.

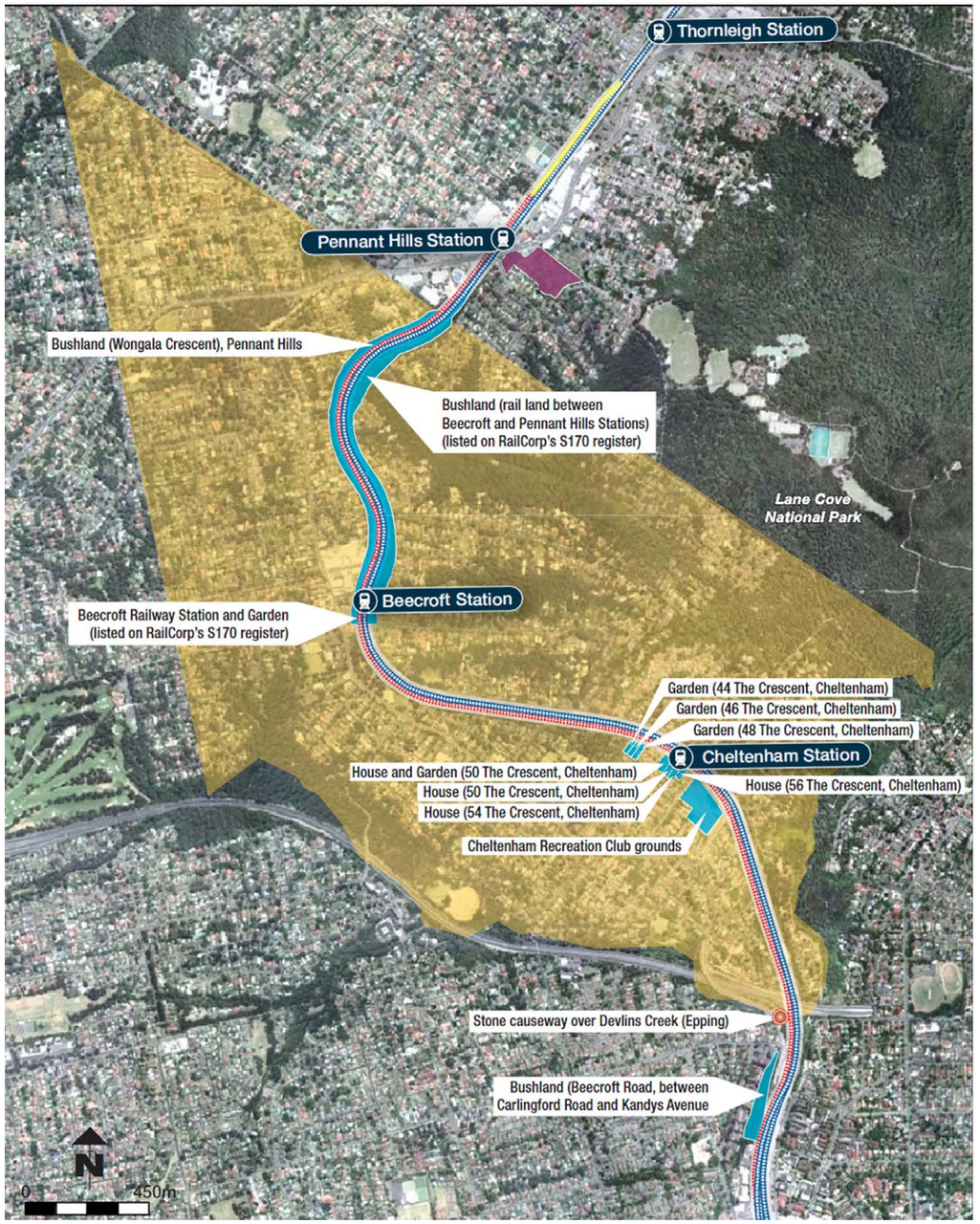

Figure 4-5 Heritage (Source: EIS Sept 2012)

4.2 Landscape assessment

4.2.1 Views into the existing rail corridor

Figure 4-6 Views into the existing rail corridor between Epping Station and the approach to the M2 crossing

Epping Station to the M2 approach (refer Figure 4-6)

Views into the rail corridor from commercial and community facilities on the western side of Beecroft Road, and vehicles travelling along the road broadly comprise:

- Generally unobstructed views to the station precinct and other rail infrastructure up until near Carlingford Road to the north
- A narrow band of vegetation which generally provides good screening of the rail corridor between Carlingford Road and Beecroft Road.

North of the former commercial properties on Beecroft Road, a band of residential development backs on to Beecroft Road, but views to the rail corridor are screened by a thick band of vegetation.

Road users on Beecroft Road between the northern end of the former commercial development and the M2 have views into the rail corridor screened by a thick band of remnant bushland vegetation and a sandstone cutting (refer Photo Points 1 and 2).

Visually distinctive patches of STIF and Coastal Shale-Sandstone Forest are located within and adjoining the rail corridor near the intersection with Kandy Avenue.

Legend

- Rail corridor with tracks
- Train station
- Road adjoining rail corridor
- Properties front onto street adjacent to rail corridor
- Commercial / community facilities front onto street adjacent to rail corridor
- Medium density residential properties back onto rail corridor
- Tree canopy of remnant or native species with predominantly weedy understorey
- Tree canopy of remnant or native species with understorey containing a large percentage of indigenous species and some weeds
- Mature street trees, predominantly Brush Box (*Lophostemon confertus*)

Views into the rail corridor are available to residential and commercial buildings on the eastern side of the rail corridor from Cambridge Street. Intermittent trees (predominantly Brush Box) line the street but do not screen views into the rail corridor (refer Photo Point 3).

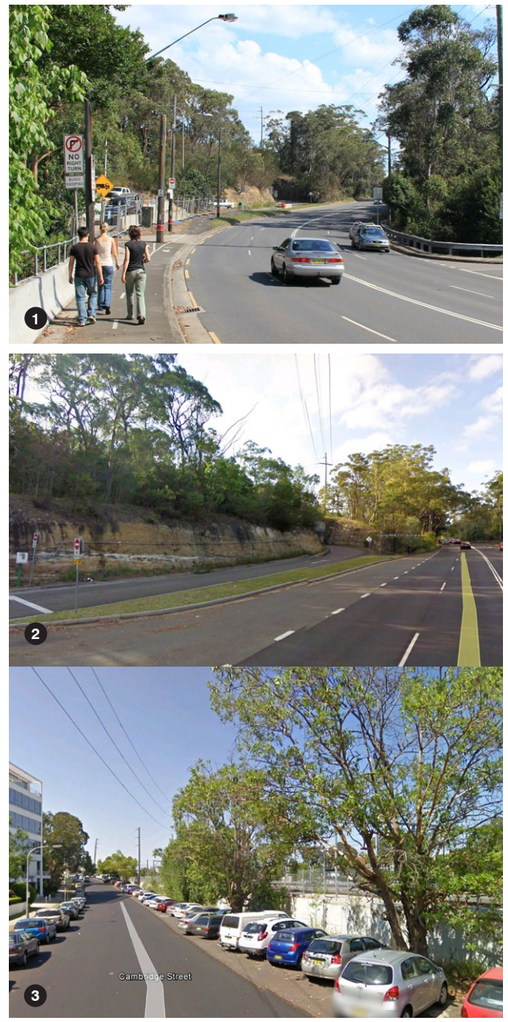

Photo Points

1. View looking south along Beecroft Road adjacent to Devlins Creek, showing stands of remnant Eucalypt trees fringing the road, between the road and the rail corridor
2. View looking south along Beecroft Road, showing a bushland buffer between the rail corridor and the road. Sandstone cuttings reflect the local geology and are characteristic of the associated vegetation community
3. View looking south along Cambridge Street, showing an incomplete avenue of Brush Box trees adjacent to the rail corridor

M2 crossing to Cheltenham Station (refer Figure 4-7)

Views into the rail corridor can be characterised as follows:

- Long views from the M2 in both directions looking to the rail bridge crossing (refer Photo Point 5)
- Limited views from the rear of residences on Old Beecroft Road that back onto the corridor, due to screening by remnant bushland and other vegetation
- Limited views from the southern end of The Crescent to Lyne Road with screening provided by vegetation comprising a mix of bushland species, cultural evergreen and deciduous plantings, and often dense unmanaged weed communities, particularly within the drainage lines (refer Photo Point 2)
- Substantial views through a partial screen of weedy roadside vegetation into the corridor from the Cheltenham Recreation Club between Lyne Road and The Boulevard (refer Photo Point 3)
- Substantial views from residential dwellings between The Boulevard and Cheltenham Road (including four heritage listed homes) to the commuter carpark and Cheltenham Station beyond through an informal, open roadside planting.

The southern end of The Crescent is generally characterised by large and well managed residential gardens which help to define the streetscape character. Another key characteristic of the road is the lack of kerb and guttering to much of its length, which, in conjunction with the substantial bordering tree cover, cultural plantings and narrow carriageway, gives it an informal ‘country lane’ feel (refer Photo Point 1).

The bushland community present within and adjoining this section of the rail corridor comprises SHTW.

The Crescent predominantly sits at a higher level than the rail corridor, while Sutherland Road generally sits well below the level of the railway. Consequently, views afforded to the rail corridor from The Crescent look ‘down’ on the tracks while Sutherland Road has views ‘up’ to the rail corridor, often sitting on batters or rock benching.

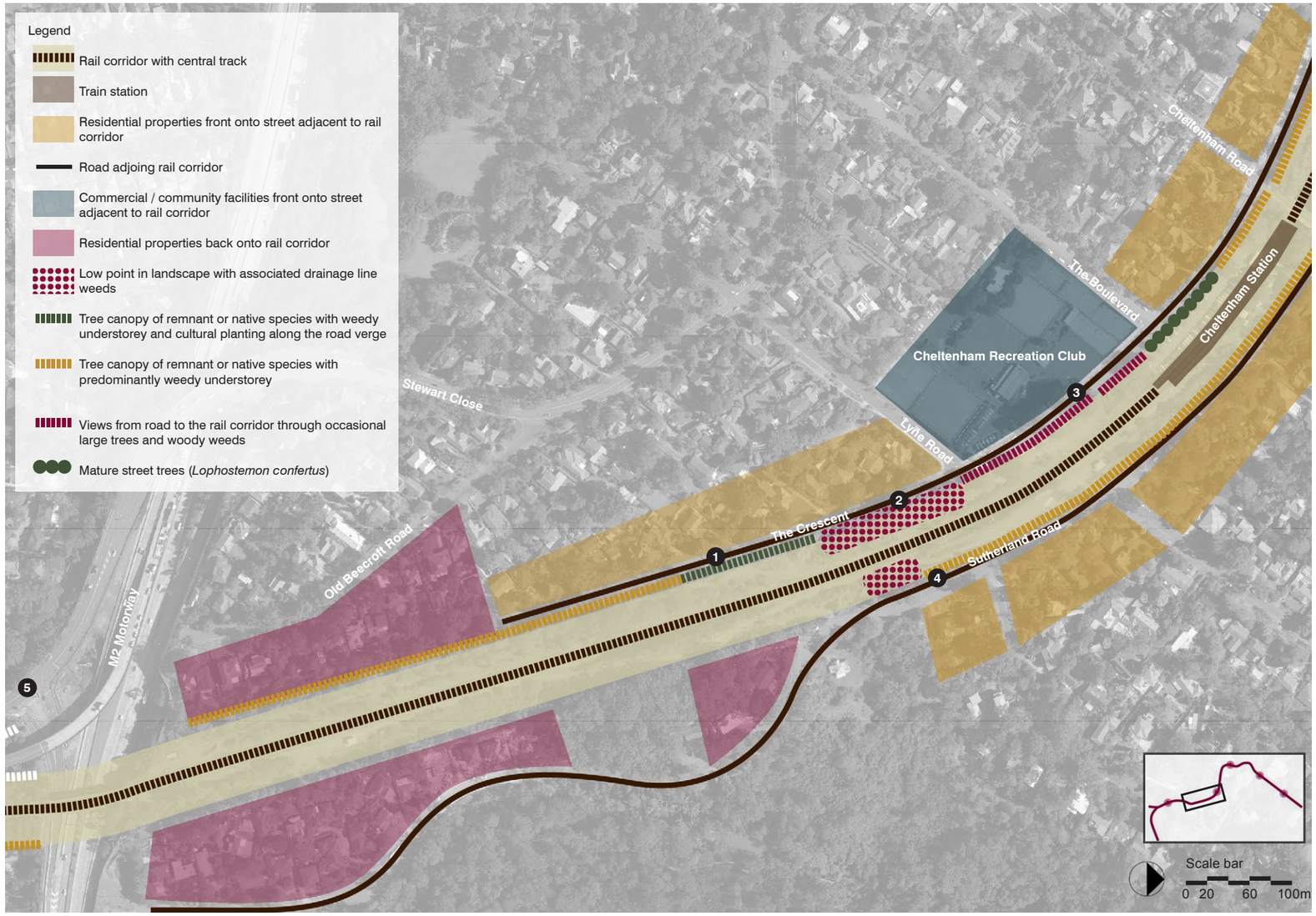

Figure 4-7 Views into the existing rail corridor between the M2 crossing and Cheltenham Station

Photo Points

1. Views from The Crescent, showing the large, native trees with weedy understorey between the rail corridor and the street, and where the verge has been planted with cultural tree and shrub species, with mown turf beneath.
2. Views to low points adjacent to the rail corridor, dominated with a number of weed species such as Morning Glory, Privet, Balloon Vine and Camphor Laurel.
3. Views along The Crescent, showing views to the rail corridor (note the passing freight train) from the road between mature tree specimens, both exotic and indigenous (e.g. Oak, Camphor Laurel, Jacaranda and Eucalypts).
4. View of a low point adjacent to the rail corridor on Sutherland Road, dominated with a number of weed species such as Morning Glory, Privet and Balloon Vine.
5. View from Beecroft Road to the M2 and proposed location of the railway overpass.


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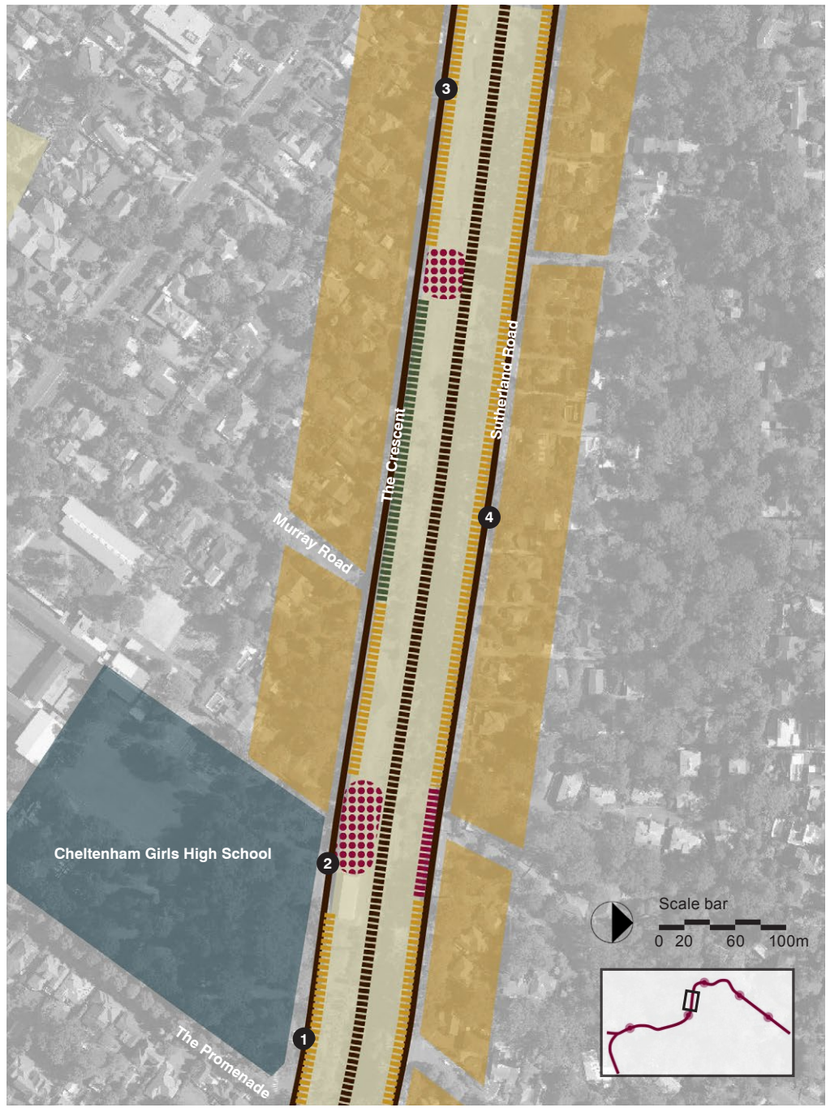
North of Cheltenham Station (refer Figure 4-8)

Views to the rail corridor are obtained from residential dwellings fronting The Crescent and open space areas within Cheltenham Girls High School. The road verge adjoining the rail corridor is vegetated almost completely with bushland remnants up to the edge of the carriageway, although this is substantially impacted upon by dense Bamboo groves scattered along the length of the road.

The roadside bushland has two distinct community types, with SHTW present on the high ground to a point midway along the Cheltenham Girls High School frontage and comprising a generally open character, followed by STIF to the remainder of the road corridor only. The bushland remnants generally provide a partial level of screening to the rail corridor, with filtered views to the corridor common. These bushland remnants comprise the major screening element to the rail corridor, as most of the adjoining rail corridor area is subject to regular slashing.

The dominant infestation of Bamboo along the northern part of The Crescent (refer Photo Point 3) provides an excellent visual screen to the rail corridor, but also comprises a significant threatening process for the remnant STIF. The Bamboo is also visually out of character with the otherwise bushland character of the road, but can also conversely be seen as being broadly visually compatible with the adjacent residential cultural garden plantings.

As with the previously described section of The Crescent, most of this section of the road is without kerb and guttering, has a narrow carriageway and closely fringing trees, including many cultural plantings, which provides somewhat of a ‘country lane’ feel.



Legend

- Rail corridor with central track
- Residential properties front onto street adjacent to rail corridor
- Commercial / community facilities front onto street adjacent to rail corridor
- Low point in landscape with associated drainage line weeds
- Tree canopy of remnant or native species with weedy understorey and cultural planting along the road verge
- Tree canopy of remnant or native species with predominantly weedy understorey
- Views from road to the rail corridor through occasional large trees and woody weeds

Photo Points

1. View north along The Crescent at the buffer of remnant Eucalypt trees with a predominantly weedy understorey fringing the rail corridor. (Note the change from kerb and gutter to shoulder edge with fringing bushland remnants).
2. View north along The Crescent at the low point in the road corridor, where a stormwater basin to the right of frame is planted with a palette of indigenous tree species, with a predominantly weedy understorey. This drainage point is not as weedy as other examples in the area as the basin is not choked with Balloon Vine and Morning Glory.
3. View north along The Crescent showing remnant tree canopy of Eucalypts with weedy understorey - in this case the understorey is a thick band of Bamboo, which, while hard to manage, provides a dense screen between the road and the rail corridor.
4. View north along Sutherland Road showing the remnant tree canopy with understorey. While the understorey to these roadside trees is often weedy, in some areas the indigenous plant palette has prevailed, especially where there is limited topsoil and nutrient run-on to the site.

Figure 4-8 Views into the existing rail corridor north of Cheltenham Station

1 Source: GoogleEarth Street View

3 Source: GoogleEarth Street View

2 Source: GoogleEarth Street View

4 Source: GoogleEarth Street View

Photo Points

1. View north along The Crescent at the buffer of remnant Eucalypt trees with a predominantly weedy understorey fringing the rail corridor. (Note the change from kerb and gutter to shoulder edge with fringing bushland remnants).

2. View north along The Crescent at the low point in the road corridor, where a stormwater basin to the right of frame is planted with a palette of indigenous tree species, with a predominantly weedy understorey. This drainage point is not as weedy as other examples in the area as the basin is not choked with Balloon Vine and Morning Glory.

3. View north along The Crescent showing remnant tree canopy of Eucalypts with weedy understorey - in this case the understorey is a thick band of Bamboo, which, while hard to manage, provides a dense screen between the road and the rail corridor.

4. View north along Sutherland Road showing the remnant tree canopy with understorey. While the understorey to these roadside trees is often weedy, in some areas the indigenous plant palette has prevailed, especially where there is limited topsoil and nutrient run-on to the site.

Figure 4-9 Views into the existing rail corridor between Beecroft and Pennant Hills Stations

Beecroft Tennis Centre to Pennant Hills (refer Figure 4-9)

This section of the rail corridor commences with the end of The Crescent, which retains the same character as previously described, until it turns towards Beecroft Road, running past a Scout Hall and tennis centre. This development, in conjunction with the adjoining Beecroft Village Green and Beecroft Community Centre, comprise a large open space area, characterised primarily by an open forest of remnant native trees in grass. This, with all of the remaining bushland present within and alongside the rail corridor, comprises the deep shale-based bushland plant community of BGHF.

The park / rail corridor boundary prior to Beecroft Station contains a generally dense cover of remnant bushland canopy with a dense weedy understorey, including a large patch of Bamboo. This vegetation provides a substantial screening function, with views from the parkland into the rail corridor generally well screened.

The next opportunity for viewing the rail corridor occurs at the southern end of Wongala Crescent, with views towards the rail corridor available from the busy Beecroft Village. The rail corridor in this area is generally well screened by planting within a linear park that runs alongside Beecroft Station, and includes notable cultural plantings of Hoop Pines (*Araucaria cunninghamii*) and Bunya Pines (*Araucaria bidwillii*, refer Photo Point 1).

Between Hannah Street and Chapman Avenue, generally unrestricted views are available to the rail corridor across a large commuter carpark. Immediately north of the commuter carpark, the visual character of the rail corridor / road verge again becomes one of remnant bushland, providing a partial level of screening to the rail corridor.

North of Chapman Avenue, the remaining portion of Wongala Crescent is consistently fronted with residential dwellings, generally featuring large and well developed gardens, with views across to the rail corridor. A narrow strip of remnant forest fringes the rail corridor / road verge carriageway, providing a consistent, partial level of screening, through which the rail corridor is regularly visible. As with The Crescent, the character of this part of the road is defined by a narrow carriageway, a general lack of kerb and guttering, and a strong sense of canopy cover, closely fringing vegetation and irregular plantings of cultural tree species.

Sydney Blue Gums (*Eucalyptus saligna*), with their characteristic tall, straight, grey blue trunks and spreading canopies are a common sight within this area (refer Photo Point 3). A significant bush regeneration effort is occurring north of the drainage line between Lilla Road and Boundary Road (refer Photo Point 4).

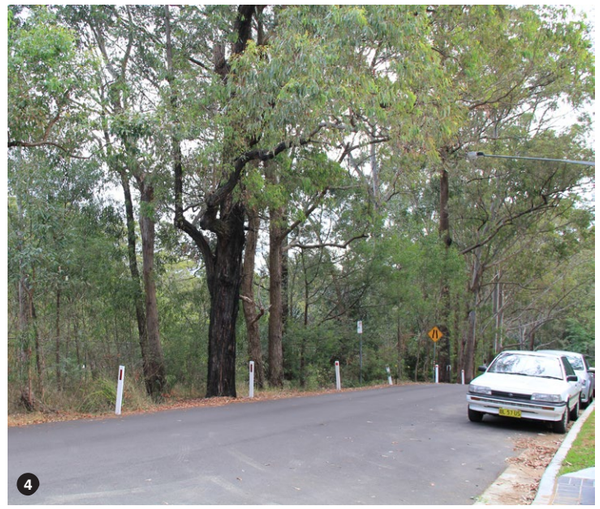
Legend

- Rail corridor with central track
- Train station
- Residential properties front onto street adjacent to rail corridor
- Commercial / community facilities front onto street adjacent to rail corridor
- Residential properties back onto rail corridor
- Commercial / community facilities adjoining the rail corridor
- Low point in landscape with associated drainage line weeds
- Tree canopy of remnant or native species with weedy understorey and cultural planting along the road verge
- Tree canopy of remnant or native species with predominantly weedy understorey
- Tree canopy of remnant or native species with understorey containing a large percentage of indigenous species and some weeds
- Wide verge between rail and road corridor contains a remnant patch of trees and understorey, with park-like feel and path
- Mature street trees
- Cultural planting (Hoop and Bunya Pines)

Photo Points

1. View looking south along Wongala Crescent from the corner of Hannah Street towards the narrow park that runs between Wongala Crescent and the rail corridor, south of the train station entrance. Note a number of mature Hoop and Bunya Pines that are growing in the park.
2. View looking north along Wongala Crescent, showing a typical section of the road where the verge treatment consists of a mature remnant tree canopy, with 'cultural' planting or treatment below. In this area the verge is used for carparking for a local school / day care centre.
3. This stretch of Wongala Crescent contains a number of significant trees from the BGHF community, with a generally weedy understorey. Note the proximity of the trees to the road edge and the density of the canopy.
4. View looking south along Wongala Crescent showing bushland verge between the rail corridor and the road, extended all the way to the road pavement. This area is under active bush management.
5. View looking north from the northernmost point of Wongala Crescent showing a low point in the landscape adjacent to the rail corridor, associated with office development.
6. View looking north along Wongala Crescent from opposite the entrance to Beecroft Station, showing the carpark and band of mature vegetation north of the carpark between the rail corridor and Wongala Crescent.

2 Source: GoogleEarth Street View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Pennant Hills Station (refer Figure 4-10)

This section of the rail corridor commences at Boundary Road, where largely unrestricted views into the rail corridor are available from multi-storey commercial buildings. To the north of Pennant Hills Road, mixed retail and commercial development has views across Yarrara Road to Pennant Hills Station. The station street frontage incorporates a substantial BGHF remnant in conjunction with landscape planting that provides significant screening from, and amenity to the road.

North of the station, a thin strip of vegetation to the rail corridor boundary provides very limited screening for views from the Village Green, and further commercial development. The vegetation to this area has a substantial weed species component.

Yarrara Road generally sits below the level of the rail corridor, so views to the rail line are somewhat limited due to a weedy vegetated batter in between the rail corridor and road (refer Photo Point 1).

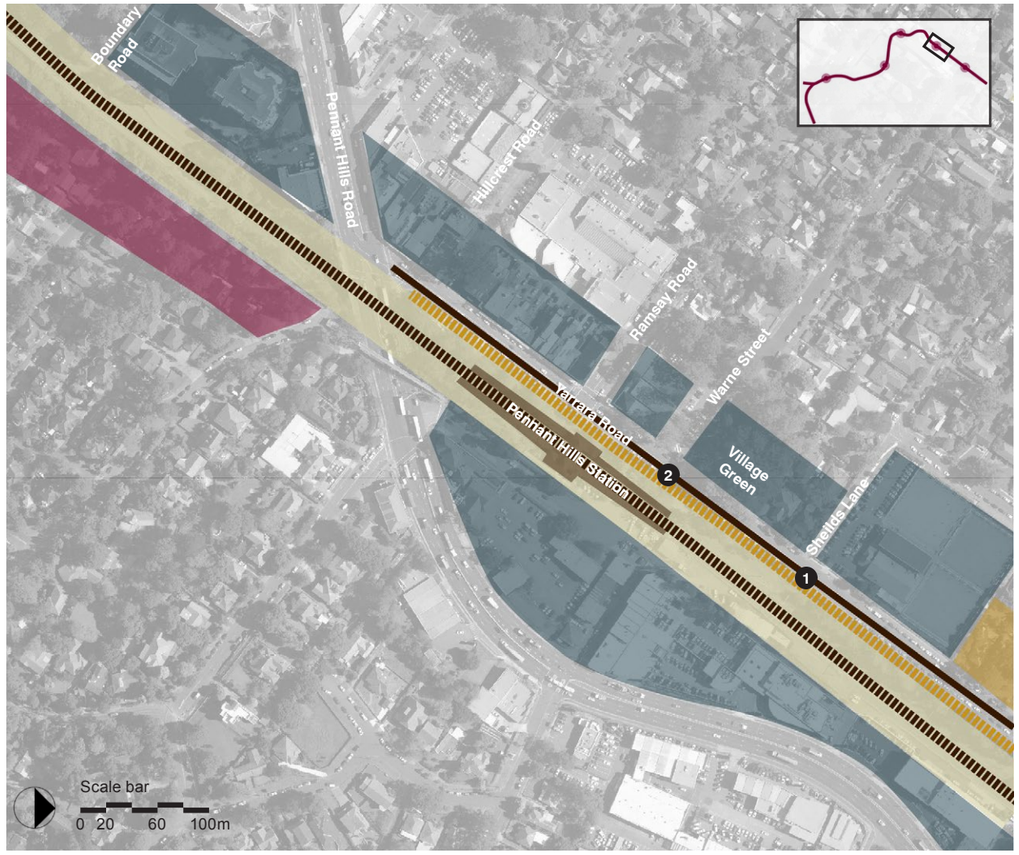

Figure 4-10 Views into the existing rail corridor around Pennant Hills Station

Legend

- Rail corridor with central track
- Train station
- Residential properties front onto street adjacent to rail corridor
- Commercial / community facilities front onto street adjacent to rail corridor
- Residential properties back onto rail corridor
- Tree canopy of remnant or native species with predominantly weedy understorey

Photo Point

1. View north along Yarrara Road, showing elevated rail corridor to the right of frame. Note the band of remnant trees (and some weedy tree species) with weedy understorey buffering the rail corridor from the road.

2. View south to existing station frontage and shops

Thornleigh Station (refer Figure 4-11)

Views to the rail corridor from this area are almost entirely from residential development, in addition to a minor component of commercial development. Vegetation to the rail corridor boundary is limited to a thin strip of bushland (BGHF) on and adjoining a steep rail formation batter (the rail line is predominantly depressed lower than the surrounding landscape (refer Photo Point 3). This bushland remnant generally gives the appearance of being substantially weed infested up until Fulbourne Avenue, and provides a substantial level of screening to the rail corridor.

North of Fulbourne Avenue, the remnant appears in better condition, with a substantial shrub and ground layer, but generally provides a low level of visual screening to the rail corridor up until Wells Street. Immediately north of Wells Street, where a substantial landscape tree planting screens Thornleigh Station from the road for a short distance. This is followed by a large and partially screened two storey carpark.

Views to the rail corridor from Pennant Hills Road are screened by a band of residential development between the road and the rail corridor (refer Photo Point 1).

Photo Points

1. View looking north along Pennant Hills Road, with medium density housing positioned between the rail corridor and the road.
2. View looking north along Pennant Hills Road where the rail corridor again becomes visible from the road, with a thin band of trees with limited weedy understorey in the verge between the road and rail corridors. Note the rail line is depressed below the level of the surrounding landscape.
3. The view looking south from the rail overbridge at the southern end of Thornleigh Station. Note the mature Eucalypt specimens that line the eastern and western edge of the rail corridor, buffering the surrounding area. Note that the rail line is depressed below the level of the surrounding landscape.

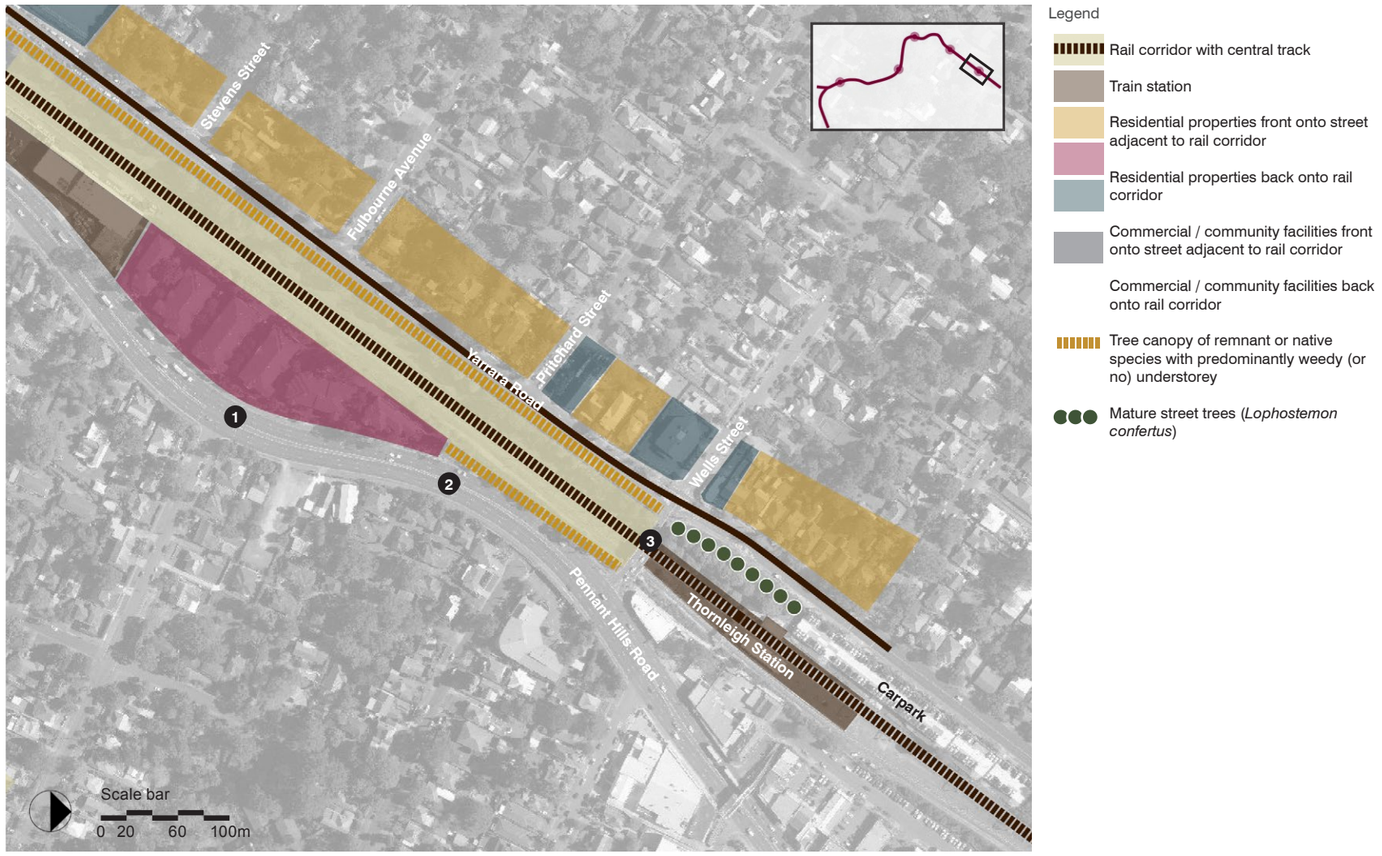

Figure 4-11 Views into the existing rail corridor around Thornleigh Station

4.2.2 Views from inside the existing rail corridor

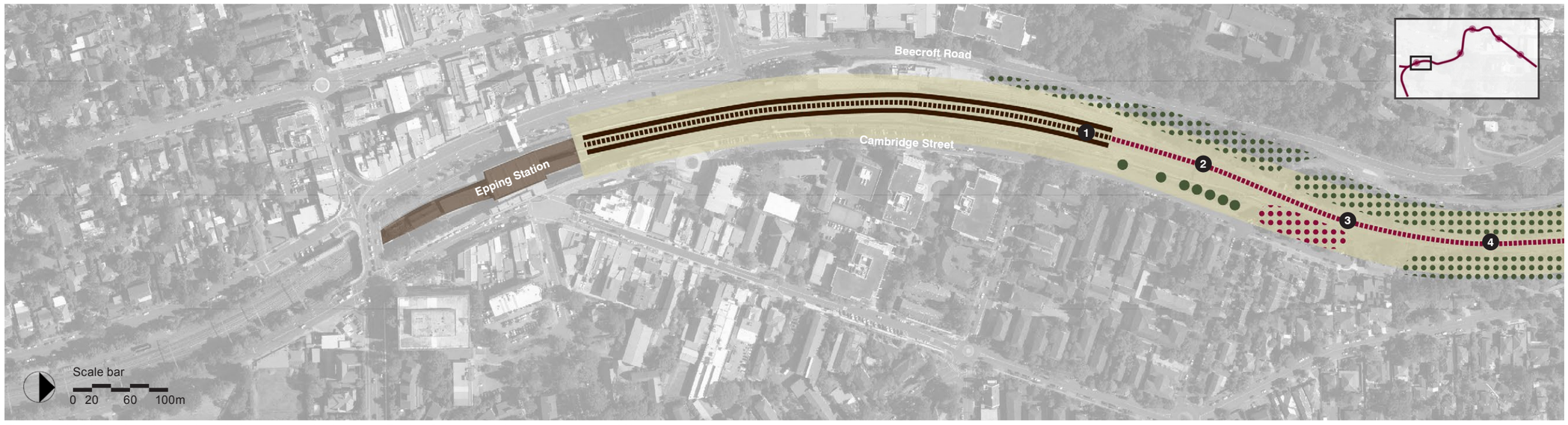

Figure 4-12 Views from inside the existing rail corridor between Epping Station and the approach to the M2 overpass

Epping Station to the M2 approach (refer Figure 4-12)

Views from the train travelling between Epping and just prior to the M2 comprise consistently of tall and quite dense bushland adjoining or beyond the western rail corridor boundary fence. The area within the rail corridor comprises a low weedy / slashed edge. The overall visual impression of the landscape is of travel through a substantial bushland corridor, albeit somewhat neglected with a weedy edge (refer Photo Points 1, 3 and 4).

Legend

- Rail corridor
- Train station
- Train is underground, so no views available to surrounding landscape
- View from the train to the adjacent weedy, cleared rail corridor
- View to tree canopy beyond rail corridor made up predominantly of remnant native species
- View to tree canopy beyond rail corridor made up predominantly of weedy and exotic tree species
- Views from the train through trees, including cultural plantings and occasional large woody weeds and exotic trees

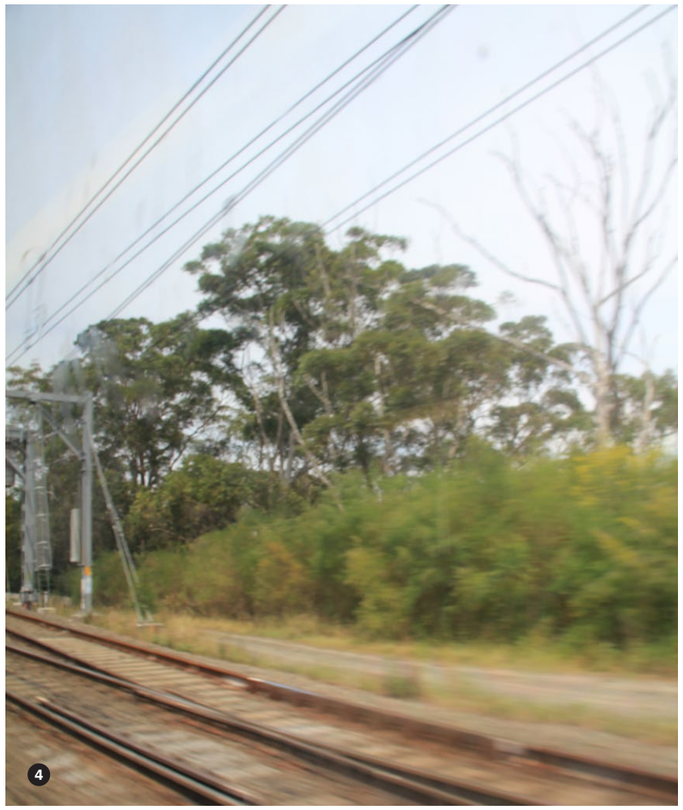

Photo Points

1. View looking north-west out the train window after it has emerged from the underground station of Epping, travelling north towards Cheltenham. The mature remnant tree canopy beyond the rail corridor is evident.

2. View looking south-east out of the train window as the train is approaching Epping Station from the north. The mature remnant tree canopy is evident even from the furthest tracks as the train begins to descend underground.

3. A typical view from the train window looking to the west between the M2 and Epping Station, showing the weedy rail corridor and the remnant Eucalypts beyond.

4. As with Photo Point 3, although this view shows patches of indigenous plants persisting in the otherwise weedy rail corridor.

M2 crossing to Cheltenham Station (refer Figure 4-13)

The train emerges from the bushland corridor at Epping Station and onto the M2 overpass bridge, which provides extensive open views along the motorway in both directions (refer Figure 4-13), before again entering into a bushland corridor, this time comprising a lower sandstone woodland community and including a substantial sandstone cutting (refer Photo Point 3). Much of the woodland community, with its characteristic grey / green tones, gives the appearance of being in quite good condition, although with a persistent level of weed invasion particularly in the areas either side of the rail formation.

As is typical for much of the corridor, where the bushland community is present upon the top of cuttings and not subject to run-on from adjoining developed areas, this drier patch is usually in substantially better condition than vegetation on lower areas that is subject to nutrient rich run-on from developed areas.

Upon leaving the bushland corridor, the line crosses a small drainage line (refer Figure 4-13, point A). Weed invasion within this damp and nutrient rich environment supports rampant and unmanaged weed growth, including smothering climbers such as Morning Glory and Balloon Vine. As the line comes closer to Cheltenham Station, the corridor landscape changes to the brighter greens of exotic vegetation, much of which comprises weed communities (refer Photo Points 4 and 5).

Substantial periodic views are available to the east from the train, looking across the deep and wide forested Devlins Creek valley and the fringing suburban landscape.

Figure 4-13 Views from inside the existing rail corridor between the M2 crossing and Cheltenham Station

Legend

- Rail corridor
- Train station
- Access track within rail corridor
- View from the train to the adjacent weedy, cleared rail corridor
- View to tree canopy beyond rail corridor made up predominantly of remnant native species
- View to tree canopy beyond rail corridor made up predominantly of weedy and exotic tree species
- Views from the train enclosed by cuttings into rock on both sides
- Views from the train partially enclosed by rock cutting to one side
- Significant views to surrounding landscape
- Occasional views through the rail corridor vegetation to the surrounding landscape

Photo Points

1. The view from the train westwards along the M2 from the rail overpass bridge.
2. A typical view from the train to the rail corridor, generally comprising a slashed turf area (sometimes with an access track), and a fringe of weed plant species with some remnant tree canopy.
3. The view from the train passing through a sandstone rock cutting. Some rock cutting areas have a good native shrub understorey, with some plant species indicating where moisture may be flowing through the rocks or collecting at the base of the cuttings (e.g. *Leptospermum* and *Epacris* plants).
4. The view from the train nearing Cheltenham Station, showing a weed infested earth batter and a mix of exotic and weedy tree and shrub species lining the rail corridor.
5. A low point adjacent to the rail corridor that receives nutrient rich runoff and is choked with exotic weedy species such as Balloon Vine and Morning Glory.

North of Cheltenham Station (refer Figure 4-14)

Views from the train within this section comprise a visually consistent tall corridor of bushland and sandstone cuttings. The sandstone cutting faces have been colonised by a range of both native and exotic species (refer Photo Point 3).

As with most of the corridor, the bushland edge within the rail corridor is very weedy, with large parts of these areas subject to slashing. Additionally, a large portion of the corridor bushland has been colonised by Bamboo (refer Photo Point 2). The extent of this Bamboo will expand without active management, causing an ongoing, gradual deterioration of the corridor's visual quality.

Periodic filtered views are available from the train to the east through the bushland corridor, looking across a heavily wooded suburban landscape that falls away from the rail corridor towards the Lane Cove River valley.

Figure 4-14 Views from inside the existing rail corridor north of Cheltenham Station

Photo Points

1. View from the train to the eastern side of the track, showing the position of the track above Sutherland Road. Intermittent views are visible from the train past the rail corridor vegetation to the heavily wooded suburb adjacent.

2. View along the rail corridor from the western side of the train, showing the cleared turf corridor with a weedy edge. The remnant tree canopy is visible above the thick Bamboo at this location. This tree canopy is persistent along the rail corridor edge, and is characteristic of the landscape seen from the train between Epping and Thornleigh.

3. The train passes through a number of rock cuttings between Cheltenham and Beecroft Stations. In these areas, the rock is sandstone, but further north along the line the cuttings pass through shale, with a different vegetation community associated with the soil / rock type. Areas where the train passes through sandstone cuttings (such as this one) appear to have a number of colonising plant species on the cutting face, in addition to weedy species.

Figure 4-15 Views from inside the existing rail corridor between Beecroft and Pennant Hills Stations

Beecroft Tennis Centre to Pennant Hills (refer Figure 4-15)

On approach to Beecroft Station, the view changes from bushland corridor to a corridor of mixed exotic and native trees, and dense weed communities including Bamboo (refer Photo Points 1 and 2). At Beecroft Station, parkland trees including spire-like Bunya and Hoop pines are present (refer Photo Point 3), and filtered views are available to Beecroft Village.

Between Beecroft Station and Pennant Hills Road (to the north), views are again to a bushland corridor, with much of the land within the corridor subject to substantial levels of weed invasion and grass slashing (refer Photo Point 4). The corridor passes through a large shale cutting in response to the change in geology from Hawkesbury Sandstone to Wianamatta Shale (refer Photo Point 5).

Where the train crosses Byles Creek, the bushland within the drainage line is subject to heavy weed invasion. At this point, views are also available looking south-east down the Byles Creek bushland valley.

Legend

- Rail corridor
- Train station
- View from the train to the adjacent weedy, cleared rail corridor
- View to tree canopy beyond rail corridor made up predominantly of remnant native species with weedy understorey
- View to tree canopy beyond rail corridor made up predominantly of weedy and exotic tree and understorey species
- View from train to area adjacent to rail corridor dominated by exotic tree and shrub species in a parkland setting
- Views from the train enclosed by cuttings into rock on both sides
- Partially or totally vegetated batter seen from train
- Occasional views through the rail corridor vegetation to the surrounding landscape

Photo Points

1. The view from the train to the tennis centre in Beecroft. Note the heavy infestation of weeds in the corridor and occasional trees smothered in climbers.
2. Band of vegetation made up of remnant trees and weedy species lining the edge of the rail corridor.
3. Beecroft Station, with the view from the north-bound platform towards the band of cultural plantings, including Bunya and Hoop Pines.
4. View to the cleared rail corridor with an access track, and band of remnant Eucalypts (behind the rail corridor fence) framing the corridor.
5. Cuttings in this section are predominantly of shale.

Pennant Hills Station (refer Figure 4-16)

As shown in Figure 4-1, the rail corridor changes from skirting below the watershed boundary (between the M2 crossing and Pennant Hills Station), to closely following it from Pennant Hills Station travelling north. This is reflected in the views available from the rail corridor for much of this stretch of line, with the rail line typically following the ridgeline, and providing views east and west across the surrounding substantially wooded urban landscape.

Views looking to the west are periodically filtered through a narrow band of remnant bushland which is periodically subject to substantial weed invasion and grass slashed areas.

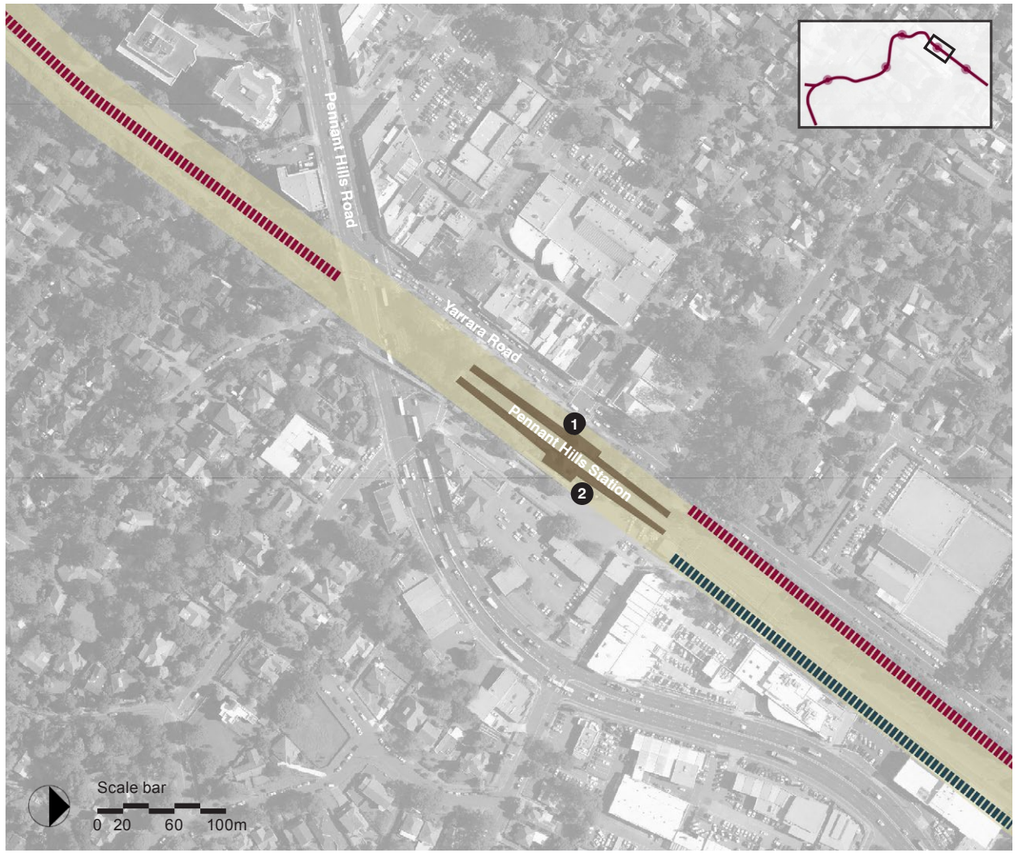

Figure 4-16 Views from Pennant Hills Station

Photo Points

1. Intermittent views available to the surrounding area to the west from the corridor, showing adjacent commercial areas and beyond to the heavily wooded suburbs.
2. View to the north-east from Pennant Hills Station to commercial and light industrial areas adjacent to Pennant Hills Road.

Thornleigh Station (refer Figure 4-17)

The views from the train are similar up until the approach to Thornleigh Station as those described above, with the elevated rail line providing views east and west across the surrounding, substantially wooded, urban landscape. Upon approach to Thornleigh Station, the rail corridor passes through a substantial shale cutting.

The station precinct features a large stand of Brush Box (*Lophostemon confertus*) along the south-western boundary of Thornleigh Station.

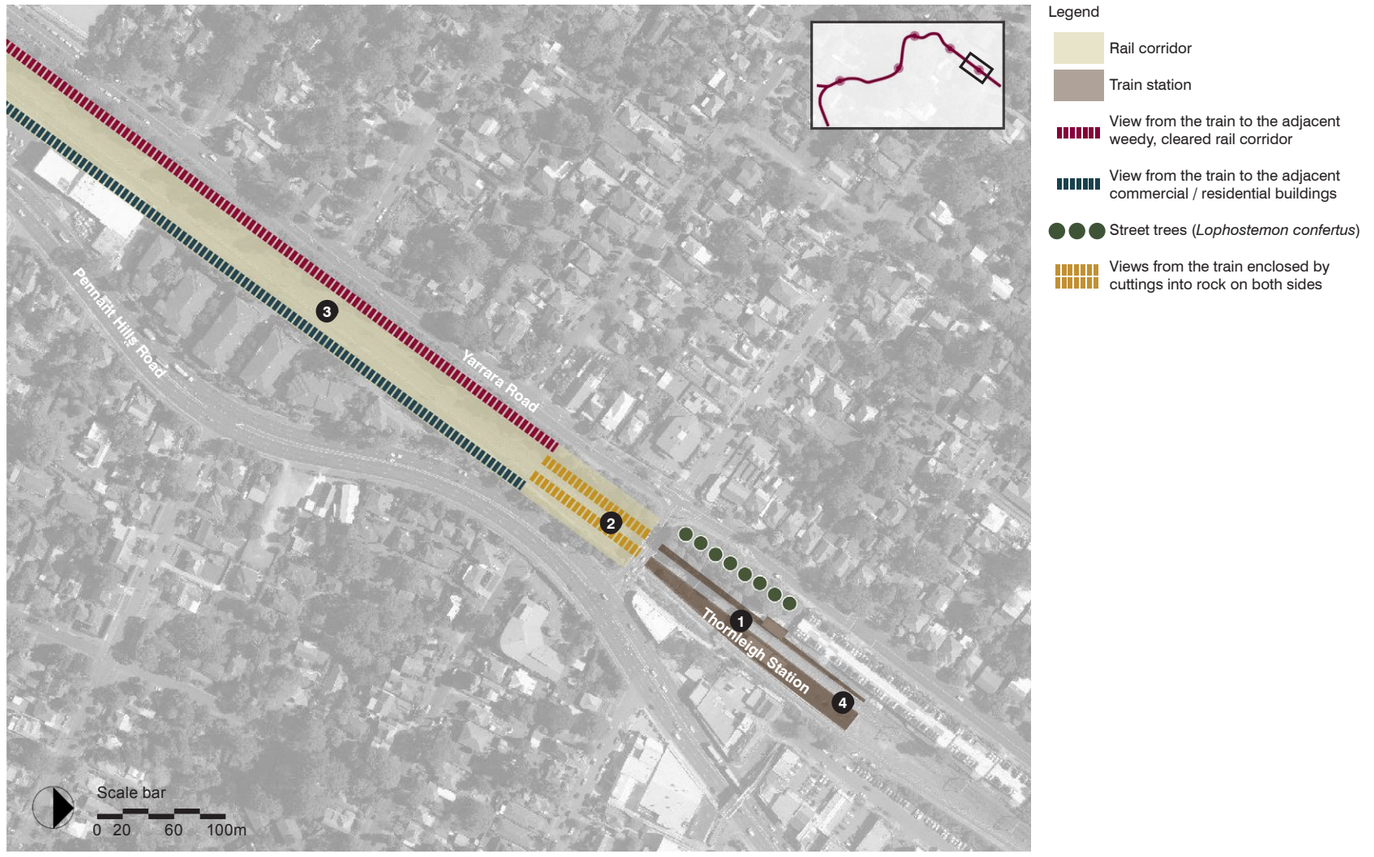

Figure 4-17 Views from inside the existing rail corridor at Thornleigh Station

Photo Points

1. View south along the rail corridor from the pedestrian rail overpass, showing the mature band of *Lophostemon confertus* adjacent to the road.
2. Rock cuttings through shale on the approach to Thornleigh Station as seen from the train.
3. View from the train to medium density residential developments backing onto the rail corridor.
4. View to the north along the rail corridor from the pedestrian rail overpass, showing significant bands of mature remnant Eucalypts which characterise the corridor.

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05

5. Visual impact assessment
(visual screening affects of existing vegetation and the proposed landscaping and built elements)

5.1 Purpose

This Visual Assessment of residential and commercial properties along the corridor has been prepared to address Condition C31(f) of the CoA:

An assessment of the visual screening affects of existing vegetation and the proposed landscaping and built elements. Where receivers have been identified as likely to experience a moderate or high visual impact as a result of the operation and residual impacts are likely to remain, the Proponent shall, in consultation with affected receivers, identify opportunities for providing at-receiver landscaping to further screen views of the SSI. Where agreed to with the landowner, these measures shall be implemented during the construction of the SSI;

5.2 Timing

The site inspection component of the Visual Impact Assessments were carried out between the 20th and 25th of September 2013, and assessed on the current visibility of the corridor and associated rail infrastructure. There was evidence of some recent tree clearing within the corridor during this period (e.g. southern end of The Crescent) and these impacts have been included in this assessment (note that the tree clearing was not of screening vegetation but did include some trees further within the rail corridor).

Visual Impact Assessments were reviewed in February 2014 to ensure any design changes have been considered. A summary of ratings is included in Table 5-1, design changes include:

- Additional tree planting to Cheltenham carpark
- Additional street tree planting areas in Yarrara Road and The Crescent
- Additional shrub planting within the corridor.

5.3 Methodology

The Roads and Maritime Services (RMS) Guidance Note for Landscape Character and Visual Impact Assessment provides an accepted industry standard for a methodology to provide this assessment. This assessment however, does not provide a landscape character assessment, as this can be found in Section 4 Contextual Analysis and Landscape Assessment of this report. The RMS Guidance note states:

"A judgement must be made as to the quality and extent of the design solution in assessing impacts. Determining a low impact based on the assumption that the very highest quality design outcome will be achieved, could be unrealistic and misleading. However, it is equally misleading to determine impacts based on the very worst outcomes. A balance must be found but it is usually better to err on the side of caution."

This assessment is for Visual Impact only, and assesses the effectiveness of existing vegetation to screen the corridor compared with the effectiveness of the proposed landscape design solution developed as part of the design works. As recommended above, the assessment has been conservative in an effort to capture the fullest reasonable extent of impacts.

Consistent with RMS's methodology and the Condition of Approval requirements the following parameters were used in the assessment:

- Visual receptors (dwellings or commercial properties) to be assessed were identified by a desk top analysis and confirmed on site
- Private dwellings are assumed to be highly sensitive visual receptors whilst commercial properties are assumed to be low to moderately sensitive
- As the majority of the properties to be assessed are residential, the method assumes a high level of receptor sensitivity. Where commercial properties are assessed, a further assessment process is undertaken to assess the impact of reduced receptor sensitivity to changes in the local environs
- The assessment was carried out from the property boundary closest to the rail corridor. Notes were made of the level of screening within private gardens, but this did not affect the assessment
- Assessments of commercial properties in precincts such as Beecroft and Pennant Hills were conducted at regular intervals along the street frontage (at ground level), rather than individual properties
- The visual impact rating provided is the Residual Visual Impact*. This is based on an assessment of the effectiveness of landscape mitigation strategies to screen the corridor compared with the existing condition (pre-works). The mitigation strategies will be implemented to restore landscape areas disturbed during the works
- Receptors with a Moderate to High Residual Visual Impact rating will be eligible for consultation regarding additional at-receiver landscaping
- The rail corridor refers to the tracks and associated built elements. The chainmesh boundary fence is not considered as it is existing and any replacement will match existing
- The impact to the eastern side of the rail corridor has not been assessed except at Cheltenham Station as the long term visual impact elsewhere is considered negligible. The works in these areas include the disturbance of grass and weed areas to install below or above ground services. The area will be reinstated with similar vegetative cover.

Residual Visual Impact

Residual Visual Impact is the difference between the existing visibility of the corridor (pre-works) and the visibility of the corridor once the proposed revegetation has reached maturity. For example:

If a dwelling is assessed as having a **Moderate** existing visual accessibility rating for the view to the corridor, it typically means that the view is filtered (by vegetation).

- Then, as a result of the construction works, vegetation is removed and the view to the corridor is open. Therefore, the post-construction visual accessibility rating would be rated as **High**
- The next step is to review the proposed landscaping and assess how high and dense it will be at maturity
- If at maturity the proposed landscaping (mitigation strategy) re-created a filtered screen to the corridor (matching the existing condition) it would result in **Moderate** visual accessibility rating
- Therefore, the Residual Visual Impact rating is scored as **Low**. This is because the visual accessibility of the rail corridor, after the landscaping has reached maturity, would be similar to the rating given in the Existing visual accessibility assessment.

The methodology is provided on the next page:

Existing conditions assessment

Photographic record of the view from each lot boundary looking towards the rail corridor refer to Figure 5-1 for illustrative example of photo location.

On-site assessment of **Existing Visibility** of the rail corridor with consideration to screening effectiveness of existing vegetation, rated as below:

- **High:** Open view of the rail corridor including trains and rail infrastructure as principle to the view
- **Moderate to High:** View of the rail corridor including trains and rail infrastructure that is partially screened
- **Moderate:** Lightly filtered screen or view of a section of the rail corridor
- **Moderate to Low:** Densely filtered view or glimpses of the rail corridor
- **Low:** Effectively represents a fully screened view.

Post-construction assessment

Assessment of visibility of the rail corridor **Post-construction Works** and prior to implementation of landscape mitigation strategies. Assessed from a detailed review of the extent of vegetation clearing based on the technical landscape design drawings, rated as below:

- **High:** Open view of the rail corridor including trains and rail infrastructure as principle to the view
- **Moderate to High:** View of the rail corridor including trains and rail infrastructure that is partially screened
- **Moderate:** Lightly filtered screen or view of a section of the rail corridor
- **Moderate to Low:** Densely filtered view or glimpses of the rail corridor
- **Low:** Effectively represents a fully screened view.

Examples of view ratings are provided in Figure 5-2.

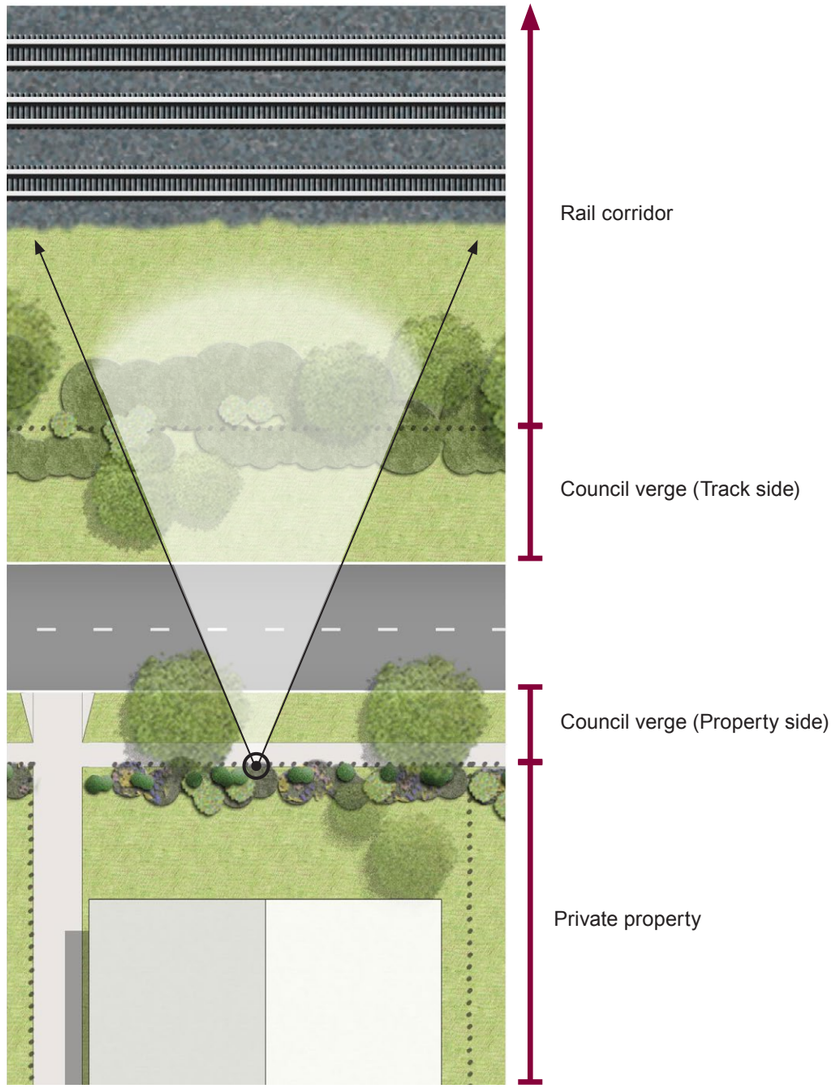


Figure 5-1 Typical photographic record location point

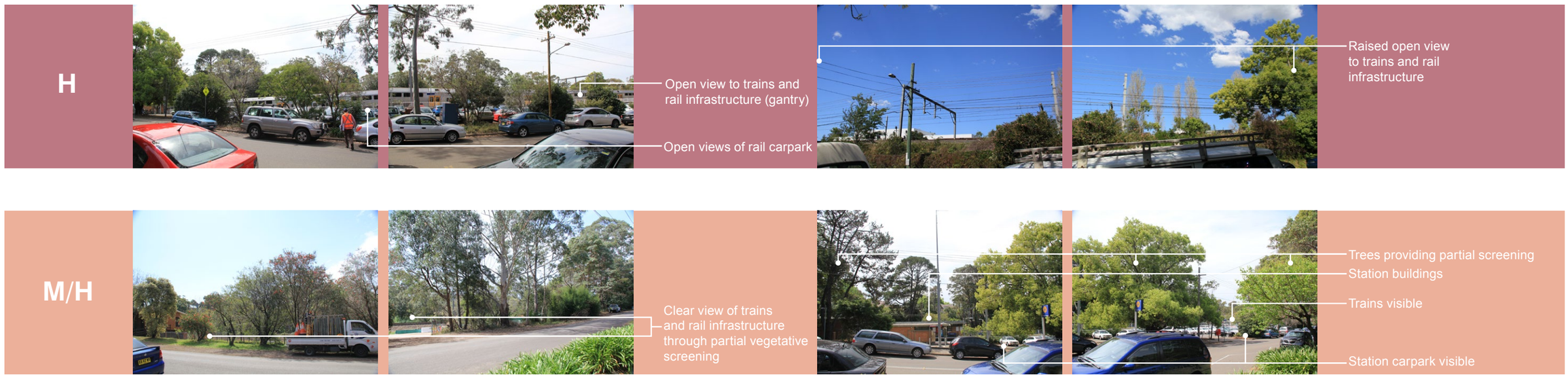


Figure 5-2 Examples of visual accessibility ratings

Residual impact assessment

Assessment of Residual Visual Impact from a detailed review of the technical landscape design drawings compared with the existing condition assessment, rated as below:

- **High:** The change from the existing condition to the post-mitigation condition is significant and assessed to be visually adverse in that more of the rail corridor and associated infrastructure and trains are now visible
- **Moderate:** The change from the existing condition to the post-mitigation condition is readily noticeable in that more of the rail corridor is visible
- **Low:** The change from the existing condition to the post-mitigation condition is not readily noticeable.

Scoring of non-residential properties

The above residual impact assessment process needs to be modified for commercial properties. The visual impact assessment method assumes a high level of visual sensitivity, in keeping with the fact that the great majority of receptors are residential. As described above, commercial properties are assumed to have a low to moderate sensitivity to changes in their environs, as compared with residential receptors who are considered to have a high level of proprietary interest in their local environs, and therefore visual sensitivity to change.

With regard to commercial properties that have views to the rail corridor, visitation by the general public is characterised by relatively short duration and intermittent frequency. The difference between a low and moderate level of receptor visual sensitivity for commercial properties will depend primarily upon the specific use of the property, e.g.:

- where the property is a clothing shop, the receptor walks to the shop, and while in it is focussed on looking at merchandise rather than viewing the street (and the rail corridor). The primary focus is on the shopping exercise. This receptor would be rated as having a low level of sensitivity to change in the local environs
- where the property is a café or restaurant which has a prominent view to the street and rail corridor, the receptor may be expected to sit and gaze out to the life of the street while having a coffee or meal. This receptor would be assessed as having a higher level of sensitivity than the above example, up to a level of moderate, depending upon the particular circumstances.

To account for the lower visual sensitivity of members of the general public visiting commercial properties, the derived Residual Visual Impact assessment rating for commercial properties is reduced relative to the above described factors. The rationale for the scoring is described in the comments column.

5.4 Summary of findings

A summary of ratings is shown below, illustrating changes in impact between the initial assessment and the assessment after the landscape mitigation strategies have been installed and established into mature growth. Eligibility for consultation for at receiver landscaping, to further mitigate visual impacts, has been identified in 37 assessments.

The assessments have been reviewed since the last revision of the UDLP to take into account design changes arising from community feedback. The design changes that have impacted the results include:

- Additional tree planting to Cheltenham carpark
- Additional street tree planting areas in Yarrara Road and The Crescent
- Additional shrub planting within the corridor.

The maps in Appendix D highlight the areas of proposed additional planting.

Table 5-1 Summary

Rating	Residual Visual Impacts
High	**8**
Moderate	**29**
Low	**105**

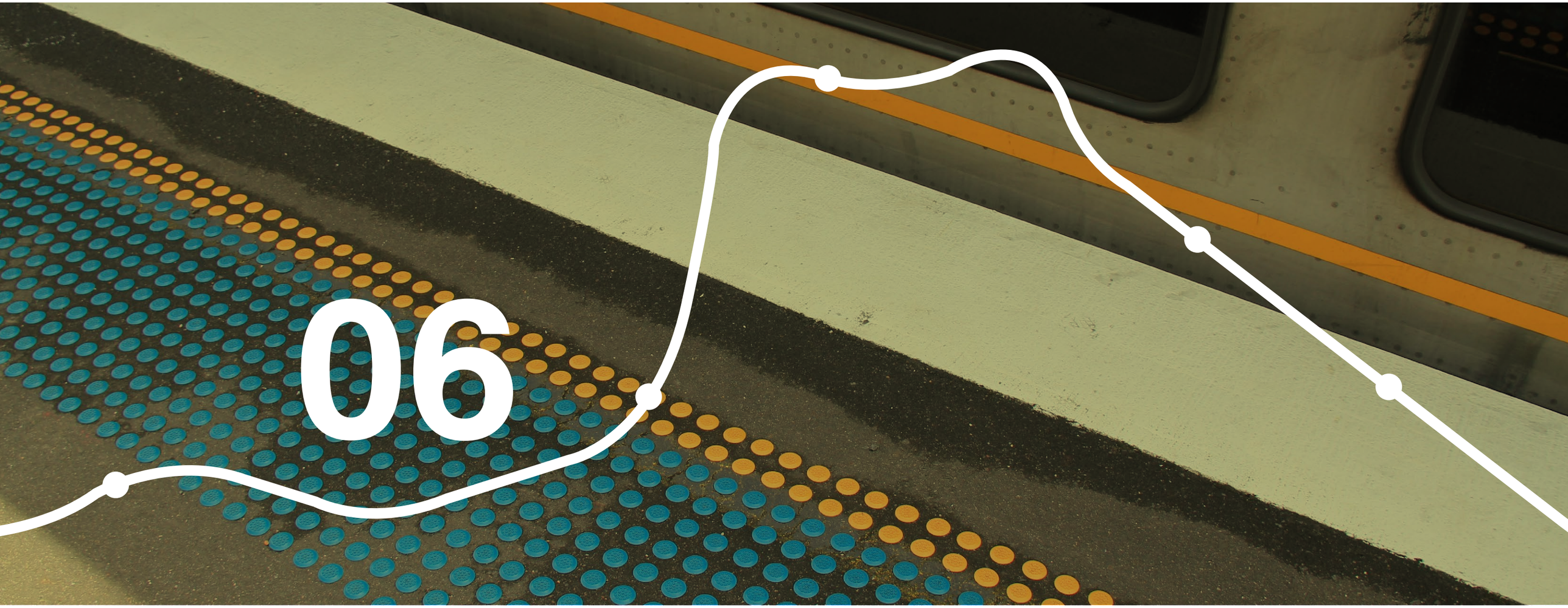
5.5 At-receiver landscaping treatment

The 37 assessments identified as likely to experience a moderate or high visual impact as a result of the operation of the ETTT Project and residual impacts are likely to remain, will be contacted by the project team in mid 2014 (following DP&I approval of the UDLP) to discuss and identify opportunities for providing at-receiver landscaping to further screen views of the operational project.

Individual consultation with the property owners will take the following into account:

- Planting of young (not advanced) shrub and hedge plants native to the area
- Location of planting to be either on private property or on the adjacent nature strip (only with the agreement of Hornsby Shire Council)
- Costs to source and plant the shrub/hedge plants will be covered by the ETTT Project, based on a pre-agreed maximum figure and to be substantiated by appropriate receipts
- Maintenance of the plants will be the responsibility of the land owner.
- Once agreement is reached the land owner and ETTT Project will sign an agreement form that outlines the scope of work and other conditions
- The same agreement form will be signed once the screening vegetation has been planted to confirm the works have been completed as agreed.

It is noted that time will be needed for the plants to establish and provide screening. Where possible, Council will be consulted on the possibility of planting vegetation on Council verge instead of private property. At some locations screen planting will not be possible due to site constraints (or may not be desired by the land owner).


06

6. Urban and landscape design elements

6.1 Retaining walls and cuttings

6.1.1 Introduction

Retaining walls and treatments to cuttings are a significant component of this project and require careful consideration to ensure that they are designed in an integrated and sensitive manner, with consideration of cost and long-term maintenance, given the scale of the proposed structures as well as being sensitive to the adjoining community. In some cases, cuttings can be up to 14m high and 300m in length, while walls can be up to 6m high. The following section outlines the broad approach to managing the design of these elements. Retaining wall and cutting location plans are shown in Appendix D.

The finish treatment for cuttings along the corridor is influenced by the geotechnical constraints of the underlying geology. Two distinct geology types characterise the corridor. From Epping to Cheltenham the geology encountered will typically be sandstone. For these cuttings rock bolts in natural rock to stabilise small patches only is envisaged. Between Beecroft and Pennant Hills the cutting widenings are typically in shale geology and in these locations a full shotcrete covering will be used to stabilise this loose or potentially loose material. Some cuttings around Beecroft will have a lower layer of sandstone and a higher layer of shale, resulting in a combination of rock support systems. Cost effective solutions have been sought to ensure that the treatments are robust and enduring.

6.1.2 Description

There are three types of wall construction proposed for the corridor: in situ cast concrete, reinforced soil walls and post and panel walls (refer to Figure 6-5 to Figure 6-15).

The design approach is to:

- Use a higher quality finish on walls with high visual prominence, e.g. walls near station precincts and outward walls seen from public streets
- Use a lower level of refinement for walls facing the rail corridor. Consistency will be achieved through the use of regular materials, profiles and edge treatments such as capping beams
- Use integrally coloured concrete in a recessive colour (charcoal) for retaining walls and stabilisation of cuttings to minimise the visual impact within the heritage precinct and at station precincts.

There are three cutting methods proposed for the corridor: natural rock, soil nail and 1 (vertical):3 (horizontal) landscaped batter.

In some areas existing rock cuttings will be widened to accommodate the new track. The design approach is to rely as much as possible on the natural strength and durability of the sandstone or shale. Additional stabilisation measures may be required and will take the form of rock bolts, benching and shotcrete. Rock cuttings will be constructed using the following principles:

- Maximise exposure of natural rock face
- Where rock bolts are used, shear off bolts to be as close to the wall face as possible
- Shotcrete finish where natural rock face is unstable.

6.1.3 Finishes

There are a number of different finishes for walls and cuttings and along the corridor and they have been broadly grouped into three categories which relate to their visual appearance. The three broad categories are described on the landscape plans shown in Appendix D. The three categories are predominantly natural rock, smooth concrete and shotcrete finishes.

Predominantly natural rock

References to natural rock occur in locations of cuttings and there are two different treatments to stabilise predominantly natural rock cuttings:

Spot rock bolt in sandstone

This treatment will occur where a sandstone rock face is predominantly stable, however has localised areas of instability. Spot rock bolts will provide the required support at sporadic unstable locations across a solid rock face. Spot rock bolts will be constructed using the following principles:

- Maximise exposure of natural rock face
- Shear off bolts to be as close to the wall face as possible
- Patches of shotcrete used to cement bolts into rock face will be colour matched to surrounding sandstone.

Pattern rock bolt in sandstone finish

For pockets of weathered sandstone, pattern rock bolts are used at 1.5m x 1.5m spacing to create a regular pattern of bolt heads on a sandstone rock face. Pattern rock bolts will be constructed using the following principles:

- Maximise exposure of natural rock face
- Shear off bolts to be as close to the wall face as possible
- Patches of shotcrete used to cement bolts into rock face will be colour matched to surrounding sandstone.

Smooth concrete finishes

References to smooth concrete finishes may relate to either cuttings or walls. The different finishes grouped under smooth concrete are described below:

Cast in-situ concrete walls

These walls face both inward towards the rail corridor and outwards. They range in height from 2m to 3.5m, and at times may be located above cuttings. These walls will consist of the following elements:

- Vertical face
- Smooth concrete finish (Class 2)
- Regular vertical jointing at 3m centres
- Integrated capping beam.

Reinforced soil wall

These walls face inward towards the rail corridor. They comprise the following:

- Vertical face wall profile
- Capping beam
- Precast concrete panel.
  - Square or rectangular panels, typically 1500x1700mm, with a class 1 finish
  - Vertical joints are to be aligned and horizontal joints offset from one another.

Post and panel wall

A short section of post and panel wall as shown in Figure 6-11 is located along Yarrara Road and will have a simple decorative finish of vertical corrugations. The advantage of this finish is that it deters graffiti through its rough surface.

- Vertical face
- Decorative finish.

Wood float and sponge finish (or trowel finish) with charcoal colour

References to woodfloat and sponge finish relate to visually prominent areas such as station precincts. Woodfloat and sponge treatment is a finishing process to shotcrete that provides a refined appearance. The addition of a dark colour oxide assists in making large structures visually recede in the landscape.

- Wood float and sponge finish for cuts adjoining station precincts (refer Figure 6-10). These areas of cutting require a straight edge test to ensure a smooth profile. The straight edge test identifies the amount of horizontal variance there may be in the face of the wall. The design intent is to keep the variances as minimal as possible
- The shotcrete will be integrally coloured with a dark oxide to assist in making the cuts visually recede
- Regular vertical dummy joints at 3m centres. It is critical that the straight edge test is applied and confirmed before incorporating the dummy joints
- All shotcrete treatments to receive horizontal construction joints to provide a crisp junction between concrete pours
- Capping beam.

Shotcrete finishes

The different finishes grouped under shotcrete concrete finishes are described below:

Shotcrete gun finish

Gun finish is applied to unstable cut treatments away from station precincts. Gun finishes face inward to the rail corridor. They range in height from 2m to 14m and will consist of the following:

- All shotcrete treatments to receive horizontal construction joints to provide a crisp junction between concrete pours
- Capping beam.

Shotcrete Gun finish with charcoal colour

In addition to shotcrete gun finish described above the shotcrete is to be integrally coloured with charcoal oxide within the heritage zone or close to station precincts.

6.1.4 Special conditions

Other wall types

Retaining walls to approximately 2m in height will be located near station precincts. These walls are not part of the corridor and have a greater relationship to the local streets. These walls will be constructed as cast in situ concrete.

There are two walls that may have bored piles, they face outward from the corridor and are located in areas that are not likely to be visible from the adjoining streets e.g. behind existing bushland near Devlins Creek.

Wall terminations

Terminate the ends of walls with a mass concrete wall to neatly finish off retaining walls or areas of shotcrete and eliminate exposed edges and untreated batters (refer Figure 6-9). Termination walls will be class 2 mass concrete and finished with sharp aris on the corners.

Catch drains

Catch drains located above soil walls and soil reinforced walls with shotcrete finish should be setback 1m from the back edge of the capping beam to allow for planting with trailing plant species as shown in Figure 6-14, and consistent with the principles of Sydney Trains's Revegetation Guide (Section 9).

Capping beams

In principle, capping beams to be provided at the top of all walls and cuts except where natural rock is exposed at the top edge.

- Capping beam to be profiled as per Figure 6-12
- Class 2 finish plain concrete
- Provided to top of all wall types and cuttings (cast in situ walls will have a capping beam profile formed into the wall, refer Figure 6-5)
- In some cases, such as the commuter carparks at Beecroft and Cheltenham, the capping beam may extend upward to form a vehicular barrier. In these cases a horizontal shadow line is included to reinforce the capping beam line, refer Figure 6-12.

Weep holes / joints and shadow lines

In principle, elements on the face of the wall should be aligned vertically unless otherwise shown in specific cases.

- Weep holes should be aligned with dummy joints (refer Figure 6-13)
- Vertical dummy joints should be aligned with joints in capping beam where possible
- Shadow lines should be provided at the base of cast-in situ walls cuts near station precinct.

Graffiti

The design principles for the treatment of walls and cuts have attempted to provide a framework for the management of graffiti removal. At this time, Sydney Trains' approach to removal is to paint over the graffiti. Therefore the following design elements have been incorporated:

- In the vicinity of stations, anti-graffiti joints have been provided at 2.5m above ground level and 2.5m down from the top of cuts and walls to provide an edge for Sydney Trains to paint to when removing graffiti. This will present a tidy 'squared patch' at completion rather than an uneven set of brush strokes
- Simplicity of walls and cut colours will improve the likelihood of colour matching
- Planting in front of walls where access is available to reduce the effectiveness of graffiti. This may include the use of climbing plants to cover across the cut.

An anti-graffiti coating will be provided to hard surfaces in public areas. In these areas good access is available for maintenance staff to clean off graffiti rather than to paint over it.

However, an anti-graffiti coating is not being applied within the corridor as requested by some members of the community. This is due to the need to use high pressure water blast to remove graffiti on top of an anti-graffiti coating. This is impractical within the rail corridor where access for equipment is extremely limited. Therefore painting using a similar colour to the substrate has been found by the corridor maintainers to be the preferred and more effective solution.

Predominately natural rock

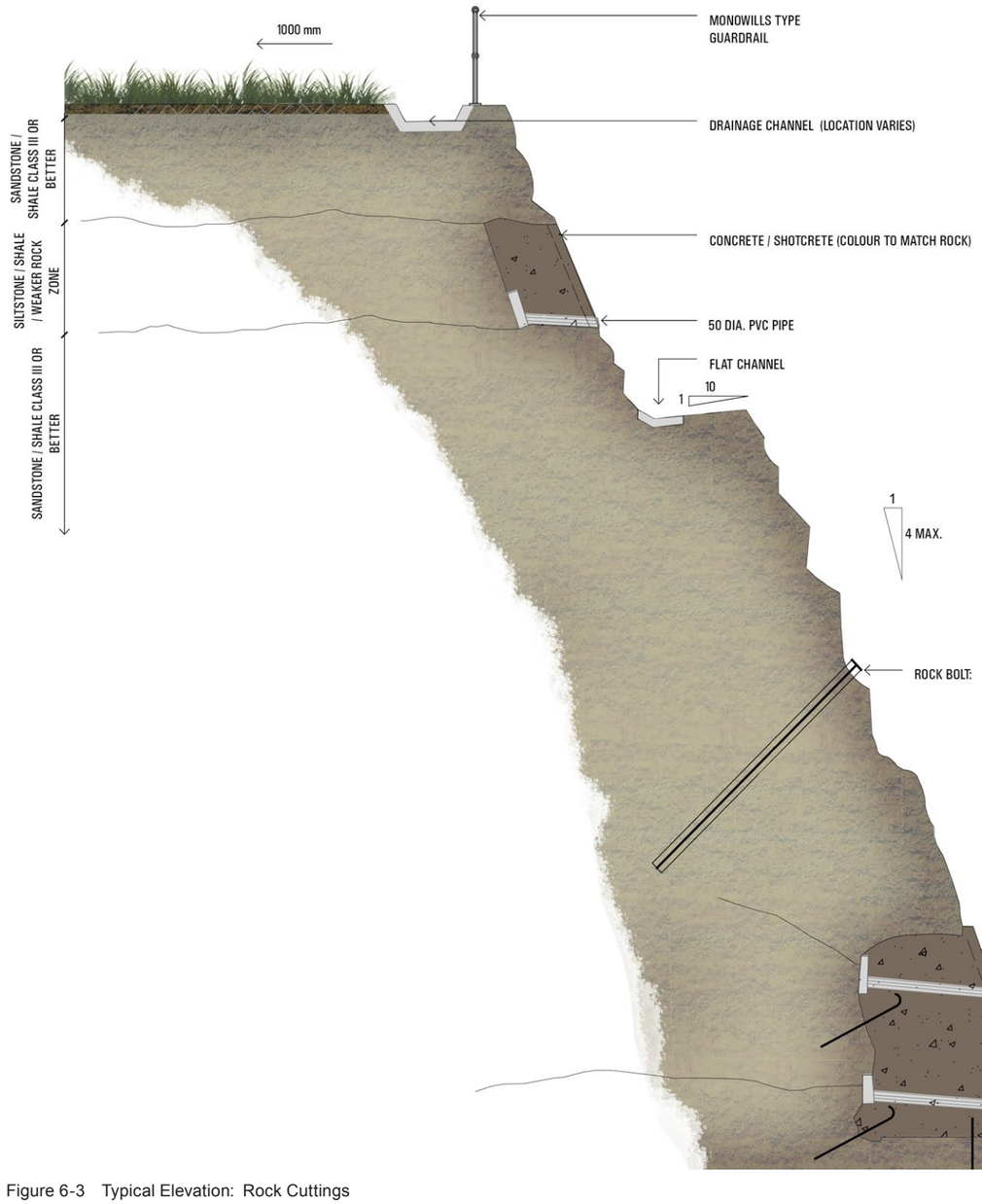
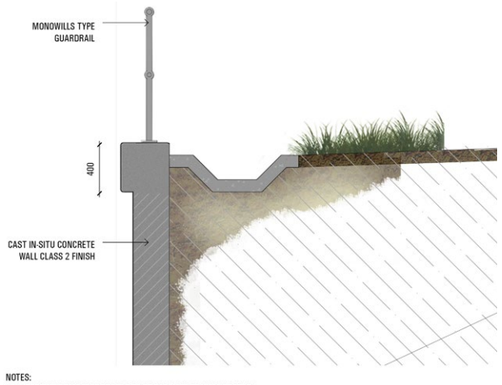


Figure 6-3 Typical Elevation: Rock Cuttings

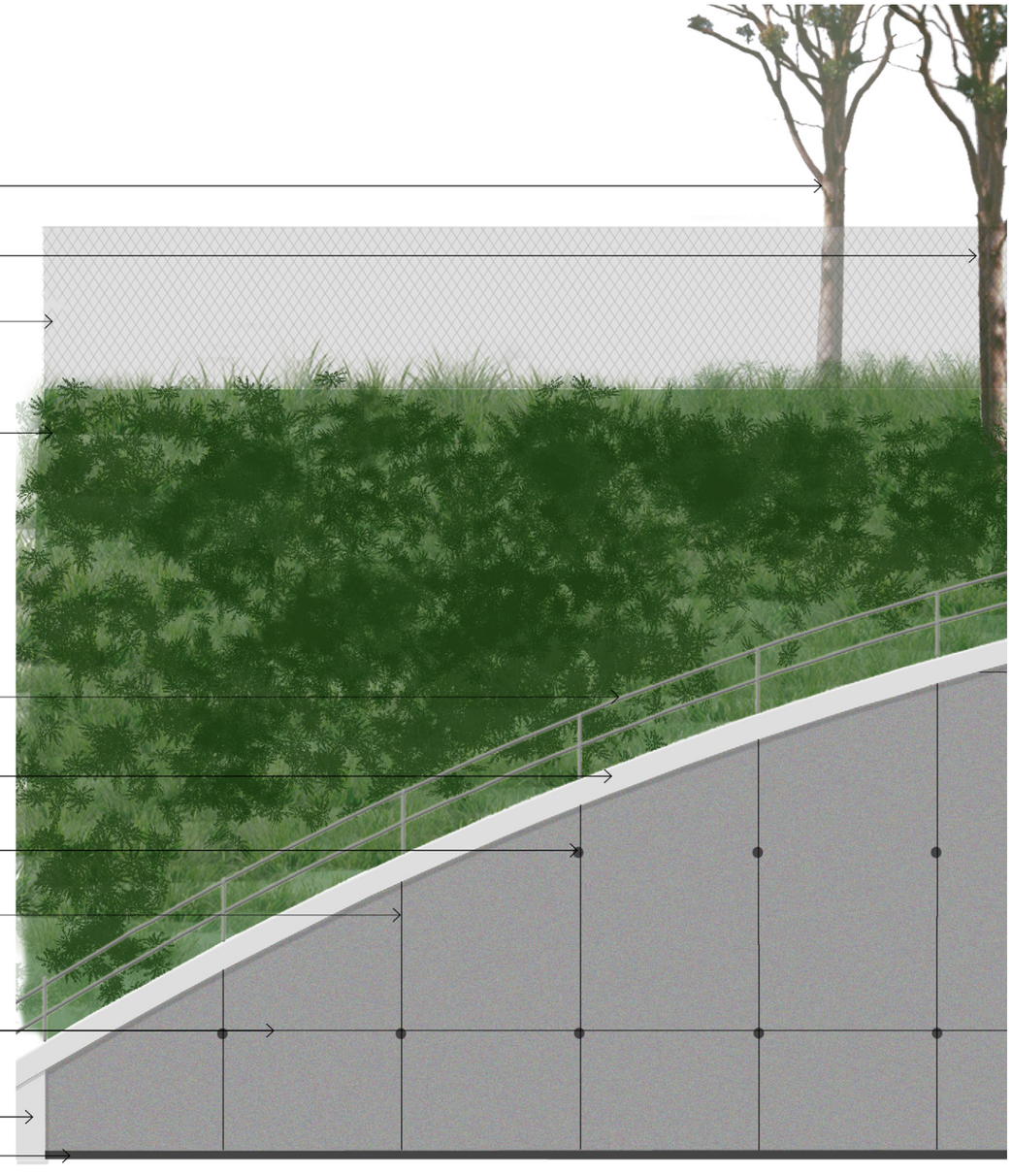
Figure 6-4 Example of rock cutting shotcrete colour matching

Smooth concrete finishes



NOTES:
- CAPPING BEAM FACE PROFILE TO BE PARALLEL TO WALL PROFILE
- REFER TO WALL SCHEDULE FOR COLOUR APPLICATION
- WHERE CAST IN-SITU COLOURED WALLS ARE USED, CAPPING BEAM WILL BE CAST WITH WALL AND THEREFORE MATCH WALL COLOUR

Figure 6-5 Typical Section: Cast In situ Concrete Retaining Wall



NOTE:
- Gun finished wall excludes dummy joints and termination wall

Figure 6-6 Typical Elevation: 4:1 vertical face cuts close to station precincts

Smooth concrete finishes

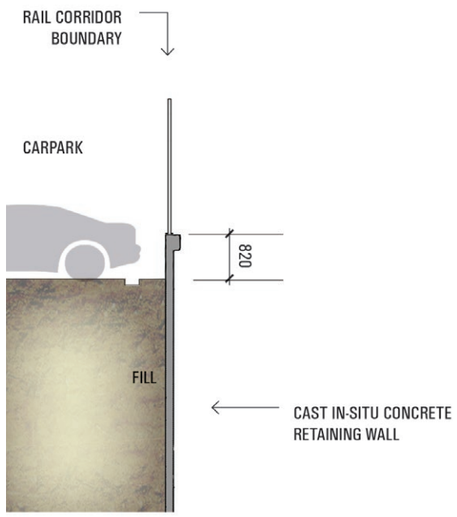


Figure 6-7 Section: Beecroft carpark retaining wall

Figure 6-9 Example of Termination Wall

Figure 6-10 Example of wood float and sponge finish with joints at 3m intervals (vertical or 4:1 vertical cut face)

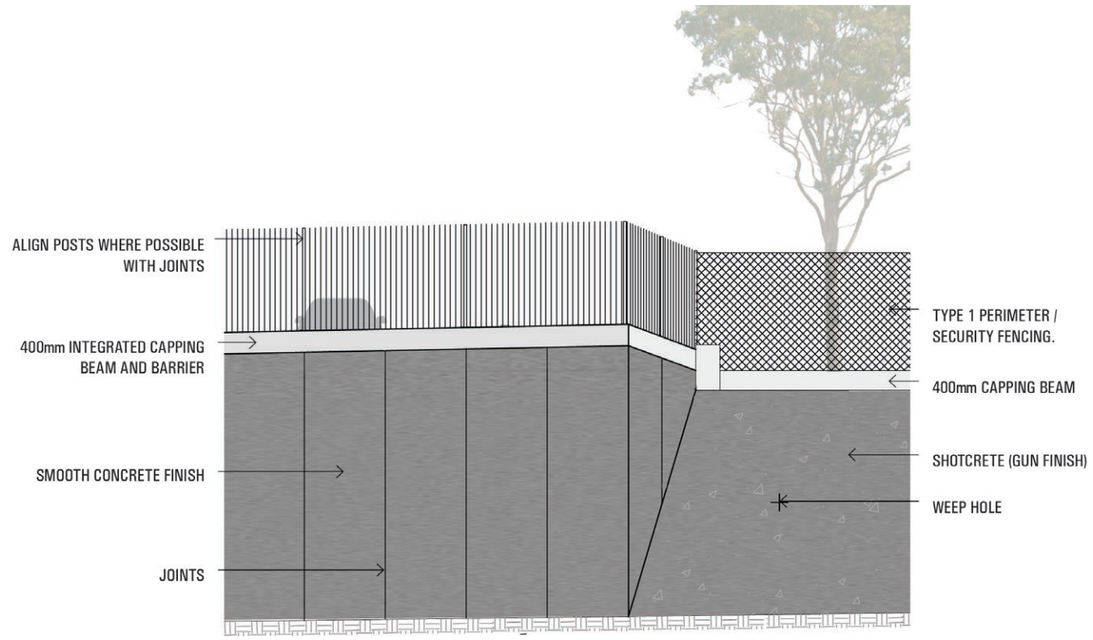


Figure 6-8 Elevation: Panel design and wall-cut junction

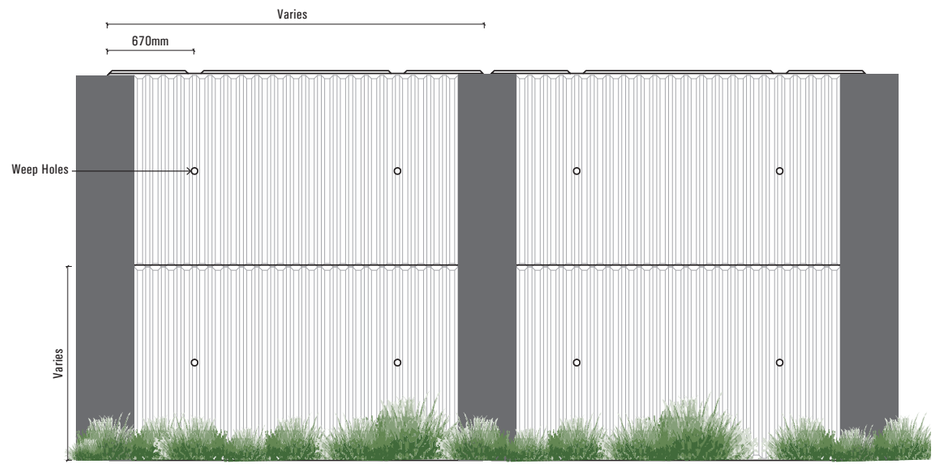
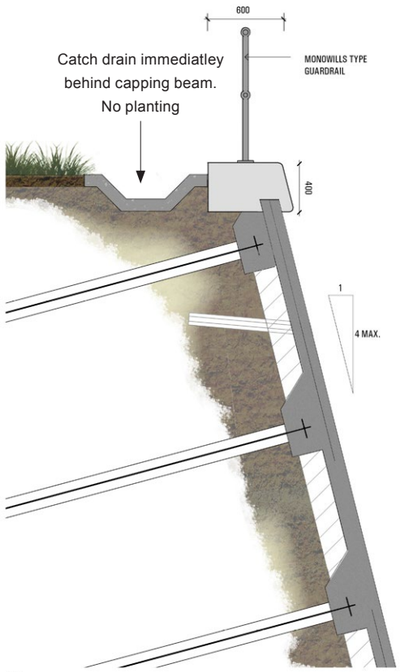


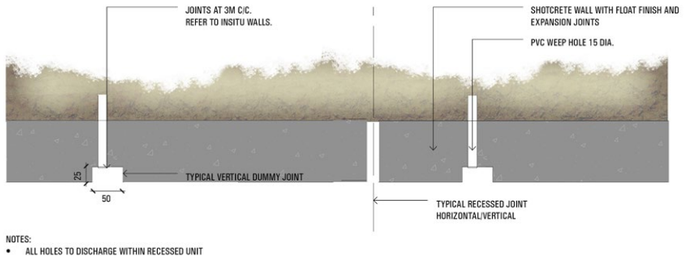
Figure 6-11 Post and panel wall

Shotcrete finishes



NOTE:
- CAPPING BEAM FACE PROFILE TO BE PARALLEL TO WALL PROFILE

Figure 6-12 Typical Section: Soil Nail Cutting Treatment – no planting



NOTES:
- ALL HOLES TO DISCHARGE WITHIN RECESSED UNIT

Figure 6-13 Typical Plan: Weephole and vertical joint for shotcrete finish wall / cutting (2:1 vertical face cut)

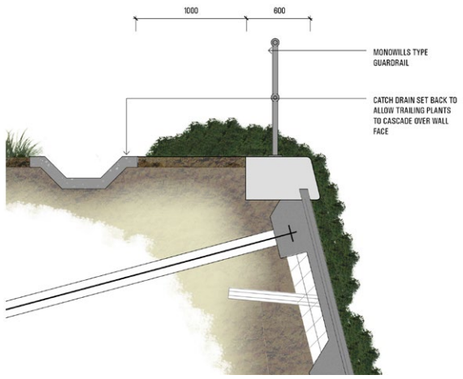
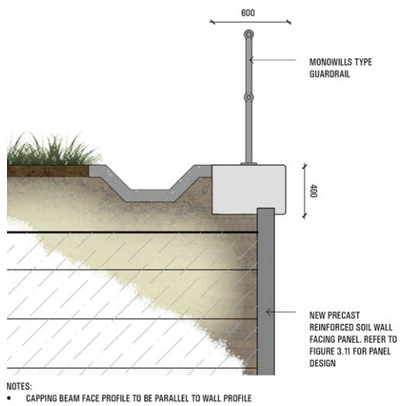


Figure 6-14 Typical Soil Nail Cutting Treatment with planting



NOTES:
- CAPPING BEAM FACE PROFILE TO BE PARALLEL TO WALL PROFILE

Figure 6-15 Typical Section: Reinforced Soil Retaining Wall

Shotcrete finishes

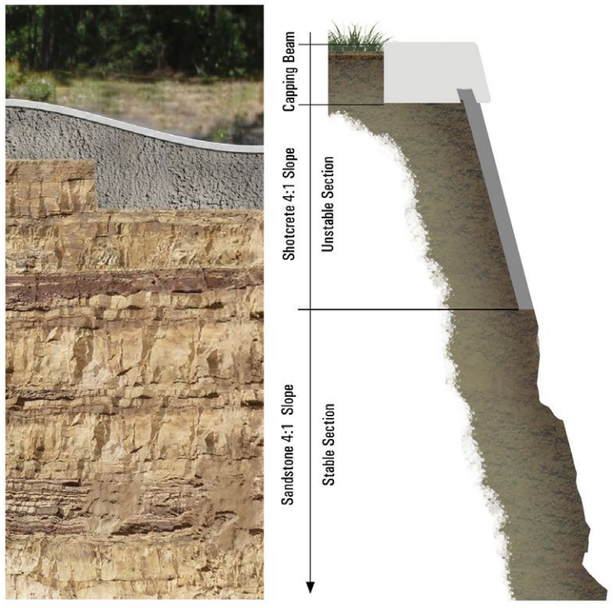


Figure 6-16 Typical Cutting Treatment Section and Elevation of Shotcrete with Capping Beam and Sandstone Rock

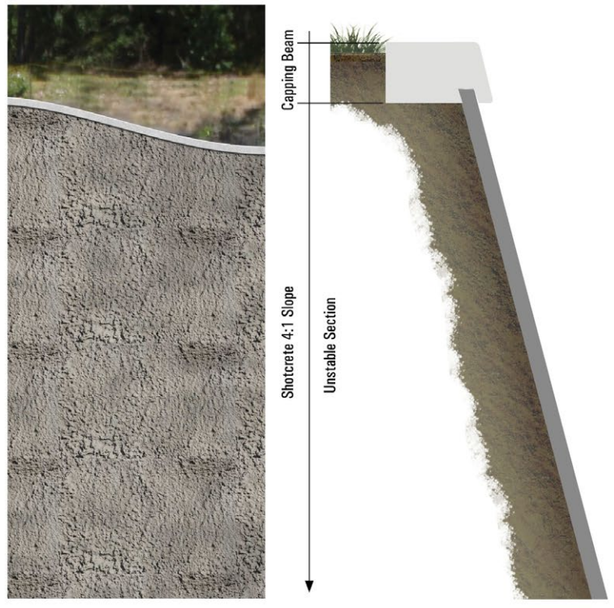


Figure 6-17 Typical Cutting Treatment Section and Elevation of Full Shotcrete Cutting face

Figure 6-18 Example of gun finish shotcrete and capping beam (for use in areas away from station precincts and for 3:1 vertical face cuts)

6.2 Fencing and screens

6.2.1 Introduction

Fences are an important part of the rail corridor as their main purpose is to provide safety for rail users and employees. As a number of different fence types are required, often there are awkward junctions to resolve where different fencing types meet, or where they adjoin other structures (such as concrete barriers, bridges and buildings).

Throughout the corridor fences perform a number of functions. Given the substantial length of fencing required between station precincts and the relatively low visibility of these fences, fencing in these locations may have a lower quality of finish but with a high safety function. Within station precincts the fence types should be appropriate to the urban context and have a higher quality of finish. This section will discuss where different fence types are to be applied and also how to terminate or adjoin them.

Fencing is required to provide both security and safety to the rail corridor and station precincts.

There are five fence types within the project:

- Perimeter / security fence
- Palisade fencing to station precincts
- Perimeter/security fence and safety rail
- Anti-throw screens
- High security fencing.

In principle, existing fencing not affected by the works is to be retained, with new fencing to Sydney Trains Standards to be installed in other areas. In some cases, a special or one-off treatment may be required, such as fencing to platforms where it interfaces with the streetscape. Existing and proposed fence locations are shown in Appendix D drawings.

6.2.2 General principles

The following general principles apply to any proposed fencing:

- Steps in fence profiles are to be avoided
- Align posts with vertical jointing, piers or other design elements where possible
- Fence alignment to avoid abrupt and frequent changes in direction
- Align fencing to avoid the removal of vegetation where possible
- In station precincts the fence types are appropriate to the urban context and generally have a higher quality finish
- Fencing is to provide a secure interface at junctions with bridges or parapets
- Fencing on curves is to be as a series of chords and tangents with distance between posts reduced
- Provide neat, squared junctions
- Palisade fencing at station precincts to be located on capping beam to adjacent wall or cut.

Type 1: Perimeter / Security fence

The existing boundary fence is a security fence varying in height of chain link construction in a galvanised finish. It is proposed to continue this fence type where replacement of new perimeter fencing is required. Existing fencing should be made good where adjoining fences. This fence is not presumed to follow the Sydney Trains boundary and lockable double swing gates will be required at access points. Refer to Figure 6-21 to Figure 6-23.

Type 2: Palisade fencing to station precincts

This fencing occurs in station precincts and carparks. The fence panels will include simple vertical square hollow sections with a top and bottom rail. The powder coated colour may vary from station to station given that the aim of the project is to complement the existing landscape. Refer to Figure 6-24 to Figure 6-26.

Type 3: Anti-throw screens

Anti-throw screens are to have a galvanised or stainless steel finish and a profile as illustrated in Figure 6-27.

Type 4: Safety rail

A 1m high steel guard rail (Monowills-type product), with a galvanised finish is to be provided above cuttings and retaining walls where access is required by Sydney Trains staff for maintenance of structures or landscape. In the absence of a safety/guard rail harness anchor points should be provided. The profile of the guard rail should follow the profile of the capping beam which is to be a smooth, continuous curve devoid of abrupt changes. Refer to Figure 6-28 to Figure 6-30.

Type 5: High security fencing

Weldmesh construction to 3m high with bottom rails and anti-climb perforated top rails. A concrete plinth will be provided below the fence to avoid undermining. Refer to Figure 6-31 to Figure 6-33.

Figure 6-19 Existing Looped Palisade Fencing at Station Precincts

Figure 6-20 Existing Perimeter Fencing Junctions

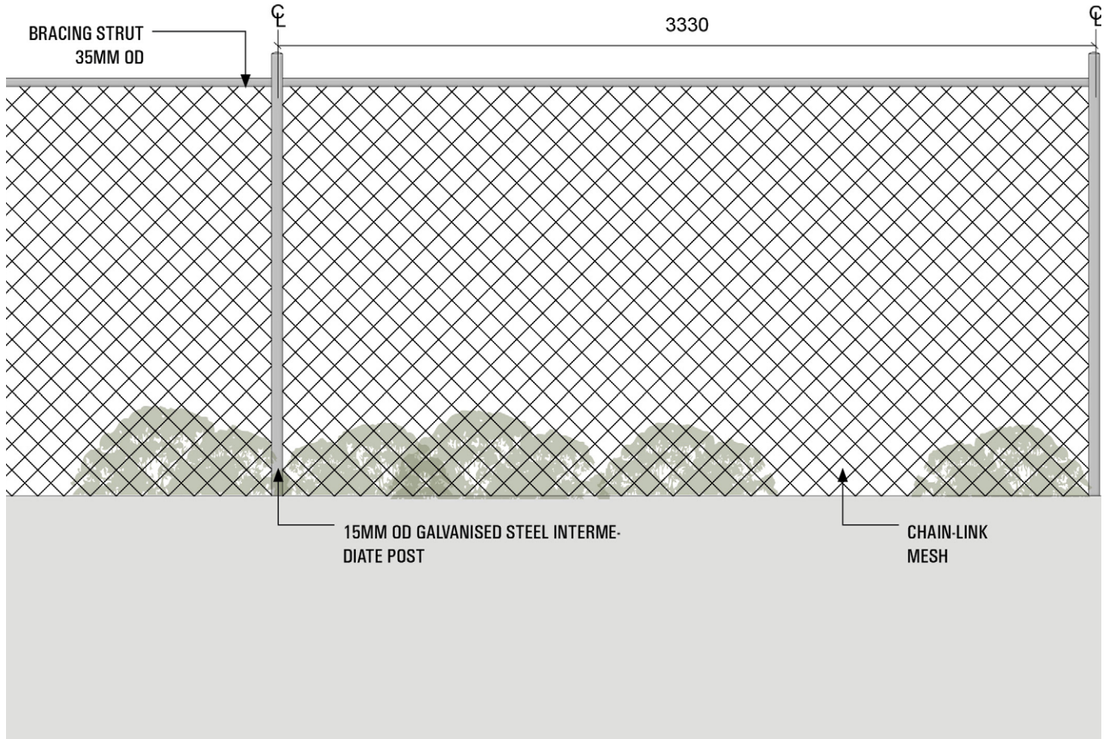


Figure 6-21 Indicative elevation: Type 1 Perimeter / Security Fencing
Scale 1:25 @A3

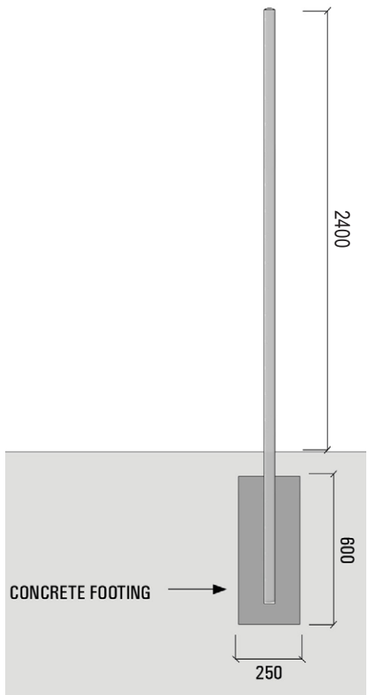
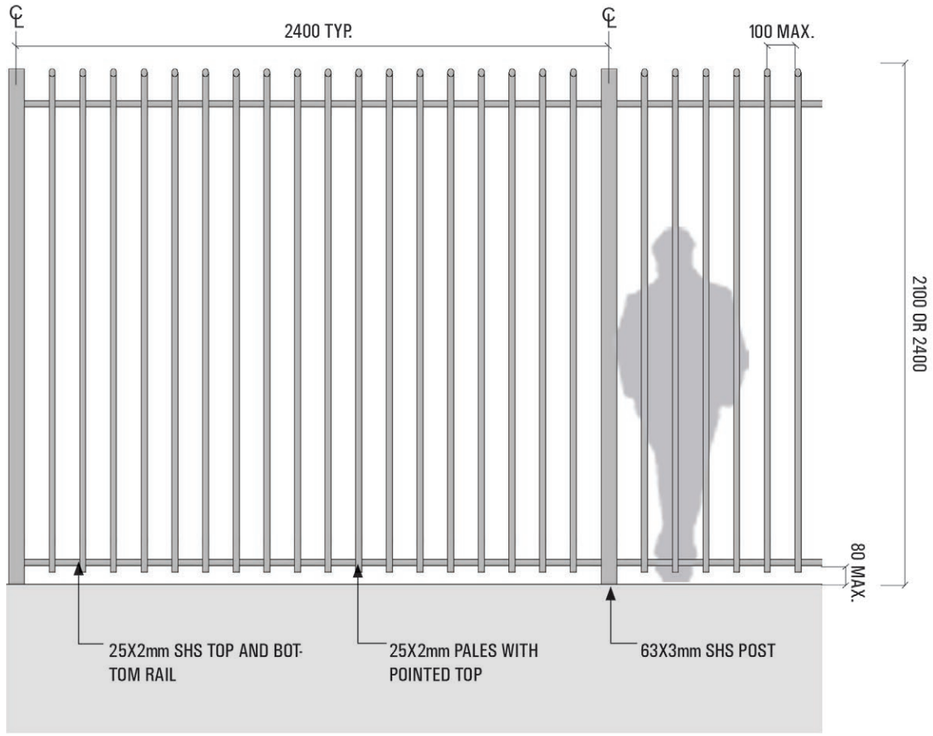


Figure 6-22 Indicative section: Type 1
Perimeter / Security Fencing (Scale 1:25 @A3)

Figure 6-23 Type 1 Perimeter / Security Fencing



NOTES:

- INTEGRATED WITH CAPPING BEAM ON TOP OF WALLS OR CUTS
- AVOID FREQUENT, UNEVEN STEPS. GENERALLY FENCE TO BE DESIGNED TO FOLLOW CURVE OF CAPPING BEAM

Figure 6-24 Type 2: Palisade Fencing to Station Precincts elevation
Scale 1:25 @A3

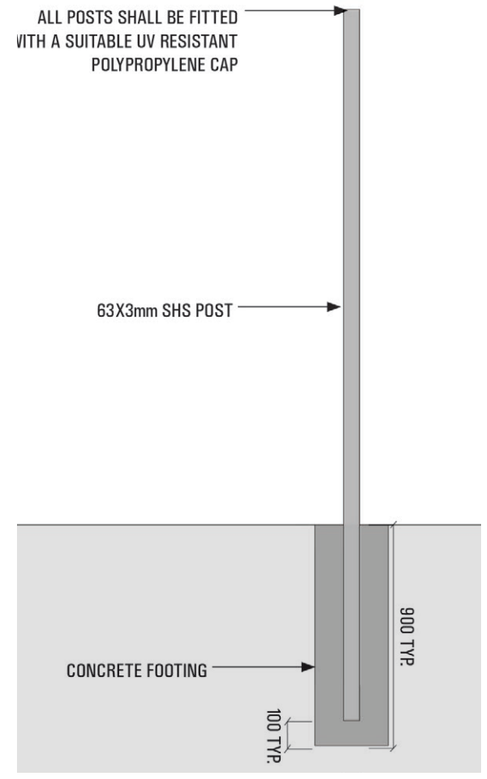


Figure 6-25 Type 2: Palisade Fencing to Station Precincts section
Scale 1:25 @A3

Figure 6-26 Type 4: Proposed Palisade Fencing to Station Precincts

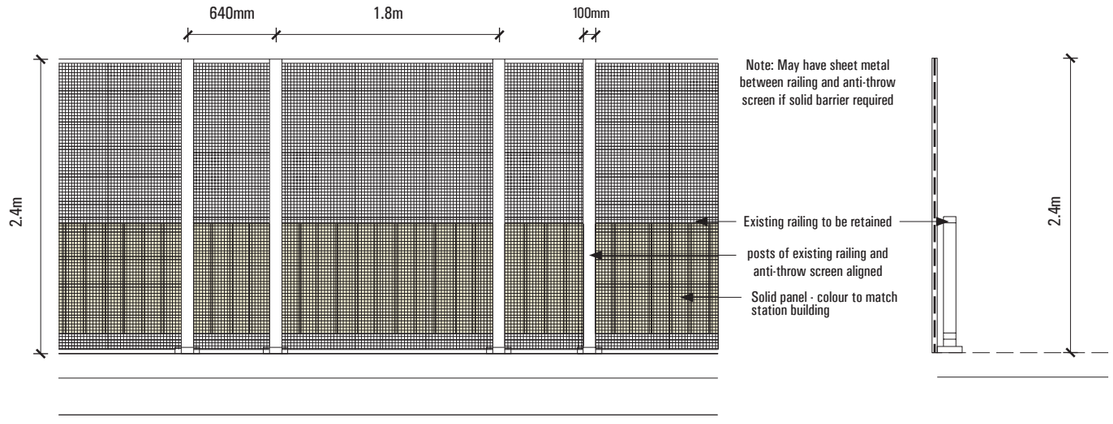


Figure 6-27 Indicative Elevation and Section: Revised concept design existing traffic barrier with new anti-throw screen attached to the outside edge (Cheltenham Road or Chapman Avenue)

General Note: Mesh to match architectural details of concourse at Cheltenham Station

Note: Type 4 safety rail to be provided where access is required for maintenance by Sydney Trains. At some locations anchor points may be provided instead.

Figure 6-28 Indicative Elevation: Type 4 Safety Rail
Scale 1:25 @A3

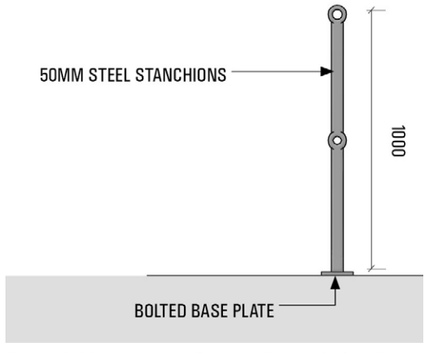


Figure 6-29 Indicative Section: Type 4 Safety Rail
Scale 1:25 @A3

Figure 6-30 Type 4 Safety Rail

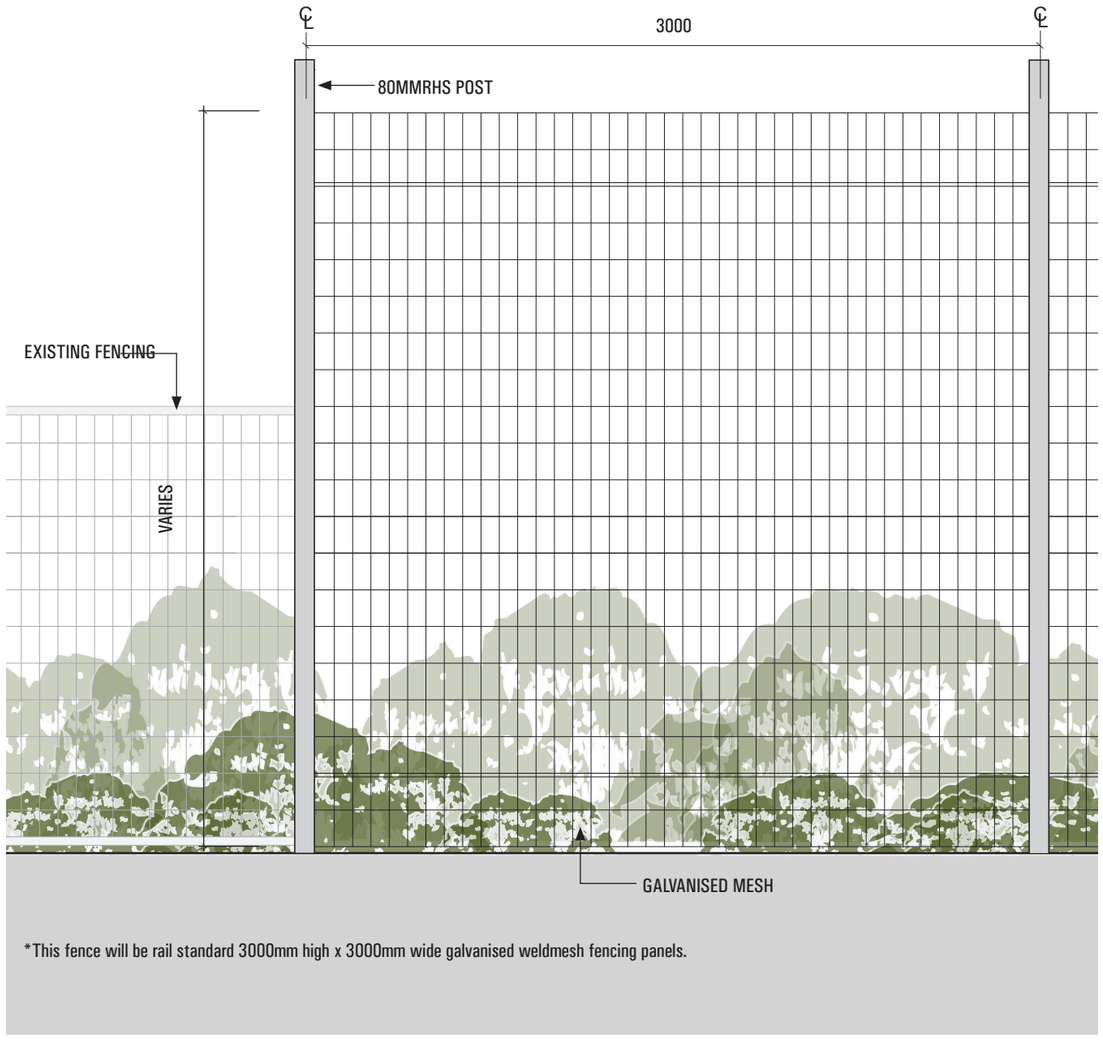


Figure 6-31 Indicative Elevation: Type 5 High Security Fencing

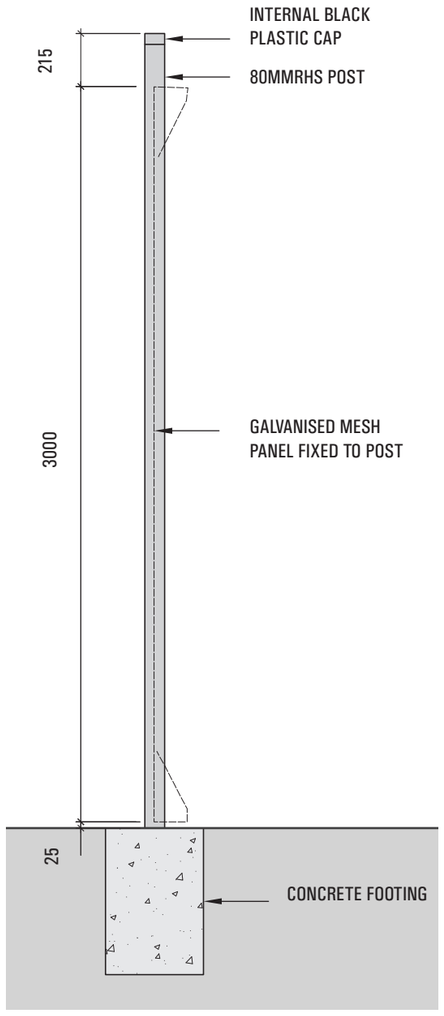


Figure 6-32 Indicative Section: Type 5 High Security Fencing

Figure 6-33 Type 5: High Security Fencing

6.3 Bridges

6.3.1 Introduction

The project requires upgrades to existing bridges and the construction of two new bridges and a viaduct. The existing bridges generally reflect the suburban character of their setting (with the exception of Copeland Road which has recently been upgraded) and will undergo modifications as a result of widening the western abutment below the deck to accommodate the third track. The new viaduct and bridge over the M2 are significant structures, each between 150m and 200m in length. These structures will have high visual accessibility and important interfaces with the existing M2 rail bridge, Devlins Creek and Beecroft Road.

6.3.2 Description

Two new bridges are proposed to cross the rail corridor, and four existing bridges upgraded. The bridges include:

- A new footbridge at Pennant Hills
- A new rail viaduct and bridge structure over the M2 Motorway
- Minor works to existing road bridges where additional cutting is required to accommodate the third track. Road bridges include Cheltenham Road, Copeland Road, Chapman Avenue, Pennant Hills Road.

6.3.3 General principles

As a guide, the RMS document Bridge Design Aesthetics has been referred to in developing the design for the new bridges and the upgrade of existing bridges. Design principles include:

- Treat bridges, approaches, embankments, retaining walls, screens, barriers and abutments as integrated elements
- Use a simple, cohesive and consistent design language
- Convey services / utilities through the structure or integrated within it so that it does not appear to be separately attached
- Minimise impact on adjoining vegetation
- Where possible, align vertical elements such as piers, light poles, joints, stanchions etc
- Materials will minimise maintenance and susceptibility to vandalism
- Where new bridges adjoin an existing bridge either match the bridges or design the new bridge to be complementary but different.

6.3.4 Components

Abutments

Abutments should be integrated with the bridge and adjoining landscape. New abutments are required at the M2 bridge and are proposed as spill through abutments stabilised with sandstone rock pitching below the bridge and landscaped batters to either side. This approach will re-use recovered sandstone and provide vegetation to match the broader native planting approach of the M2.

Piers

Refinement of piers should reflect the visual accessibility of the underside of the bridge structure. The proximity of piers to other structures is also to be considered and how they read as a group rather than isolated elements.

The piers for the new M2 bridge are in close proximity to the existing rail bridge and on a different alignment. To avoid visual clutter in this situation the new piers and headstock will be designed as integrated structures with a precast cladding to encase them so that they read as one single element. Horizontal rebates will also be cast through the pier to offer a higher level of refinement.

Parapets

Bridge parapets should be designed with consideration to slenderness. In the case of the new M2 bridge the superstructure design is driven by its function; however, the upper edge (1m width) could be painted a dark colour to provide a focus and reinforce the length of the structure and not the thickness.

Screens, rails, barriers and fences

Where possible, screens, rails and barriers should be integrated as single elements. For this project, however, the principle is to retain existing bridge rails and barriers and retro-fit new structures such as anti-throw screens as shown in Figure 6-27. One of the advantages of this approach is that the low white rails on the existing bridges can be retained and incorporated into the new design.

Junctions of barriers and fences, particularly at bridges, is also to be coordinated to ensure that abrupt changes in direction or height are avoided.

Lighting

Lighting is best integrated with bridge structures and this may be delivered by: aligning vertical elements of the bridge such as light poles and piers or by integrating lighting into handrails which is proposed for the new Pennant Hills footbridge.

6.3.5 Existing bridges

Cheltenham Road Bridge

The existing bridge (refer Figure 6-37), provides a low key crossing of the railway within a suburban setting. It is adjoined by dense, informal, native vegetation above the abutments, and the barriers are simple white rails with verticals. The existing bridge complements the existing landscape setting.

A revised concept design for the new Cheltenham Station building has changed the function of this bridge to now be the entry to the station via a new concourse adjoining the bridge. The key considerations are:

- Integrating the existing barriers with new screening requirements
- Using the architectural details and finishes in the new screens and barriers to reinforce the bridge as the station entry
- Providing a neat junction with screens and barriers with precinct and boundary fencing
- The bridge has an arched vertical alignment and therefore the paving junction with the concourse and the footpath require careful consideration.

Copeland Road Bridge

This existing bridge (refer Figure 6-38) has been recently upgraded and includes standard RMS-style barriers and anti-throw screens.
The proposed works are to the abutments for this bridge and therefore not visible at street level.

Chapman Avenue Bridge

The existing bridge (refer Figure 6-39), is similar to the Cheltenham Road Bridge in terms of design and the way in which it complements the suburban setting. It is also adjoined by informal native vegetation above the abutments, and there is a transition fence of weldmesh to adjoin the bridge rail which also complements the landscape character. Key considerations include:

- Provision of anti-throw screens while retaining the existing bridge rails as per Cheltenham Road Bridge
- Junction of perimeter fencing and bridge rails.

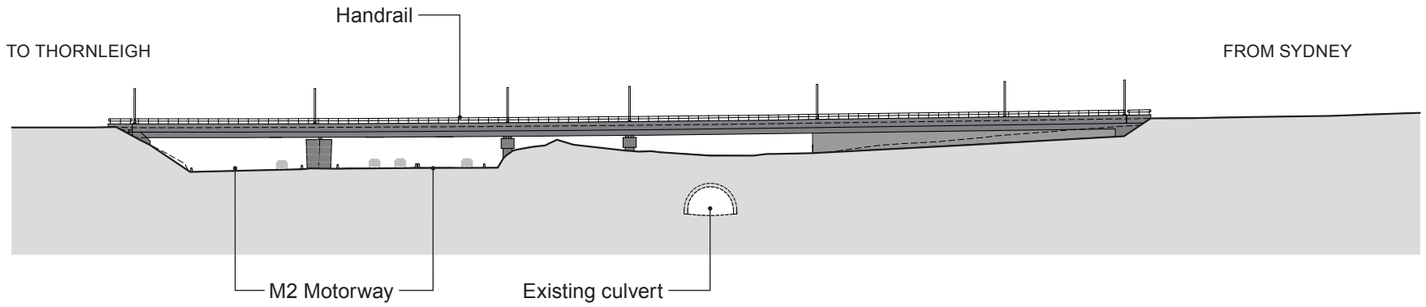


Figure 6-34 M2 Bridge section veiw from Beecroft Road

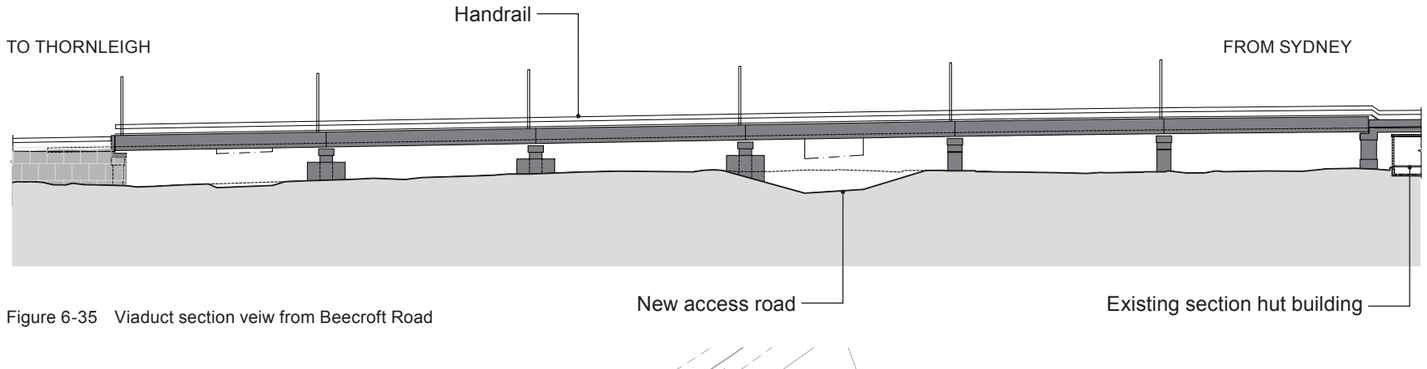


Figure 6-35 Viaduct section veiw from Beecroft Road

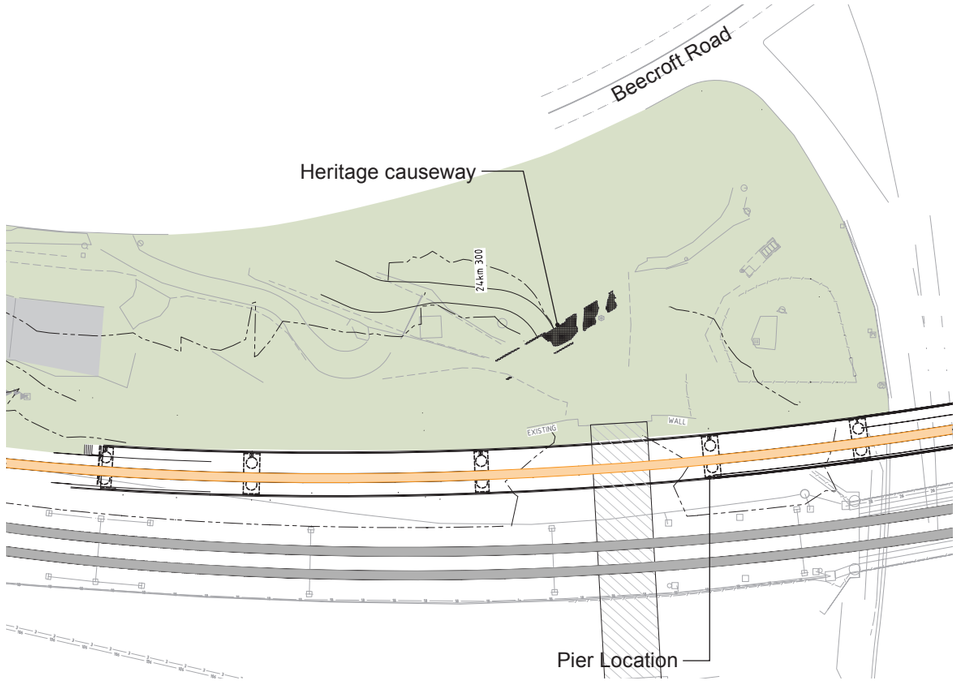


Figure 6-36 Causeway

Figure 6-37 Existing Cheltenham Road Bridge, Cheltenham

Figure 6-38 Existing Copeland Road Bridge, Beecroft

Figure 6-39 Existing Chapman Avenue bridge, Beecroft

Figure 6-40 Existing Pennant Hills Road, Pennant Hills

Pennant Hills Road

It is proposed to excavate the abutment below the road bridge to accommodate the third track. Currently the bridge has a similar bridge rail (barrier) to that at the Chapman Avenue and Beecroft Road bridge (refer Figure 6-40). A kerb is used to separate pedestrians from the carriageways and an additional pedestrian rail (barrier) has been added on the south side.

Key considerations include:

- Provision of anti-throw screens
- Junction of perimeter fencing and bridge rails.

6.3.6 New bridges

Viaduct fly over and Bridge over M2 Motorway

Two structures are located in the vicinity of Devlins Creek. The viaduct runs parallel to Beecroft Road and finishes south of Devlins Creek. The new bridge over the M2 spans over Devlins Creek and the M2, and terminates on the northern side of the M2.

Key considerations include:

- Visibility of the piers from Beecroft Road and the M2 Motorway, particularly in relation to the proximity of the piers from the existing rail bridge
- Devlins Creek causeway, culvert and associated vegetation.

Figure 6-41 New pedestrian footbridge at Pennant Hills

Pedestrian footbridge, Pennant Hills

The existing footbridge at Pennant Hills is proposed to be removed and replaced with a new bridge. The new pedestrian footbridge is longer than the existing bridge to accommodate the third track and therefore as a new bridge it is required to be designed to current Australian Bridge Standards. Key considerations will include:

- These Standards require the bridge to be designed to a number of loading conditions such as potential impact from trains hitting the support
- The existing bridge must remain in operation until the new bridge is completed
- To keep disruption to a minimum the bridge is also designed to be prefabricated off site so it can be lifted into place, therefore keeping the existing bridge in operation for the majority of the time.
- The landing space at either end of the bridge and pedestrian circulation in these areas
- The proximity to the station building and developing a design that fits with the streetscape and functional requirements rather than trying to match the architecture of the station or other buildings.
- The truss design is appropriate for a bridge with these requirements and the architects have designed patterns using the mesh and alternaitng sections of glass to add a higher level of refinement to the design, refer Figure 6-43
- The Yarrara Road frontage is impacted by the bridge and new ramp structure however a minimum footpath width of 3m has been maintained along with small tree planting to optimise pedestrian amenity.

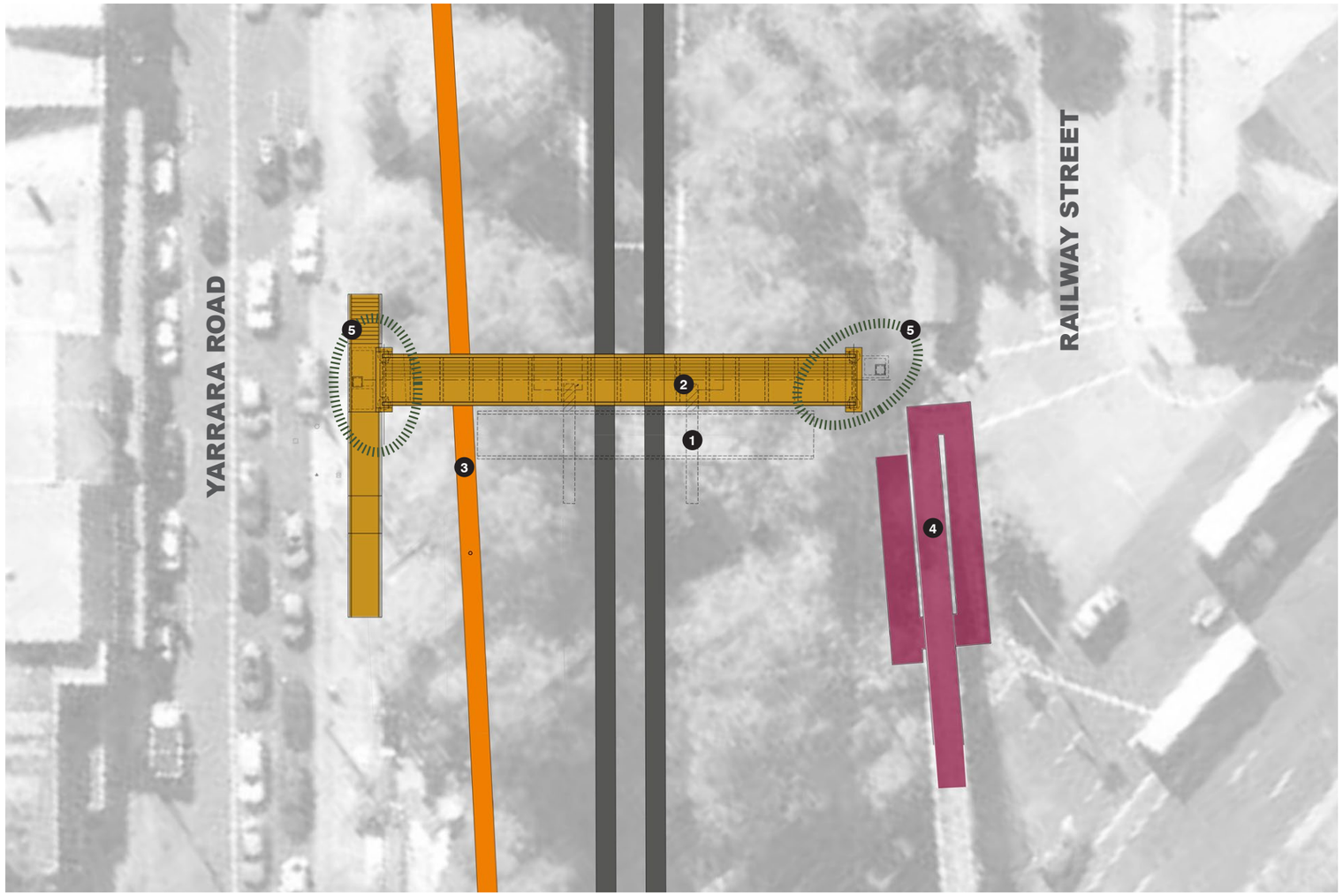


Figure 6-42 Pennant Hills footbridge replacement

Legend

1. Existing footbridge
2. Proposed footbridge (note: concept alignment has been amended to follow alignment of existing footbridge)
3. Proposed third track
4. Existing access path (Pennant Hills Road footbridge)
5. Key consideration includes circulation at ends of bridge

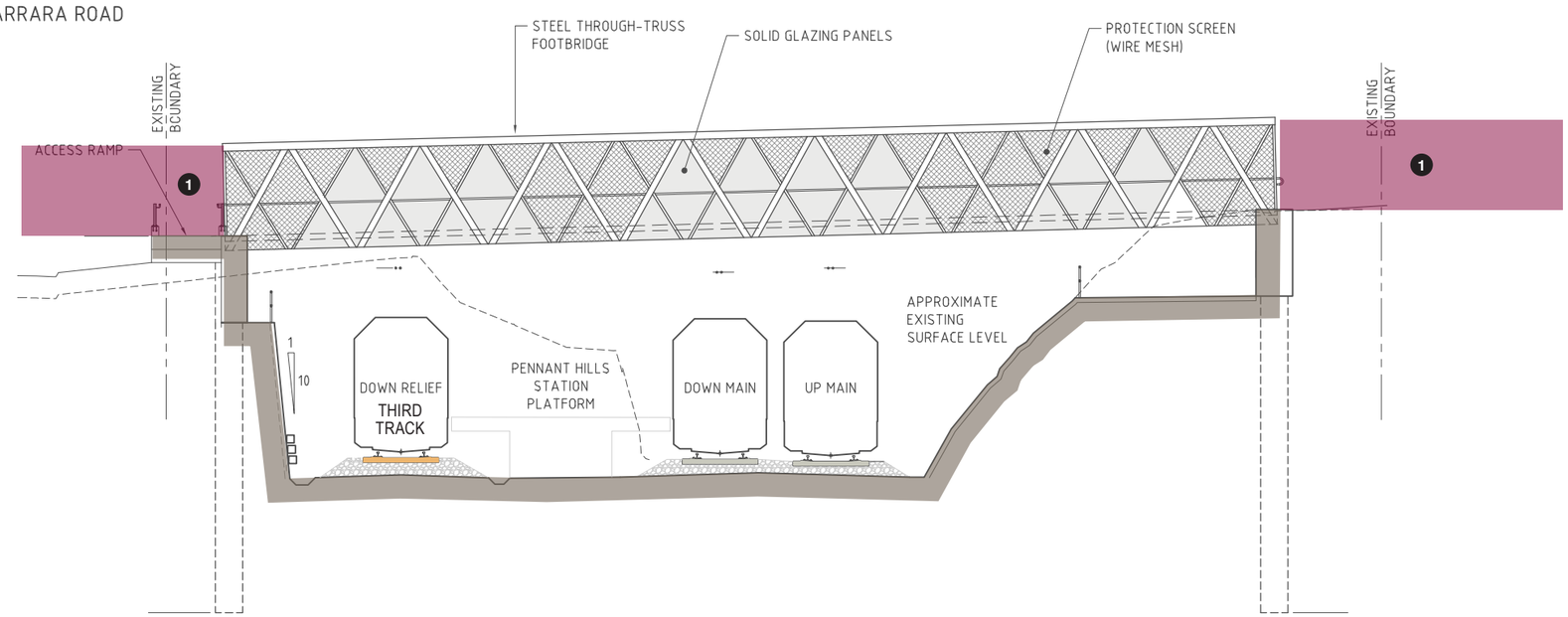


Figure 6-43 Pennant Hills footbridge replacement

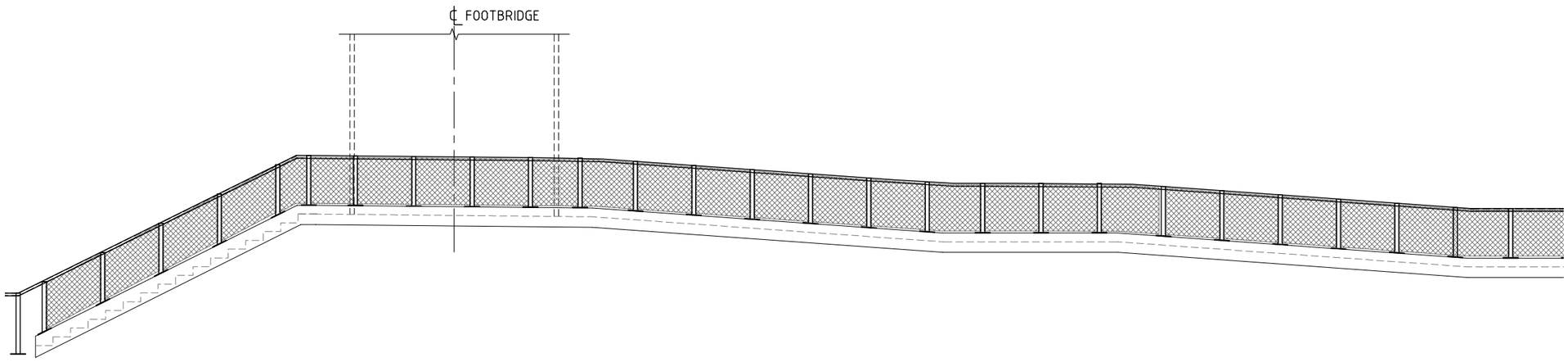


Figure 6-44 Yarrara Road Elevation to new footbridge

Legend

1 Key consideration is the transition between anti-throw screen, pedestrian balustrade and perimeter fencing

It is proposed to provide architectural refinements to the footbridge in line with the development of the architectural design for the Pennant Hills Station concourse

Figure 6-45 Penneant Hills footbridge

6.4 Water sensitive urban design

6.4.1 General principles and approach

- Provide an integrated approach to WSUD with the landscape and civil designs
- Identify opportunities to incorporate WSUD within the corridor (longitudinal drainage), adjacent catchments (transverse drainage) and the station precincts with consideration to standard Sydney Trains practice and Council policies (refer Figure 6-13 for typical applications of WSUD).

6.4.2 Opportunities

Within the corridor (longitudinal drainage)

Track drainage for at-grade sections will typically consist of slotted pipe or open cess depending on space and level constraints. Slotted pipe and ballast cages will be used as a first preference to stop litter, sediments and other pollutants from entering the drainage system.

Within station precincts

Where practicable the following opportunities will be investigated:

- Bioretention (raingardens) located in landscaped areas to treat carpark runoff (refer to Figure 6-46 and Figure 6-49 for examples)
- Tree pits (small bioretention pods) to treat carpark runoff (refer to Figure 6-48 for example)
- Permeable (porous) pavement to provide filtration of carpark runoff
- Proprietary devices with nutrient removal capability (e.g. Stormwater 360 Storm Filter) that can be located underground within stormwater infrastructure (e.g. within on-site detention facilities)
- Gross pollutant traps (GPTs) at end of line or at source.

Consideration of incorporating WSUD within the station precincts would include:

- Grading of pavements to facilitate passive irrigation of trees and planting around station precincts
- Incorporation with the minor (pit and piped) and major (overland flow) stormwater systems
- Coordination with on-site detention requirements (note: elements such as bioretention may contribute to part of the storage requirements, depending on extended detention)
- Safety and pedestrian movement.

Figure 6-46 Example of a bioretention basin situated in a street median at Victoria Park, NSW

Figure 6-47 Example of a bioretention basin in a streetscape verge, Melbourne, Victoria

Figure 6-48 Example of a tree pit (small bioretention system) separating carparking spaces in a streetscape at Pyrmont, NSW

Figure 6-49 Example of a tree pit (small bioretention system) collecting water (via kerb inlet piping) from a carpark in New Zealand

6.5 Corridor planting and revegetation

This section of the UDLP presents the landscape rehabilitation, protection and revegetation strategies developed from the site analysis, review of the submissions report and other technical requirements such as geotechnical conditions, rail safety, drainage and maintenance standards. The whole of corridor approach is focused on delivering a sustainable and cost effective landscape solution appropriate to the function of the rail corridor and suburban interface that occurs along the length of the works.

The existing corridor exhibits a visually dominant bushland character. As a result of the works to accommodate the new third track, some existing remnant bushland within the corridor will be removed. The landscape approach aims to reinstate this bushland character as much as possible, given rail safety, operation and maintenance requirements.

General urban and landscape design principles for the key structural elements such as bridges, fences, retaining walls and cuttings are described in this Section and Station Precincts are described in Section 3.

6.5.1 General principles

1. Conserve, and where possible enhance the bushland character of the rail corridor between Epping and Thornleigh stations.
2. Conserve all bushland remnants within the corridor that are not impacted by the works.
3. Landscape restoration treatment within the rail corridor is to be limited to those areas that are disturbed.
4. Where restoration areas abut areas of existing substantial weed communities that will not be subject to landscape treatment (and therefore likely to quickly overrun restored areas upon completion of the plant establishment period e.g. by smothering with Balloon Vine), reinstate these areas with a low cost pasture grass mix that quickly stabilises the area in the interim.
5. Provide an integrated landscape / WSUD approach to the landscape restoration of the corridor.
6. Tree planting within the corridor is to be restricted to locations that are at a distance from the rail line and associated infrastructure (e.g. overhead gantry wires) greater than the expected mature height of the tree species (Transport for NSW requirement).
7. Reinstate low maintenance, low height planting (generally no more than 4m in mature height) to locations that will be disturbed as part of the works, using species from adjacent bushland communities.
8. Provide a native grassland suite of species to areas that are disturbed and required to be accessible by vehicle or by foot, as appropriate.
9. Planting should provide replacement screening from adjacent residential areas over time (note: the new down relief line will generally be between 6 - 15m closer to these residences than is currently the case).
10. All plant species to be planted within the corridor as part of a bushland restoration process should be grown from seed or cuttings of local provenance.
11. Where bushland species are proposed to be planted, design to achieve a moderate to high level of resistance to weed colonisation by completion of the plant establishment period.

6.5.2 EECs

1. Reinstate species consistent with STIF and BGHF adjacent to where these communities occur either within the rail corridor or adjoining road verges.
2. Where no existing remnant bushland communities are present in areas proposed for landscape restoration, determine appropriate plant communities based upon factors such as soil type, slope and drainage (e.g. BGHF within areas of deep clay soil derived from shale; STIF close to the shale / sandstone boundary on the more fertile shale influenced soils).
3. Assess the resilience of EECs for stripping and re-use of topsoil / seed bank – re-use site bushland topsoil where practicable in areas close to where it was stripped.

6.5.3 Low maintenance landscape

1. Design rail corridor bushland restoration treatments to be low maintenance and self-regenerating, using both a bush regeneration approach and robust landscape reconstruction methods (e.g. planting of high species diversity; high density cell-size plantings; and mulch).
2. Where practicable, manage the corridor using bush regeneration methods, which provide for diminishing management of resources over time, and result in an end point of long-term low maintenance inputs.
3. Provide robust, low maintenance planting boundaries between bushland and cultural plantings.
4. Where practicable, provide low maintenance, robust native ground covers to areas that would currently typically be treated with dryland pasture grasses (exotic grass mix), with the aim of reducing weed colonisation sources to adjacent bushland; the need for slashing within the corridor; and increasing the visual amenity / reinforcing the bushland character of the corridor for rail users.
5. Provide a plant establishment period of 24 months to facilitate the most robust and weed resistant practicable restoration outcomes prior to hand over to Sydney Trains or Hornsby Shire Council as applicable.

6.5.4 Bushland character

Where practicable, the bushland character of the rail corridor will be conserved and reinforced (within and adjoining the corridor), using the following principles.

Cuttings

- Where practicable, create cuttings to angles that facilitate naturally stable faces that do not require reinforcement such as shotcrete or soil nails (note: this approach is likely to only apply in sandstone cuttings)
- Where cutting faces do require reinforcement:
  - Maximise the extent of exposed rock
  - Minimise the use of shotcrete and soil nails
  - Encourage the retention of natural drainage to facilitate the colonisation of native species within the rail corridor, including through the rock face to encourage natural colonisation of native species to rock faces, e.g. Epacris and ferns.
- Where practicable, keep the cuttings looking as natural as possible.

Soil batters

Where practicable, lay soil batters at 1V:3H or flatter to optimise planting and maintenance outcomes.

Safety

- Make provision for ease of safe access and management within the rail corridor.
- Facilitate safe management of bushland areas to the tops of cuttings with an integrated approach to fall danger, e.g. regular harness points or a handrail along cutting edges.

Tree protection

- Undertake a tree survey to identify all trees proposed for removal / retention (if not already undertaken)
- Undertake an arboreal assessment of all trees proposed to be retained within close proximity to the works, to inform the construction process (particularly to identify trees that are currently proposed for retention, but that are not likely to survive the construction process)
- Include liaison with Sydeny Trains
- Provide physical protection methods during the construction period for trees to be retained.

6.5.5 Maintenance and monitoring

Maintenance of assets

The following addresses the maintenance and operation requirements of new permanent assets relating to urban and landscape design components of the ETTT by the Alliance until satisfactory arrangement have been put in place for the transfer of the asset to the relevant authority. The maintenance activities outlined below have been prepared in accordance with, and to satisfy, the requirements the Maintenance Standards contained within the following;

- TfNSW Specifications, including;
  - EMS-09-TP-0066 – Revegetation Technical Specification
  - EMS-09-TP-0095 – Station Garden Bed Technical Specification.
- RMS Specifications;
  - RMS QA specification M321 – Landscape Maintenance
  - RMS QA Specification M322 - Landscape Restoration
  - RMS QA Specification M700 – Bridge and Tunnel – Routine and Minor Rehabilitation (to be coordinated with any Structural Requirements).
- Relevant Local Council Specifications / Requirements.
  - Hornsby Council.

Consideration and coordination with the current Landcare and Land Management Groups working adjacent to the corridor is required in the maintenance of project assets.

The maintenance of assets should promote a standard approach to the ongoing management of areas, both in technique and frequency.

The maintenance and operations activities can be divided into the following:

1. General maintenance requirements to all areas along the Rail Corridor and at Station Precincts.
2. Maintenance requirements to seeded / turf areas along the Rail Corridor and at Station Precincts.
3. Maintenance requirements to mass planted areas along the Rail Corridor and at Station Precincts.
4. Maintenance requirements of permanent structural elements and at Station Precincts.

1. Maintenance and inspection activities relevant to all areas along the Rail Corridor:

- Watering – as required to germinate seed and maintain healthy plant / turf growth. Ensure that a distinct level of moisture in the soil is maintained at all times during this Post-completion Maintenance Period and that plants do not dry out during this period
- Pruning of vegetation for safety – as required to maintain operation sightlines and to ensure limbs do not obstruct or interfere with line controls. Carry out all pruning in accordance with AS 4373
- Noxious weed control – Inspection of planted and turf areas shall be carried out on a monthly basis to ensure planted and turf areas are maintained in a weed free condition. Prevent reproduction of weeds by destroying seedlings and established weeds before seed set or other propagates develop
- Removal of rubbish – as required remove all litter and debris from all areas within the Rail Corridor
- Fungal and inspect attack – Inspect plants monthly for disease and insect infection. If required determine treatment required and apply in accordance with manufacturer's recommendations
- Auditing and reporting – inspect the entire Rail Corridor and provide monthly audit and report on maintenance and additional maintenance requirements.

2. Maintenance and inspection activities relevant to seeded / turf areas along the Rail Corridor:

- Mowing and edging – mow all turf areas within Rail Corridor when grass height exceeds 100mm
- Replacement of damaged or dying turf – ensure turf areas are watered as required, establishing and maintaining healthy growth. Water daily during the first 2 weeks of installation. Remove damaged or dying turf areas as required
- Management of tree planting in turf – ensure watering basins are maintained to a diameter of 1000mm around the base of trees. Watering basins shall contain minimum 75mm depth of mulch as specified. Replace damaged or broken stakes and tie as required and remove stakes and ties once tree has established consistent with the requirements of the specification
- Weed control in turf – prior to mowing, inspect turf to ensure it is kept in a weed free condition.

3. Maintenance and inspection activities relevant to mass planted areas along the Rail Corridor:

- Weeding of planting beds - inspection of planted and turf areas shall be carried out on a monthly basis to ensure planted and turf areas are maintained in a weed free condition. Prevent reproduction of weeds by destroying seedlings and established weeds before seed set or other propagates develop
- Mulching – ensure mulch is kept to minimum depth of 75mm. Maintain an adequate and consistent level of mulch across the entire planting bed to maximise water conservation and weed suppression.
- Removal of dead / dying plant material – remove and replace dead or dying plant material as required
- Ongoing replacement planting –replace failed or damaged plants. Densities, sizes and species used are to be in accordance with those specified in the landscape plans
- Maintenance and upkeep of tree guards and stakes – replace tree guards and stakes as required and permanently remove stakes and ties once trees are established consistent with the requirements of the specification
- Fertilising and pruning – as required.

4. Maintenance and inspection activities of permanent fixtures and structural elements along the Rail Corridor:

- Fences and safety screens – as required, ensure that all posts, fence panels and fixings as required ensuring the Rail Corridor is not prone to trespassing
- Retaining walls – shotcrete, precast concrete panels, in-situ concrete walls
- Finishes to the Works will be selected to facilitate the easy removal of graffiti.
  - The ETTT Project has consulted with Sydney Trains to review and advise on the proposed finishes to the Works to minimise the potential for graffiti and the need for subsequent maintenance activities. This work will be undertaken and consolidated with the production of a comprehensive graffiti management plan, which will form part of the project Manual to be provided as part of the Asset Management Manual.

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Appendix A
Relevant standards

Appendix A – Relevant standards

The following standards, guidelines and approvals are applicable to the UDLP and will be satisfied accordingly:

(i) RMS / Austroads Specifications

- Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles
- Austroads Guide to Traffic Engineering Practice Part 11 – Parking
- Austroads Guide to Traffic Engineering Practice Part 13 – Pedestrians
- RMS NSW Bicycle Guidelines
- RMS NSW Bridge Aesthetics Design Guidelines
- RMS NSW Shotcrete Design Guidelines
- RMS NSW Noise Wall Design Guidelines
- RMS Road Design Guide
- RMS R11 NSW RMS Standard –Stormwater Drainage
- RMS R15 NSW RMS Standard – Kerbs and Gutter
- RMS R32 NSW RMS Standard – Sub Surface Drainage
- RMS R44 NSW RMS Standard – Earthworks
- RMS R141 NSW RMS Standard – Pavement Markings
- RMS R143 NSW RMS Standard – Signposting
- RMS R151 NSW RMS Standard – Street Lighting

(ii) Transport for NSW Policies & Standards

- Transport for NSW Crime Prevention Through Environmental Design
- EMS-09-PR-0012 Erosion and Sedimentation System Procedure
- EMS-09-PR-0014 Landscape and Visual System Procedure
- EMS-09-PR-0017 Pesticide System Procedure
- EMS-09-TP-0063 Biodiversity Management Plan
- EMS-09-TP-0064 Transport for NSW Bush Revegetation Technical Specification Template
- EMS-09-TP-0065 Weed Control Technical Specification Template
- EMS-09-TP-0066 - Revegetation Technical Specification
- EMS-09-GD-0067 - Vegetation Management in the Rail Corridor
- EMS-09-GD-0068 - Sowing Guide for Disturbed Site Stabilisation
- EMS-09-GD-0069 Transport for NSW Pest Animal Guide
- EMS-09-GD-0070 Common Rail Weed Identification Guide
- EMS-09-WI-0071 Transport for NSW Bushfire Hazard Reduction
- EMS-09-FM-0072 Tree Monitoring Form
- EMS-09-GD-0074 - Revegetation Guide
- EMS-09-TP-0095 - Station Garden Bed Technical Specification
- EMS-09-WI-0071 Transport for NSW Bushfire Hazard Reduction
- EMSF05 - Biodiversity Framework - Appendix 2 - Revegetation Treatments
- EMS-12-PR-0008 Environmental Impact Assessment System Procedure
- ESB 000-004 Engineering Standard Stations and Buildings – Station Design
- Transport for NSW Bush Regeneration Technical Specification Template – EMS-09-TP-64
- Transport for NSW – Stations, interchanges and carpark signage standard - V1.0-2009
- Corporate Colour Scheme Manual
- Transport for NSW Engineering Standard - ESC 510 Boundary Fences
- Transport for NSW Engineering Standard - SPC 511 Specification Boundary Fences
- Transport for NSW Engineering Standard - ESB 003 Station Functional Spaces
- Transport for NSW Engineering Standard ESB 001 – Design Context and process
- Transport for NSW Crime Prevention Through Environmental Design
- RSS-001 2008 Transport for NSW Security Standards – Stations
- Transport for NSW - Lighting Standards
- G 4610 Management of Railway Heritage
- C 4000 Design Requirements for Underbridges, Overbridges and Footbridges
- ESC 001 Civil System
- ESC 210 Track Geometry and Stability
- ESC 215 Transit Space
- ESC 300 Structures
- ESC 320 Overbridges and Footbridges
- ESC 350 Retaining Walls and Platforms
- ESC 360 Miscellaneous Structures
- ESC 510 Boundary Fences

(iii) Project Related Documents / Briefing Documents

- PSC2001 Services Brief (Version 3)

(iv) Australian Standards

- AS 1428 Design for Access and Mobility Parts 1 and 2
- AS 2890.1-2004 Parking Facilities – Off Street Parking
- AS 4292.1-2006 Railway Safety Management Part 1: General Requirements
- AS 4373-2007 Pruning of Amenity Trees
- AS 4419 Soils for Landscaping and Garden Use
- AS 4454 Composts Soil Conditioners and Mulches
- AS 5100.1-2004
- AS 5100.1 Supp 1-2006
- BCA National Construction Code (NCC) - Building Code of Australia 2011
- National Standard for Construction Work
- National Standard for plant

(v) Department of Planning and Infrastructure

- Environmental Impact Statement (EIS)
- Submissions Report
- Conditions of Approval (COA)

(vi) NSW Police

- Crime Prevention through Environmental Design standards

Appendix B
Community feedback before public exhibition

Appendix B – Community feedback before public exhibition

The *March 2013 Submissions Report* documents and considers all the submissions received and outlines response to them while the below table includes feedback received since the publication of the Submissions Report.

Community comment/suggestion	Response/s	Section of UDLP
• Beecroft and Cheltenham are traditional / established areas so it makes sense to maintain this look. When you mix up styles the result is usually unattractive. • I think Beecroft precinct would suit an older style in keeping with the "village" feel and lovely older homes. Cheltenham perhaps also to an extent. Pennant Hills could have a more modern feel. • Love the use of colour and layering for planting at the station and carparks and between stations. The mix of colour and indigenous plants will be great. Retaining the character of Cheltenham, Beecroft and Pennant Hills with a welcoming, classic, time enduring look is preferred. So the mix of metal and wood helps to keep the station furniture welcoming. And round finishes to fences are more welcoming than spikey ones.	• The UDLP is developed with the aim of minimising impacts to the character of the localities. This would be achieved through careful selection of materials for new infrastructure and a landscaping strategy which would ensure screening is provided where possible. The UDLP keeps in line with local values and preferences and minimises the project's environmental footprint. • Cheltenham Station was redesigned in response to community feedback which highlighted that the community value the existing stations heritage look and feel, small scale, modest appearance, vegetation, gardens and rock cuttings. • Minimal modification works are being undertaken to Beecroft Station with the extension of the pedestrian underpass the only major modification to the station. • Community feedback was considered for the Pennant Hills Station extension including impact on Yarrara Road, station roof and canopy design and landscaping. • The architectural design philosophy does however seek to make clear which structures are new, while at the same time preserving and enhancing pre-existing structures, especially heritage ones, where possible. This is felt to be more 'honest' than an approach where new structures were made to look 'old'. • We would like to hear the community's feedback on this approach.	2 3.3 3.4 3.5
• The proposed design of the new Cheltenham station is revolting. Not keeping with the surrounding character of the suburb at all and is visually unattractive. Please redesign it! Also, the street signs in Beecroft and surrounding areas are unattractive. See suburb signs in the New England area (e.g. Annandale).	• A lot of feedback was received regarding the design of Cheltenham Station. The station has been redesigned in line with suggestions made by the community through the EIS submissions process. • The new Cheltenham Station design now includes a smaller concourse adjacent to the road bridge rather than the originally-proposed concourse along the mid-length of the platforms. This has reduced the bulk and scale from what was originally proposed, and will fit better into the existing topography as the new concourse will be partly within the cutting.	3.3
• Essential that conservation of Beecroft Village atmosphere/amenity be preserved through substantial tree plantings, screening of car parks and preservation of historical Bunya Pines near children's playground.	• The EIS outlined the potential removal of the two Bunya pines on the eastern edge of Beecroft Station Gardens. The trees will only be removed if it is necessary to do so. Further work is underway to investigate the suggestion of eliminating the proposed catch drain from the design, which is required by engineering standards. During construction an arborist will also carry out inspections to determine if the pines can be saved. The four remaining Bunya and Hoop pine trees along the western edge of the park, which assist in maintaining the landscape qualities of the park and the visual connection with the original gardens, will not be affected. • Due to space restrictions, there is no opportunity to screen the Carpark however screen planting is proposed along the fence line at the Beecroft Station Gardens • The underpass extension will be built with bricks sympathetic to the existing architectural design. Also, in accordance with the CoA, heritage interpretation signage will be installed at the station.	3.4

Community comment/suggestion	Response/s	Section of UDLP
• Please do not turn Pennant Hills Station, a modern progressive station into an archaic, ancient replica like proposed for Beecroft and Cheltenham stations. • The challenge is to provide modern facilities while maintaining the character of the assets. I believe this can be achieved by careful selection of furniture, landscaping and choice of building materials that keep with the area. • We want an attractive area with plants, benches and a bus stop at Pennant Hills on or near the station at Yarrara Road. This is so that people who live at Pennant Hills can enjoy a pleasant area to walk and sit etc. not just an ugly view of a railway track. We already have to put up with Pennant Hills Road and large volumes of trucks and cars. We want the view and environment to be preserved to look after the natural environment.	• Significant effort has been put into the design of the station precinct in order to limit the footprint of the works wherever possible. • Planting of street trees is proposed along Yarrara Road in order to return some vegetation to this area following removal of the existing vegetation. Garden beds will also be installed at some locations along the new fenceline. • The concourse extension has been designed to continue the existing roof line and retain the clocktower while at the same time ensuring that the new infrastructure has a modern appearance. • The existing roof colour at Pennant Hills is a discontinued product and has weathered since it was installed. It is therefore not considered possible to effectively match the colour especially when the effects of continued weathering are taken into account. It is considered more appropriate and architecturally honest to clearly show the junction between old and new architecture by means of a clearly different roof appearance, designed and built to modern high quality standards. This is standard architectural practice where existing buildings are being extended. • During initial design development following the EIS concept design, it was identified that the clock tower might have to be removed in order to simplify construction methodology. The project team have devoted design effort to retaining the clock tower as it is seen by many as a landmark of the area and the station itself and reflects the triangle design motif typical of the area. • The selected furniture is in line with the community preference outlined during the April 2013 consultation.	3.5
• Would be good to emulate some of the beautifully kept gardens on some of the North Shore stations. Our selections of plants are on the basis of them being tiered. When re-doing street directions refer to Sutherland ROAD not Sutherland street (at exit from Beecroft Station).	• The new stations will not look like the North Shore Stations. These stations reflect their original construction and development of gardens and landscaping since that time. New works at Cheltenham, Beecroft and Pennant Hills stations will have a modern appearance while remaining sympathetic to the existing character.	3.4
• Any work on Cheltenham Station, especially the introduction of a new entrance off the road bridge should be done in a very conservative manner, sympathetic to the current local atmosphere and surrounding heritage / period homes.	• In response to community feedback, the station has been re-designed in line with this feedback and other concerns from the community. It now contains a smaller concourse adjacent to the Cheltenham Road Bridge that will span the two existing tracks only. The new smaller concourse closer to the bridge is intended to minimise the visual impact from the new concourse and the overall bulk of the station. While the size and scale of the new concourse has been altered it will not look like the surrounding homes. • The ceiling of the new concourse canopy will be clad in timber in order to reflect the existing look and feel of the area. • The existing footpath railings on the bridge will be retained, except where the new concourse joins to the bridge.	3.3

Community comment/suggestion	Response/s	Section of UDLP
• Some nice sculptural, shady trees would be great at train stations. • In a leafy area like the northern line it is important to have as much hardy greenery as possible. • Bush regeneration and gardens near the station and carpark should be kept as natural/bushland as possible rather than formal structured gardens. • Use native plants in all areas. • Please use plants that are native to the local environment. • I think native plants, bushes and trees are preferable to introduced species - less maintenance and pruning • If tall flowering shrubs are planted at car parks and stations people don't see blossoms, therefore the beauty is not seen as clearly. Also too high to trim easily and makes for more maintenance work. • Make sure there is a weeding program. Lovely plants disappear under taller, aggressive weeds. • Regarding the plant choices - I have reservations about using the Westringia and Grevillea, not because I don't like them but as they age they become quite woody and unattractive unless they are pruned. Perhaps Callistemon or Lilly Pilly varieties would age better. • As much as I like big trees, they are not suitable in car parks. They can blow over in high winds. • I suggest advanced Turpentines (for screening) or the like surrounded by Purple Coral Pea but certainly NOT Blueberry Ash as they encourage fruit bats as we know from experience. • We have lost a lot of mature trees of late and will continue to lose them through this development. I would like to see indigenous trees brought to the shire and indigenous ground covers / shrubs planted with them used all along the track / stations etc. to encourage bird life etc. • Station and car park areas at Cheltenham and Beecroft should only have native plantings as they are so close to the National Park. • With regard to planting options, we think you would need a mixture of heights depending on the space available. In a car park you would need trees for shade, but you would need smaller plants for garden beds. Native plants would be preferable as they are hardy and need less watering. • Please preserve trees and natural habitat. • Who will maintain the plants, anyway? • Low profile bushes, we need some larger native trees to replace the many trees being removed by construction. There needs to be a commitment to bring visual amenity back to the pre-condition. • Landscape planting shouldn't compromise canopy Indigenous to the locality, plus mature planting consistent with the heritage character of the immediate neighbourhood. • I think it's important to make every effort to retain as much existing native vegetation, especially mature trees, as possible. • We need mature trees such as Radiata Pine was planted when the suburb was established	• Landscaping at stations is proposed to vary between cultural planting (e.g. ornamental street trees) and natives, to reflect the different parts of the station precinct. • Along the corridor, away from stations, natives are proposed. • In areas where formal gardens exist (e.g. Beecroft Station Gardens) the existing style will be retained. Vegetation removed as part of the proposal would be replaced wherever possible. • Vegetation removal is only undertaken where required. If a tree can be trimmed or lopped instead of removed, this will be undertaken. • Rehabilitation works involving weed control and planting of native vegetation would be undertaken at completion of construction by qualified bush regeneration contractors. • The community preference, following consultation, was for Grevillea, Coastal Rosemary, and Crepe Myrtle around stations and for Crepe Myrtle, Grevillea and Brush Box for commuter car parks. Along the rail corridor, Blueberry Ash was preferred, followed by Rough-Barked Apple and Sweet Bursaria • Due to popular community feedback, use of Bitter Gorse Pea and Blady Grass will be minimised, and Lily of the Nile will not be used. • Due to popular request by the community, use of Crepe Myrtles, Grevilleas, Coastal Rosemary, Brush Box and Rough Barked Apple will be maximised. • Planting of large trees is restricted by space availability, compliance with standards and proximity to the new third track. • Contractors will maintain plants for twelve months after they are planted and then responsibility for maintenance will transfer to the asset owners, either Sydney Trains and/or Hornsby Shire Council. • Radiata Pines cannot be planted because they are considered invasive to native bushland areas. Radiata Pines cause a reaction in the soil that prevent native trees, shrubs and plants from being able grow near the Radiata Pines.	3.1 3.3 3.4 3.5 6.5.5
• Brush box between the rail and road from Epping to Cheltenham would be an enhancement. • Please consider placement of (hopefully if design will allow) two brush box (Lophostemon confertus) trees to the northern end of Pennant Hills station. • The Brush Box is a very messy tree, always dropping leaves.	• Brush boxes are a preferred choice by the community and will be used on the ETTT Project where space allows. • Trees must be set back from the tracks a distance that is greater than their mature height for safety reasons. The northern end of Pennant Hills station (Yarrara Road), does not have adequate space to accommodate Brush Box (*Lophostemon confertus*)	3.1
• Planting needs to provide good ground cover to keep down weeds. A lot of natives can become very 'woody' is not trimmed regularly. This needs to be considered (e.g. grevillea and coastal rosemary need trimming).	• Extensive use of native grasses is proposed for the project and includes Grevillea and Coastal Rosemary. Vegetation will be maintained in line with Sydney Trains requirements.	3.1
• The urban design will make or break this project. The rail corridor needs to be heavily planted so as to hide the corridor as much as possible. What percentage of the overall budget has been allocated to landscaping?	• We are aware of the importance the urban design and landscaping aspect of the project are to the community. The landscaping for the project is not budget related but generated by available space, compliance with standards and design intent. • Planting of trees within the rail corridor is not possible, due to the problems this creates for rail service reliability, in particular due to damage to overhead wiring in storms or high winds.	3.1

Community comment/suggestion	Response/s	Section of UDLP
• What about some nice plants at Epping Station? • It would be a better experience for all people, whether pedestrians to and from the Epping train station, motorists waiting for light changes at Epping railway bridge crossing and lift the spirits of everyone to see a sustainable garden planted from the railway bridge crossing back along Blaxland Road. Lily of the Nile (Agapanthus) and Native Flax Lily would be suitable. And how much better to the passer-by than the neglected area we now see.	• There is no landscaping proposed at Epping Station as it is not being modified in any significant way as part of the ETTT Project. Landscaping is undertaken in areas affected by the ETTT Project works.	N/a
• Please consider planting at Thornleigh railway station as well as along the corridor where the third track already exists. • What about Thornleigh station? It's a mess!	• There is no landscaping proposed at Thornleigh Station as the scope of works for the ETTT Project stops just south of the station, at the Wells Street Bridge. Landscaping is undertaken in areas affected by the ETTT Project works.	N/a
• A spectacular Cedrus Libani once grew on the western entrance to Pennant Hills station, perhaps these trees could be planted along the rail corridor?	• Low maintenance native species are proposed to be used and *Cedrus libani* is not included.	3.1 3.5
• Grevilleas are very hardy but can cause allergy to skin.	• Grevilleas are preferred by the community and their use will be maximised where possible. Grevilleas are members of the Proteacae family and are the main native plants implicated in contact dermatitis cases. The plants are very hardy and require minimal maintenance. A review of the proposed planting locations will be undertaken to ensure that plants are located in places where they can be viewed rather than immediately adjacent to walkways and or play areas.	3.1 3.3 3.4 3.5
• Large trees such as Canary Island Date Palms would give a heritage look.	• The ETTT Project will retain the Canary Island Date Palm at Cheltenham Station (by relocating it nearby) due to its significance to the community. • In both NSW and Victoria, Canary Island Date Palms were used in numerous parks and gardens and avenues as a cultural planting. There are numerous heritage listings of Date Palms on the NSW Government Environment and Heritage web page. While this plant has been planted extensively it has also become a garden escapee into bushland. Pittwater Council has placed the Palm on its undesirable tree list because of its threat to bushland. This species is nominated as an 'environmental weed' not a noxious weed, which state law requires control. • There are a number of bush care groups and bush regeneration groups working along the corridor and is this case we believe that it would be prudent to not include Canary Island Date Palms in the planting scheme. The planting scheme does look to build on the heritage theme of the area using species that provide no potential threats to the adjacent bushland communities.	3.1 3.3
• Does Blady grass become a weed problem?	• Blady grass (*Imperata cylindrica*) is a native grass species. It is a densely growing rhizomatous (growing from underground horizontal stems that send out roots and shoots from nodes) that can cover large areas. It is recognised as being an extremely hardy species. It is reasonably common in the Hills Shire and Hornsby council locality. It also provides habitat and food source for many species of butterfly. • In bushland management Blady Grass is often used as buffer edge plant between disturbed weedy areas and remnant bushland. It is not expected to become a weed problem.	3.1
• Elaeocarpus ret. Grows to 15m and seeds/sprouts prolifically (too invasive)	• This genus and species are endemic to the local bushland vegetation types. It has been grown commercially by nurseries in Sydney for its many attributes. It would be a very rare case that a specimen grows to 15m. General maximum height would be 8 to 10m. As a street tree it is recommended in a number of publications as a useful Small Street Tree however it is not proposed around the stations.	3.1

Community comment/suggestion	Response/s	Section of UDLP
• Angophora grows to 30m - big tree - branch dropper in future years • Angophoras - can be dangerous with sudden breaking/dropping limbs. Blady grass can look 1/2 alive and is easy to burn.	• *Angophora* trees have only been selected for areas along the corridor and as the interface with existing bushland near Cheltenham Station. They are an endemic species to this area. The selected locations meet the requirements for offset from rail corridor and they will not over hang parking areas at stations. We recognise that there is the potential of branch drop, however note that this is not any more than majority of Eucalyptus species.	3.1
• What is the area of Ecologically Endangered Communities offered? How are the offsets to be managed?	• Transport for NSW is in the process of procuring offset 'credits' in accordance with NSW Government's Biodiversity Banking and Offsets Scheme, to offset the loss of EEC. We will provide more details when this is finalised. Visit www.environment.nsw.gov.au for details of this scheme.	4
• Please do not plant Agapanthus. It is invasive and will cost much more in future to remove from patches of bush where it invades. Thanks for engaging the community. • Please use native plants, not exotics. In particular Agapanthus should be avoided as its seeds can escape into bushland and become invasive. • Agapanthus seeds are a hazard to northern line surrounding native bush. They infiltrate and detriment native plants. The seed pods need to be cut off after flowering - this needs excessive maintenance • Please don't plant Agapanthus. They escape into the bush and look awful when the flowers are dead if school children have not already decapitated them. In a public place the flower heads may not be removed after flowering which could contribute to seeing outside the area. • Agapanthus - noxious weed in some Australian states as it gets into waterways. Larger trees are preferred. • No Agapanthus, please. It's so overdone in this area. • Agapanthus - noxious weed that clogs up waterways. Larger trees are preferred. • No exotic plants (Agapanthus is invasive) • It is important to keep some diversity in planting and avoid plants such as Agapanthus (option 2) that spread quickly and leave weed stalks.	• Due to overwhelming feedback from the community *Agapanthus* has been removed from the planting list and will not be used on the project.	3.1
• Plant species planted in and around stations/car parks and along the rail corridor should be native local species, irrespective of biodiversity offset packages. A lot of vegetation removed as part of the project is remnant critically endangered Blue Gum High forest and replanting in areas devastated by the third track should include species and link adjacent bushland areas. All plant species solely in this ecological community to help provide habitat for native species and link adjacent bushland areas. All plant species should be sourced from local providence/ seed stock - this is available through Hornsby Community Nursery, which is a facility provided by Hornsby Local Council. The area along the rail corridor (including between stations) is particularly important for revegetation. Native species indigenous to this area include: Eucalyptus saligna, Eucalyptus pilularis, Argophora floriburda, Poa affinis, Leucopogan juniperinus, Blackhousia myrtifolia, Glycine clandestina, Persoronia linearis etc.	• The ETTT Project will explore opportunities with Hornsby Shire Council Nursery to supply some commercial quantities of local native species.	
• All furniture appears nice but some not as practical or functional as others. • Consider ways to combat/easily remove graffiti from furniture. • Consider dark colours to maintain heritage feel. • Style 2 (seating) is much more in keeping with the heritage nature of the suburb.	• The chosen furniture styles for the Station precincts have been chosen based on community preference. • Darker colours are preferred for the furniture as they are recessive in colour and do not dominate the streetscape. The use of steel and timber is in keeping with the heritage character.	3.1
• Style 2 rubbish bins can tip over, Style 2 fences have spikey tops (not safe), style 2 bollards are not as neat. • Style 2 rubbish bin can tip over and style 2 bollards are not as neat. • Please have see-through bins. • Need plenty of rubbish bins that are maintained.	• The community preference, following extensive consultation, was for style 1 of rubbish bins which has been adopted in the design eliminating the concern regarding safety. • See through bins are generally used only on station platforms on the busiest stations on the network.	3.3 3.4 3.5

Community comment/suggestion	Response/s	Section of UDLP
• Bicycle racks - are they lockable? We also need lots so people are sure they can access one. • The bike rails have bad design to cause scratches to bike frames. Additionally, the current racks use more material to make and take up more space. The width of the two parts can be 1.5x a typical mountain bike tyre. • Go for more bicycle racks and get people off cars and on to bikes. • Bike racks to have a 'wooden' heritage feel. • Don't like the bike racks as they are rarely used and ultimately a waste of useable public space (Pennant Hills station).	• Proposed bicycle racks are a simple design suitable for bike users to lock their bike to, using their own lock. Bike racks will not use the narrow tyre slots that some older style racks adopted. • The community preference, following extensive consultation, was for style 1 of bicycle racks which has been adopted in the design. • ETTT Project recognises that bicycle racks can encourage people to get out of cars and get onto bikes and as such we will explore options to install additional bicycle racks at the stations.	3.3 3.4 3.5
• Station fences - if green is available, that would have been my choice. White tends to get dirty. • Prefer style 1 (fence) but white will show up graffiti so could it be black or dark green. This is better, I think. Can fences be made of graffiti proof metal, like in the U.K.? • The fencing along the pedestrian footpath on Cheltenham Road Bridge across the line needs to be neither white (as present) nor black, but clear so that drivers can see more easily when moving across Cheltenham Road from The Crescent (coming from south to north). • The existing white colour is distinctively Cheltenham. White fences make Cheltenham look fresher and cleaner, the brighter colours look much nicer. • Would like style 1 (fence) in black	• The community preference, following extensive consultation, was for style 2 of station fences which has been adopted in the design. • Station precinct fencing (generally located between the street and station) has been nominated as black because it is recessive and minimises the visual impact.	6.2 3.3 3.4 3.5
• All bollards to have reflective tape	• This suggestion will be considered during procurement of the bollards.	N/a
• For the street sign posts - do we have a choice? Can we have a new look of street sign plates and posts?	• Installation of new street signs are not within the scope of the ETTT Project	N/a
• Please advise me if the NSFC will include a sound barrier on the western side of the railway station between Pennant Hills station and Thornleigh to buffer the sound of the heavy diesel freight trains. • Install some sound barriers along the track edges (preferably graffiti proof). • Noise abatement measures along the corridor. Will there be walls or mounds? • Noise from the coal trains have always been the biggest pollution along the railway. Please try and find a way to minimise the noise caused. Perhaps a noise barrier/wall along the residential areas? • Judging from the ear-piercing squeal from current freight trains - damaging to hearing I suspect it will be necessary to install sound barriers. Such barriers would have to have abutting graffiti proof landscaping to preserve the amenity of these garden suburbs as much as possible. • The community would appreciate acoustic barriers painted green with native planting adjacent. If they were located behind a cyclone security fence I believe that they would not attract graffiti. • Along the rail corridor large trees will be but to help eliminate some of the noise as the trees grow. Is it possible to supply all trains with metal-rubber or some alternate to reduce the noise and are able to withstand heavy use? • Trees needed between Pennant Hills Station and Thornleigh station to alleviate noise from goods trains, for the people living on Yarrara Road and Stevens street Pennant Hills. They chopped some down and the noise is terrible.	• Operational noise mitigation for the project will be delivered in line with the Environment Protection Authority's (EPA's) Interim Guideline for the Assessment of Rail Infrastructure Projects (IGANRIP) and Rail Infrastructure Noise Guideline (RING) as well as the project's Conditions of Approval (CoA) issued by the NSW Minister for Planning and Infrastructure. • An Operational Noise and Vibration Review (ONVR) will be prepared to detail the process and planned mitigation for the project. This report will be made available to the public in 2014, prior to finalisation. As with property treatment, it is too soon to confirm the requirements for noise walls. The Environmental Impact Statement (Technical Paper 2, Table 26) outlined that the use of noise walls is not considered to be an effective noise mitigation measure for the project. However noise walls will be considered and assessed as part of the ONVR process. Should the ONVR identify that noise walls are required, additional consultation with affected communities will be undertaken. • Vegetation provides only visual screening and cannot noticeably reduce noise levels.	6.1
• Living in Malton Road, Beecroft which is approximately 1/4 mile from Cheltenham station, the noise at night from general rail traffic has been an issue, believe me. • We urge you to retain the screening of the high hillside facing Kethel Street with high and bushy trees as was removed for this project.	• Minimal vegetation clearing is required on the eastern side of the tracks, for installation of electrical cables only. • Vegetation provides only visual screening and cannot noticeably reduce noise levels.	Appendix D

Community comment/suggestion	Response/s	Section of UDLP
• Consideration should also be given to providing a large car park at Epping Station or nearby. Also, landscaping is required at Epping and Pennant Hills stations and some good sealing provided on all stations. Along the rail corridor large trees will be but to help eliminate some of the noise as the trees grow. Is it possible to supply all trains with metal-rubber or some alternate to reduce the noise and are able to withstand heavy use? • More commuter parking is needed during the week. The streets around Epping are jammed. • Consideration should also be given to providing a large car park at Epping Station or nearby. Also, landscaping is required at Epping and Pennant Hills stations and some good sealing provided on all stations. • Why doesn't Epping station have a carpark? Such a major station has no car park. • Please put in a carpark at Pennant Hills. Yes, there is one at Thornleigh but it's on the other side of the train line, and it's impractical to get there in peak hour traffic. A carpark would mean I'd use the train instead of driving. • What are you doing about parking for Pennant Hills station? At present there is no dedicated commuter parking. • Any major work on the rail line without proposals for commuter parking at Pennant Hills is a joke. • The parking for Pennant Hills station is horrendous and we are constantly parked out in front of our home. People disregard parking restrictions in Ramsay Road and park across our driveway. A parking station over the rail line is needed. • There is nothing mentioned for provision of car parking. It is already non-existent or limited and it would seem to be an ideal time to do something about it whilst all the disruption and building work is being carried out. • Increase car parking to 2 storeys.	• Construction of new car parks is not within the scope of the ETTT Project because funding is only available for the third track and infrastructure directly associated with it. • Whilst the provision of new commuter car parks does not form part of the proposal, the provision of commuter car parks is prioritised on a network wide basis. • Once the ETTT Project is completed, there would be no net loss of parking at the stations. Provision of additional commuter parking and pedestrian access beyond that being affected by the third track is outside of the ETTT Project scope. These matters are for consideration under the Transport Access Program, which is an initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure where it is needed most. Safety improvements including extra lighting, help points, fences and security measures for car parks and interchanges, including stations, fall under the auspices of this program.	N/a
• Lighting in car parks - suggest high tower with bright lighting. Height of tower/light poles subject to height of trees that will be planted in the car parks. These areas need to be well lit for security reasons. • Need better lighting (brighter) and CCTV everywhere. • Make sure you get rid of the vine (purple flowers) which is killing all the trees. • I hope that you can clear that entire purple vine otherwise it will take over as it has along the east hills line and the Cooks River area. • Along the rail corridor it would also be important to remove the noxious weeds which have regrown (e.g. privet and lantana - amongst others). • The railway land between Cheltenham and Beecroft is covered with vines, Lantana and other weeds. It used to be native plants, until it was cleared and burnt - letting all the weeds go rampant. Especially on the eastern side - it is disgusting! • Potato vines need eradication along the rail corridor. • Vines need eradication along the rail corridor. • The vegetation planted needs to reflect the existing as well as the new. Maintenance is essential. Railcorp has never heard of pruning to enhance vegetation growth. • What long term (10 years commitment is being made to look after replanting? The Epping station / Beecroft Road experience has been very poor).	• The purple vine south of Cheltenham Station will be removed during construction of the new drainage line. • Weeds within the rail corridor will be removed if they are within areas affected by construction works. • Rehabilitation works involving weed control and planting of native vegetation would be undertaken at completion of construction by qualified bush regeneration contractors. • Long-term maintenance will be carried out by the corridor maintainor, Sydney Trains.	6.5.5
• All pedestrian areas around Pennant Hills station need to be re-paved rather than patched with bitumen. The pedestrian bridge at Pennant Hills also needs to be covered to improve access for rail customers when it is wet.	• The Transport for NSW Transport Access Program (TAP) has completed re-paving work along the Railway Street footpaths. • Footpaths along the eastern side of Yarrara Road in the vicinity of the station will be renewed as part of the works. • The pedestrian footbridge will not be covered with a roof, as the areas either side of it are not covered. However the existing concourse canopy will be extended down the new stairs to a new covered waiting area at the Yarrara Road / Ramsay Road traffic lights.	N/a

Community comment/suggestion	Response/s	Section of UDLP
• Beecroft station to my knowledge has not been upgraded and now poses a real problem with those carrying luggage, shopping and (in particular) elderly folk. The 'Waratah' trains have about a 300 mm difference - far too much - no reference made to fix this. • While it is most laudable to improve and beautify the areas surrounding the Third Track Project, it is quite irrelevant to prospective train travellers from Beecroft who are disabled or elderly as it is absolutely impossible to access the platforms without a lift. • The difference between train height and platform is also an issue at Beecroft that needs addressing as is the lack of a lift. It makes the accessibility at Beecroft poor for the elderly, parents of young children and those with disability an issue. • Please be sure to take into consideration those who travel with disadvantages, whether this be a physical disability or having to travel with large items like prams or shopping trolley bags. Also those of us who have no access to cars and are travelling with more than 1 young child. • Please consider stair access from Copeland Road Bridge to south side of Beecroft station platform. Most users of the Beecroft station walk from the south side and this would provide much better access to the platform.	• We acknowledge receipt of a significant amount of community feedback in relation to existing access arrangements at Beecroft Station and suggestions for construction of a lift. Unfortunately the ETTT project is not funded to deliver any upgrades to Beecroft Station access. • Generally modifications to existing facilities are not part of the ETTT scope (unless directly impacted upon) and therefore are not funded. • Accordingly, the installation of a lift at Beecroft Station does not form part of the proposal, as there is no requirement to replace the existing access stairs and the proposal would not result in the loss of an existing level access. The ETTT Project includes the lengthening of the pedestrian underpass roof and walls, however works would not impact the station stairs or ramp. • Provision of lifts at Beecroft is subject to the priorities set by the Transport Access Program, which is an initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure where it is needed most. Safety improvements including extra lighting, help points, fences and security measures for car parks and interchanges, including stations, fall under the auspices of this program. • The ETTT Project works will not preclude the installation of lifts in the future. • As the ETTT Project would not directly impact the Beecroft Station platform there are no proposed works to the platform.	3.4
• Please also raise the platforms at Pennant Hills station to match the train door levels. There are a great number of elderly people who wish to travel by train and who can't get on or off the trains at Pennant Hills without help.	• Unfortunately the ETTT project is not funded to deliver any upgrades to Pennant Hills Station beyond what is needed to install the third track. Because the existing platforms at Pennant Hills already have full accessibility via lifts and a concourse, no additional works are required in order to maintain existing access, other than provision of a new lift and stairs to Yarrara Road.	N/a
• Cheltenham station was re-levelled a while ago, but successive trains introduced to this line have all had different rail-to-inlet/exit floor heights. Poor design. Similarly, has any member of the project team visited during school start and finish times? About 100 (+ or -) girls from the High School converge on the railway station and on the overhead bridge, making it difficult to move in the opposite direction. With all the students using the existing overhead bridge and footpath, it will be almost impossible. There are numerous design features needing revision before you think of floral decorations etc. Temporary (?) wooden ramp or step still in place.	• The works at Cheltenham Station will include raising of platforms to be at the same height as the train doors. • The existing buildings will be refurbished to meet current disability access standards, eliminating items like temporary wooden stairs. • Footpath and platform widths have been designed for current and future passenger numbers including school students.	1.4.1 3.3
• Think of widening bridge at Beecroft while re-building. Road infrastructure through Epping at Beecroft Road/ Carlingford Road Bridge is a disaster and as they are rezoning Epping town centre, anything happening at the bridge would stop traffic moving to the city. Sutherland Road could be updated and accessibility to Epping road could relieve some traffic at Epping Bridge.	• Road upgrading is beyond the scope and funding of the ETTT project. ETTT is part of the NSFC which aims to increase capacity for rail container freight between Sydney and Brisbane. • Sufficient space exists beneath the existing road bridges to fit the new track without replacing these bridges.	N/a
• Make every effort to preserve Beecroft Lawn Tennis Club and Scout Hall.	• The Scout Hall does not need to be demolished as part of the ETTT project. The ETTT Project has consulted with Scouts NSW to ensure the proposed fence adjustment does not impede their operations. • The Beecroft Lawn Tennis Club will not be directly impacted by project works and both these important community venues will be preserved.	3.4
• The land beside the road between the M2 and Carlingford Road has long been an eyesore. I think it is railway land as the line is just behind the fence. It is really ugly and is seen by many people every day. Please attend to it and make sure it is beautiful to look at.	• Most of this vegetation is being removed to make way for construction of the new third track and required viaducts. Proposed landscaping post construction works is outlined in this UDLP.	Appendix D
• When digging the cuttings and building its bridge abutments make provision for a fourth track as it will be required in the future. The bridge over the Parramatta River is double track between the abutments and piers are there for lines 3 and 4 when required.	• The ETTT design does not preclude the possibility of the construction of a fourth track however it does not provide the actual infrastructure required for a fourth track. • For example, the new pedestrian footbridge at Pennant Hills will have a sufficiently long span that the future fourth track would fit beneath it without further modification.	N/a
• We need proper signage and informative screens on stations during construction.	• Appropriate signage will continue to be utilised during construction to ensure commuters receive clear messages.	N/a

Community comment/suggestion	Response/s	Section of UDLP
• I would be very sad to lose the Beecroft train park. Wish it would not be affected.	• There is no requirement to remove the playground facilities at the Beecroft Station Gardens as a result of the ETTT Project. It is expected that the existing fence line will have to be moved by up to three metres. While the playground equipment is not anticipated to be moved, ETTT Project is consulting with Hornsby Shire Council regarding construction work to be undertaken adjacent to the playground to confirm the best options for minimising impacts to the playground and its users during construction. We are also investigating the opportunity to increase the playground area to the south – refer to Figure 3-35.	3.4
• We would welcome any provision for a cycleway • There is a need for a bicycle corridor along the railway line between Epping and Thornleigh. Currently the use of Beecroft Rd by cyclists creates unnecessary danger for both cyclists and motorists and slows traffic in peak hour - creating further likelihood of mishaps. This is not only an environmental issue but more importantly a safety issue. • Whilst eliminating proposed cycleway pinch points - cheaper to put cycleway in now rather than retrofit and reduce car travel to stations (and car park needs)	• The provision of a cycleway in the rail corridor is not possible because it would be unsafe for cyclists; would prevent normal rail corridor maintenance; and insufficient space exists without additional tree clearing. • The ETTT project will however provide sufficient infrastructure to facilitate installation of a future cycleway across Byles Creek (between the two discontinuous parts of Wongala Crescent), by Hornsby Shire Council. The ETTT Project will also ensure that sufficient space exists between the tennis courts at Beecroft, and the rail corridor for this future cycleway. • Transport for NSW is separately pursuing a series of measures to focus on safety and integration of cycleways with public transport in NSW. One of these initiatives is a Cycling Investment Program to improve the planning, management and delivery of cycleway capital programs, supported by design solutions and standards to reflect customer needs. This includes working with councils and developing partnerships with local communities to deliver local cycling infrastructure. More information on these initiatives can be found in the NSW Long Term Master Plan (Transport for 2012b).	N/a
• In relation to our village garden atmosphere, it is my wish to preserve the history in Beecroft d Cheltenham. Can Council have more historical parts highlighted with their background history interest?	• Interpretative signage will be installed in the vicinity of Beecroft station to allow the history and former platform configuration to be interpreted. The proposed position of the interpretative signage is shown on Figure 3-34	3.4
• From an environmental standpoint it seemed to me a backwards step to replace the old electric locomotives (46,85 and 86 class) with diesel electrics. You will get far better acceptance of increased freight traffic on these lines if you re-employ the electric traction from Sydney and Newcastle (particularly in respect of noise).	• The third track will be constructed to allow all types of rolling stock to use it. The types of trains to be operated along the Main North Line is not part of the ETTT Project.	N/a
• Western Sydney requires infrastructure to create local jobs, business development, new crossing over Hawkesbury River needed. The principle is not to increase traffic activity to the centre of Sydney because the west needs development.	• Alternatives to the NSFC and ETTT were investigated as part of the EIS development. As explained in that document, no feasible alternatives were found.	N/a

Epping to Thornleigh Third Track

Urban design and landscaping

APRIL 2013

Ph: 1800 684 490 | www.transport.nsw.gov.au/projects

Have your say

Minimising the impact of the Epping to Thornleigh Third Track Project on the local character of the area is an aim we share with many local residents.

We have undertaken preliminary work on our urban design and landscaping strategy and now seek your input on our design principles and your preferences for:

- vegetation at Beecroft, Cheltenham and Pennant Hills stations
- vegetation between stations, and
- station furniture design.

Your feedback will be used to refine our detailed design and help us develop our Urban Design and Landscaping Plan. When complete, this plan will be made available to the community for comment.

Community consultation on this aspect of the project is one of the commitments we made in response to feedback received during the exhibition of the project's Environmental Impact Statement late last year.

About the project

The Epping to Thornleigh Third Track Project involves the construction of approximately six kilometres of new track between Epping and Thornleigh stations on the western side of the existing rail corridor.

The new (third) track will separate northbound freight from all-stops passenger train movements along the steep incline between Epping and Thornleigh. This will help provide additional capacity for northbound (interstate container) freight trains, particularly during the daytime when passenger trains currently have priority.

The project is being assessed by the NSW Department of Planning and Infrastructure. The project's Submissions Report is available at **www.planning.nsw.gov.au** or via our website at **www.transport.nsw.gov.au/projects** (go to the Northern Sydney Freight Corridor tab, then Epping to Thornleigh Third Track). The Submissions Report responds to issues and suggestions made by the community. It also details modifications to the project as a result of this feedback and further detailed design.

This project forms part of the Northern Sydney Freight Corridor Program.

How can I provide feedback?

Provide your comments on the enclosed reply paid feedback form and return to us (via post) by **Friday 26 April 2013**.

Alternatively you can scan and email your form to **projects@transport.nsw.gov.au**.

If you missed us at our April community information sessions and would like to discuss urban design and landscaping in more detail, please contact us on **1800 684 490**.

Our process and next steps

The flow chart below outlines the process we will follow to confirm our urban and landscaping design.

- Identify possible project impacts and opportunities for urban design and landscaping.
- Develop urban design and landscaping principles, and material and landscaping options. Seek initial feedback from the community and Hornsby Shire Council. **WE ARE HERE**
- Prepare Urban Design and Landscaping Plan in consultation with Hornsby Shire Council, incorporating community suggestions where possible.
- Place draft Urban Design and Landscaping Plan on public display and seek feedback from the community.
- Finalise and implement plan, incorporating community suggestions where possible.

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Our principles

Key design principles have been developed to ensure that the project complements the local area and minimises the impact of the proposed new infrastructure. Each principle is described in the table below, along with relevant examples of how each would be implemented.

Principle	Examples
Conservation Conserve the existing landscape and local character	• Develop landscaping styles that incorporate plant types reflective of the area • Retain and refurbish existing buildings at Cheltenham Station • Use the existing road bridge to create a new Cheltenham Station entrance • Use materials sympathetic to the area • Install historical interpretation signage at Beecroft Station
Accessibility Retain, and improve (where possible) access and connectivity at stations and along / across the rail corridor	• Improve footpath conditions around stations • Raise platforms to match train door level at Cheltenham Station • Improve lighting and public address systems, and add lifts at Cheltenham Station • Provide space for a potential future cycleway outside of the rail corridor by eliminating two existing 'pinch points' at Wongala Crescent and the tennis courts at Beecroft • Replace footbridge at Pennant Hills Station with one built to current Australian standards
Sustainability Protect our environment for future generations	• Use passive irrigation instead of watering systems in landscaped areas • Re-use earthwork spoil to avoid placement in landfill • Procure biodiversity offsets for cleared native vegetation • Use low-energy materials and equipment
Safety in design Provide a design that is safe and secure for the public, rail users and infrastructure maintainers	• Provide lighting and CCTV camera surveillance within upgraded infrastructure, including at car parks • Adopt Crime Prevention Through Environmental Design (CPTED) principles
The travel experience Maintain a quality travel experience for commuters	• Continue use of natural sandstone cuttings where possible • Maintain a consistent visual appearance for commuters travelling between stations along the project area • Use high quality finishes to retaining walls near stations

Planting options

The Environmental Impact Statement identified a number of areas along the length of the project where we will need to remove vegetation in order to make way for the third track. Where possible (typically along the fenceline and areas disturbed by the works, and subject to operational safety limitations) we will plant replacement vegetation.

This page provides example plants illustrating the landscaping styles that could be adopted where opportunities exist at Beecroft, Cheltenham and Pennant Hills station precincts and along the project corridor. Please let us know what you think of these plant types using the feedback form attached.

At stations and car parks

Coastal Rosemary
(Westringia fruticosa)

Mature height
1.5 metres

Lily of the Nile
(Agapanthus 'Snowball'*)*

Mature height
80 centimetres

Crepe Myrtle
(Lagerstroemia indica)

Mature height
5 metres

Grevillea
(Grevillea 'Mt Tamboritha'*)*

Mature height
30 centimetres

Native Flax Lily
(Dianella caerulea 'Little Jess'*)*

Mature height
60 centimetres

Brush Box
(Lophostemon confertus)

Mature height
15 metres

Along the rail corridor

Rough-Barked Apple
(Angophora floribunda)

Mature height
12-15 metres

Blady Grass
(Imperata cylindrica var. major)

Mature height
1.2 metres

Blueberry Ash
(Elaeocarpus reticulatus)

Mature height
5 metres

Purple Coral Pea
(Hardenbergia violaceae)

Mature height
2 metres

Gorse Bitter Pea
(Daviesia ulicifolia)

Mature height
2 metres

Sweet Bursaria
(Bursaria spinosa)

Mature height
5 metres

NOTE: it is generally not possible to plant fully mature trees. It will take some time for any trees planted to reach full height (dependant on tree species). It will not be possible to replace all cleared vegetation. In the case of Ecologically Endangered Communities that are affected by the project, procurement of biodiversity offsets will ensure that similar vegetation nearby is protected in perpetuity.

Station furniture styles

New furniture will be required in station areas affected by construction. We have selected two generic styles of each furniture type for you to provide feedback on.

Station furniture styles

Rubbish bins

Style 1

Style 2

Bollards

Style 1

Style 2

Bicycle racks

Style 1

Style 2

Station fences

Style 1

Style 2

Seats

Style 1

Style 2

Next steps

Your feedback will assist us to progress our detailed design and draft our Urban Design and Landscaping Plan in line with community interests. We will report back on the outcome of this consultation in our next project update. Please note, while work is being undertaken to progress the detailed design and project management plans, construction will not commence without project approval.

What is the Northern Sydney Freight Corridor Program?

The Northern Sydney Freight Corridor Program is a jointly funded initiative of the Commonwealth and NSW governments to improve capacity and reliability of freight trains on the Main North Line between North Strathfield and Broadmeadow, Newcastle.

The NSFC Program comprises four projects along the 155 kilometre Main North Line rail corridor

- North Strathfield Rail Underpass
- Epping to Thornleigh Third Track
- Gosford Passing Loops
- Hexham Passing Loop.

Transport for NSW is delivering the North Strathfield Rail Underpass, Epping to Thornleigh Third Track and Gosford Passing Loops projects on behalf of the NSW and Commonwealth governments.

The Hexham Passing Loop project was recently completed by the Australian Rail Track Corporation.

NSW GOVERNMENT Transport for NSW

Contact details

For further information you can:

- call Transport for NSW on 1800 684 490
- urgent enquiries or complaints 24 hours: 1800 775 465
- email projects@transport.nsw.gov.au or
- visit www.transport.nsw.gov.au

NSFCETTI/0413/173

Feedback form: urban design and landscaping

Providing feedback on these options will help us to understand what is important to you.

To ensure your feedback is considered during the development of the Urban Design and Landscape Plan, we request your response by **Friday 26 April 2013.** Please return your completed survey by folding this sheet in thirds, sealing the sheet with tape and placing in any Australia Post letterbox. Please ensure the barcode over the page is visible.

Our principles

On a scale of 1 to 5 (where 1 is 'not important' and 5 is 'very important') please circle how important these urban design principles are to you. Each principle is described on page 2 of the flyer.

	Not important				Very important
Conservation	1	2	3	4	5
Accessibility	1	2	3	4	5
Sustainability	1	2	3	4	5
Safety in design	1	2	3	4	5
The travel experience	1	2	3	4	5

Landscape options

Please tick (up to three) plants that you like at each location. Plants are pictured and numbered on page 3 of the flyer.

Location	Area	Plant preference					
		1	2	3	4	5	6
Cheltenham Station	Station precinct						
	Car park						
Beecroft Station	Playground and station gardens						
	Car park						
Pennant Hills Station	Station precinct						
Along the rail corridor	Between stations						

Station furniture styles

Indicate (by circling) if you like or dislike these styles. Pictures are shown on page 4 of the flyer.

	Style 1	Style 2
Rubbish bins	like / dislike	like / dislike
Station fences	like / dislike	like / dislike
Bicycle racks	like / dislike	like / dislike
Bollards	like / dislike	like / dislike
Seating	like / dislike	like / dislike

The purpose of this consultation is to get a better idea of what you would like to see in terms of urban design and landscaping for the project. We will use this information to further investigate options and develop our Urban Design and Landscaping Plan. We encourage you to provide additional detailed comments in the space provided over the page.

Additional copies of this feedback form can be obtained on request by phoning us on **1800 684 490** or emailing us at **projects@transport.nsw.gov.au**

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Other comments

Delivery Address:
Locked Bag 6501
ST LEONARDS NSW 2065

No stamp required
if posted in Australia

Epping To Thornleigh Third Track Project
Attn: NSFC Project Director
Reply Paid 86689
ST LEONARDS NSW 2065

Epping to Thornleigh Third Track

A summary of the results of consultation undertaken in April 2013 on urban design and landscaping

July 2013

Urban design and landscaping consultation

In April 2013, we undertook consultation with the community on our preliminary work on urban design and landscaping for the Epping to Thornleigh Third Track Project. As part of this process, we presented details for discussion at our information sessions and shortly following this distributed a flyer to local residents outlining our approach and seeking feedback on it.

We received comments from about 100 people at our information session in April and received over 320 feedback forms. The results have been collated and summarised below.

The principles

Respondents were asked to identify on a scale of 1 to 5 (where 1 is 'not important' and 5 'very important) how important each of the urban design and landscaping principles were to them.

The results below indicate the quantity of responses given to each number on the scale. For example, 79 respondents gave 'Conservation' a 4/5 ranking and 225 respondents gave 'Safety in design' a 5/5 ranking.

Principle	Conservation					Accessibility					Sustainability				
Scale	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Results	7	10	28	79	187	4	3	26	65	215	6	12	40	83	171

Principle	Safety in design					The travel experience				
Scale	1	2	3	4	5	1	2	3	4	5
Results	3	9	28	47	225	7	20	49	88	147

Landscaping options

Respondents were provided with a list of six plant examples (see below) that illustrate possible landscaping styles that could be adopted where opportunities exist at Beecroft, Cheltenham and Pennant Hills stations. Respondents were asked to select up to three plant types that they preferred at each of the station precincts and along the rail corridor.

No.	At the stations and car parks	No.	Along the rail corridor
1	Coastal Rosemary	1	Rough-Barked Apple
2	Lily of the Nile	2	Blady Grass
3	Crepe Myrtle	3	Blueberry Ash
4	Grevillea	4	Purple Coral Pea
5	Native Flax Lily	5	Gorse Bitter Pea
6	Brush Box	6	Sweet Bursaria

The results below indicate the quantity of responses given to each plant number. For example, the top 3 plants at the Beecroft station playground and gardens were the Grevillea (196), Native Flax Lily (147) and Crepe Myrtle (141).

Results from the flyer

Location	Cheltenham Station precinct						Cheltenham Station car park					
Plant no.	1	2	3	4	5	6	1	2	3	4	5	6
Results	134	101	149	180	132	90	101	87	126	117	90	113

Location	Beecroft Station playground / gardens						Beecroft Station car park					
Plant no.	1	2	3	4	5	6	1	2	3	4	5	6
Results	122	110	141	196	147	91	104	78	137	109	93	123

Location	Pennant Hills Station precinct						Along the rail corridor					
Plant no.	1	2	3	4	5	6	1	2	3	4	5	6
Results	138	83	126	151	105	80	201	72	249	171	89	210

Results from the information sessions

Because the information sessions were held at Beecroft and Cheltenham, we have recorded the feedback as relative to these specific areas.

The table below outlines the results of this feedback. For example, 31 people that attended the Cheltenham Station information session indicated that they preferred the Crepe Myrtle at the station precinct.

Location	Station / car parks						Along the rail corridor					
Plant no.	1	2	3	4	5	6	1	2	3	4	5	6
Cheltenham	9	11	31	23	15	12	20	1	26	19	2	15
Beecroft	11	6	25	34	19	21	23	6	29	21	6	20
TOTAL	20	17	56	57	34	33	43	7	55	40	8	35

Station furniture styles

Two generic furniture styles for the station precincts were presented in the flyer to give the design team a general idea of the community's preference. Respondents were asked to indicate whether they liked or disliked the styles put forward. These styles were for rubbish bins, bollards, bicycle racks, station fences and seats.

The results below outline the preferences for each furniture style. For example, 323 respondents said they 'liked' the Style 1 of the rubbish bins, and 128 said they 'disliked' Style 2 of the bicycle racks.

The design team will now identify real options for furniture at station precincts taking on board the preference of the community as well as Sydney Trains and Hornsby Shire Council guidelines and regulations.

Results from the flyer

Rubbish bins Style 1		Rubbish bins Style 2		Station fences Style 1		Station fences Style 2		Bike racks Style 1		Bike racks Style 2	
Like	Dislike	Like	Dislike	Like	Dislike	Like	Dislike	Like	Dislike	Like	Dislike
323	40	106	187	128	171	306	57	221	82	194	128

Bollards Style 1		Bollards Style 2		Seating Style 1		Seating Style 2	
Like	Dislike	Like	Dislike	Like	Dislike	Like	Dislike
138	155	282	73	285	73	169	133

Results from the information sessions

Community members that attended the April information sessions also provided feedback on the station furniture styles. In contrast to the flyer respondents, community members at the sessions were only asked to indicate the furniture style they liked. For example, 57 people indicated that they 'liked' style 2 of the station fences.

Rubbish bins Style 1	Rubbish bins Style 2	Station fences Style 1	Station fences Style 2	Bike racks Style 1	Bike racks Style 2
Like	Like	Like	Like	Like	Like
61	12	20	57	18	40

Bollards Style 1	Bollards Style 2	Seating Style 1	Seating Style 2
Like	Like	Like	Like
11	55	58	19

Epping to Thornleigh Third Track

Urban design and landscaping consultation

A summary of community feedback

JULY/AUGUST 2013

Ph: 1800 684 490 | www.transport.nsw.gov.au/projects

Thank you to everyone who provided feedback. Your input is helping us incorporate your preferences, values and priorities into our design, where possible.

Since we began consulting on the project in 2012, many people have expressed how much they value the local character of their area and how important it is to minimise the impacts of the project.

One of the ways we can incorporate these interests is to involve the community in the development of the Urban Design and Landscaping Plan (UDLP).

This plan will set the principles, targets and methodology for re-establishing the parts of the local area most visually impacted by the project.

Thank you to everyone who has provided feedback on our initial work. Approximately 100 people at the April community information sessions provided input and we received over 320 feedback forms.

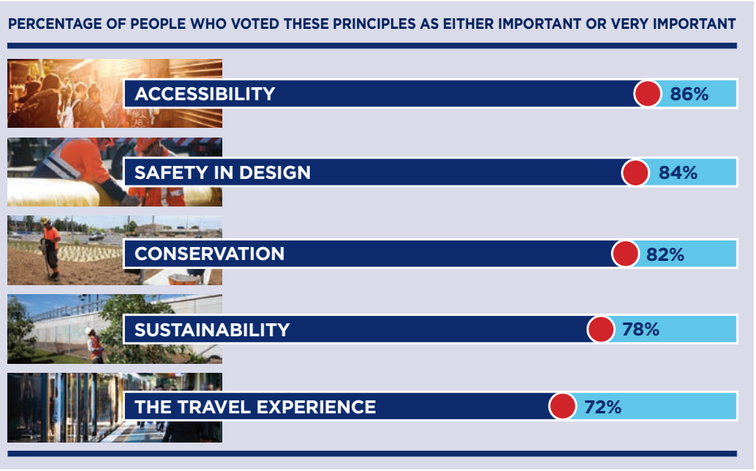
Community feedback at our April information sessions

We are now investigating the suggestions and, where possible, will adopt them. Once the UDLP is drafted, we will make it available for comment prior to finalising. A snapshot of the community feedback follows.

The design principles

Based on an initial assessment of the site and project by our design team and consideration of issues raised by the community, a number of principles were identified to guide the delivery of urban design and landscaping on the project.

As demonstrated by the results in the graph adjacent, most people confirmed that these principles were either important or very important.



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Qualitative feedback

Some of the most useful information we received was in the 'comments' section of the feedback form, with almost half of respondents making one or more suggestions.

Key themes raised were:

- alternative planting suggestions and a preference for native plants
- weed management and maintenance
- screening options/alternatives where vegetation is being removed
- improved lighting and safety at stations and car parks
- alternative colour options and improvements to furniture styles presented
- appreciation of the opportunity to provide input.

Grevillea
The most popular plant style at station precincts.

Planting options

Respondents were asked to provide their preferences for plant types that could be adopted, where opportunities exist, at Beecroft, Cheltenham and Pennant Hills station precincts and along the rail corridor. Six example plant types were identified for each area. The results clearly identified the most and least popular styles.

Crepe Myrtle
The most popular plant style at commuter car parks.

At the stations and car parks

There was strong support for the Grevillea (*Grevillea* 'Mt Tamboritha') at station precincts, as well as for Coastal Rosemary (*Westringia fruticosa*) and Crepe Myrtle (*Lagerstroemia indica*). Ability to provide shade and colour guided many responses around commuter car parks, with Crepe Myrtle, Grevillea and Brush Box (*Lophostemon confertus*) as clear favourites. Lily of the Nile (*Agapanthus* 'Snowball') was the least preferred example plant style for the car park areas.

Blueberry Ash
The most popular plant style along the rail corridor.

Along the rail corridor

Blueberry Ash (*Elaeocarpus reticulatus*) was the preferred plant style for vegetation along the rail corridor, followed by Rough-Barked Apple (*Angophora floribunda*) and Sweet Bursaria (*Bursaria spinosa*). Respondents stated that the colour of these options would enhance the travel experience. Bitter Gorse Pea (*Daviesia ulicifolial*) and Blady Grass (*Imperata cylindrical var. major*) were unpopular as these plant types were said to appear 'lifeless' and 'woody' if they were not regularly maintained.

Station furniture styles

New furniture will be required in station areas affected by construction. Two generic styles of rubbish bins, bollards, bicycle racks, station fences and seats were put forward for comment. The favoured styles of examples provided were as follows.

Rubbish bin, style 1

Station fences, style 2

Bicycle racks, style 1

Bollards, style 2

Seat, style 1

Note: Depending on the location, the final design of furniture will also have to comply with Sydney Trains and/or Hornsby Shire Council guidelines and standards.

Next steps

We will now investigate your suggestions and where possible adopt them. We have commenced work on our UDLP and will make it available for community comment prior to its finalisation. Further community information sessions will be held at this time to allow you the opportunity to discuss the plan with our design team.

If you would like to speak to us about a suggestion you made or if you have any questions, you can contact us by phone on **1800 684 490** or by email at **projects@transport.nsw.gov.au**. The raw data from the survey is available on our website at **www.transport.nsw.gov.au/projects**.

ETTY/0713/178

Appendix C
Community feedback during public exhibition

Appendix C – Community feedback during public exhibition

This section summarises the written feedback we received during the public exhibition period between 29th November 2013 and 10th January 2014. It provides responses as to how each comment has been incorporated in the updated document, or, if a comment has not been incorporated, why. Feedback was received from the following groups:

- Beecroft Cheltenham Civic Trust (BCCT)
- Pennant Hills District Civic Trust (PHDCT)
- Hornsby Shire Council
- Local horticulturist Graham Ross
- Members of the community.

Further information can be found within the various sections of the UDLP as indicated in the far right column of the table below.

Topic	Community comment/ suggestion	Responses	UDLP section
Plant types – Cheltenham Station	• We have always thought that most of the 'trees' near Cheltenham station were self-sown and in many cases regarded by HSC as noxious (camphor laurel). Their replacement by even a few tall trees helps. • The Concept Design for Cheltenham Station identifies the planting of Fraxinus griffithii in the garden beds. This species is known to be invasive species due to large amount of indigenous vegetation throughout the corridor it is recommended that there may be alternate indigenous species that would perform the same function as the Fraxinus ie: Grevillia linearifolia or Leptospermum trinervium. • Cheltenham Station - you must return the precinct to its original condition by replacing the number of trees you have removed - not with shrubs and grasses only but mature trees. On the eastern side there appears to be enough room to plant trees. Please screen the track with trees. Can't see why the palm tree near the carpark needs to be relocated - can't you work around it? • On the eastern (Sutherland Road) side of Cheltenham Station between Cheltenham Road and Day Road, I request that a row of Australian gums and natural vegetation is planted on Council land alongside the roadway that will result in obstruction of the view of the railway line and station (as existed prior to the construction). • Car parking from opposite The Boulevard to Cheltenham Road • Planting of Franxinas. Gen. (Evergreen ash/ rough bark apple) at 1 per 3 car spaces • Excise small triangles 400x400mm from common corners of car spaces • Use structural soil cells in-ground (Strata Cells by CityGreen) under trees and adjacent spaces • Location 8 and 9 on the concept plan do not provide any tree plantings. Trees should be provided at these locations in association with new station works. • Location 8 on the concept plan should also include shrub plantings to increase screening of the rail corridor. • There are also opportunities for tree plantings at the low point in The Crescent.	• *Fraxinus griffithii* (Evergreen Ash) will be replaced with a combination of small to medium sized native trees as listed below. • Additional tree planting will be provided between the wheel stop and the footpath. Species will be revised to a combination of *Angophora floribunda* (rough barked apple) at the southern end of the car park and *Cupaniopsis anacardioides* (Tuckeroo) in other areas. Whilst these species may reach heights above 10-15m in their natural environment it is expected that their mature size at this location will be much smaller given the reduced area of soil volume and limited water available. • The additional tree planting is described in detail in Section 3.3 and will require the use of structural soils below the car park to create adequate soil volume for tree root growth. • New tree planting at the station has been maximised, within allowable limits with regard to safety and reliability of the rail infrastructure	3.3
Plant types – Beecroft Station	• The planting palette for Beecroft Station includes the use of Star Jasmine and Pyrus (Pear) trees. It is considered that indigenous species would perform the same function as these species ie: Wonga vine (Pandorea pandorana) , Old Man's Beard (Clemais aristata) instead of Jasmine and Forest She-oak (Allocasuarina torulosa) and Turpetine (Syncarpia glomulifera) instead of pear. • Could a cutting of the Crepe Myrtle be taken (from the existing ones at Beecroft) to grow more of these in the locality? Are there possibilities of growing plants from other cuttings taken in the local area?	• The planting palette at Beecroft has been revised to include a hedge of *Photinia* "Red Robin" along the eastern edge to screen the corridor; the removal of *Trachelospermum* (Star Jasmine) and the inclusion of *Grevillea* 'Mt Tamboritha' as well as a change in the Flowering Pear species as recommended by a local horticulturist, Graham Ross. • The project team does not intend to grow new plants from cuttings. However, tree seed collection has been identified for two species of locally occuring Eucalpytus.	3.4 3.1.5
Plant types – Pennant Hills Station	• The trees planted along Yarrara Road (p70-71) will obviously not make up for the loss of existing trees but should preferably be: – evergreen trees for year round screening – native trees for bird attraction and wild life corridor recovery – possibly - Buckinghamia, Bottlebrush, Gosford Wattle – the Shrubs and Ground Cover should similarly be natives such as Banksia and White Plunbego" • The planting palette for Pennant Hills Station includes the use of Pyrus, Cupressus and Plumbago which could be replaced by indigenous species Callitris spp, Allocasurana torulosa, Baeckea linifolia and Grevillea linearifolia. It is also proposed to use Leptospermum laevigatum which is coastal species and could be replaced with Leptospermum squarrosum. Groundcovers species proposed for use includes Juniperus conferta which could be replaced with indigenous Hardenbergia violacea, Kennedia spp and Grevillia juniperina. • Entrance to the Ramsay Road/Yarrara Road intersection looks very stark and bare on the projection pictures. Any chance of putting some kind of pots or plantings along here? • The planting palette proposed for Pennant Hills is supported.	• The planting palette at Pennant Hills has been revised to include replacement of the Flowering Pears with the native *Cupaniopsis anacardioides* (Tuckeroo), replacement of the *Juniperus conferta* and *Plumbago auriculata* with *Grevillea juniperina*, *Hardenbergia violaceae* and *Callistemon citrinus*. • *Leptospermum laevigatu*m has been replaced with *Leptospermum squarrossum*. • The footpath space at the area of Yarrara Road and Ramsay Road intersection meets the minimum width requirement for pedestrian circulation and there is no additional space for planting. However, a creeper is proposed for the undercroft wall area as demonstrated in Figure 3-56, provided appropriate passive irrigation arrangements are possible.	3.5

Topic	Community comment/ suggestion	Responses	UDLP section
Plant types – corridor	• Current plan shows ornamental grasses from 2 The Crescent to 24 The Crescent. This is totally unacceptable. Ornamental grasses would not be able to screen the trains visually, would not contribute to lessening the coal and diesel particulate that is emitted currently, would not absorb any noise like thick vegetation. • Cheltenham to Beecroft - along the Crescent – Much of this area is Railway corridor/ Hornsby Shire Council land – Removal of the invasive bamboo north of railway electric sub-station opposite the High School is essential – Low plantings proposed by ETTT area pointless without this bamboo removal it is 5 metres high and up to 3 metres deep – Small tree plantings are recommended along this area to provide a green visual separation of residential and rail uses – These species could include Lomandria, Banksia Serata, Blueberry Ash, Christmas Bush, Pittosporum, Casuarina Coralosa, Sally Wattle etc - that would establish quickly – It is essential that any plantings and weed removal be coordinated with Hornsby Shire Council so the adjacent road verge has similar treatment. If not then the State Rail substation landscaping disaster that was undertaken a few years ago will be repeated. • Appendix D - Landscape Maps indicates the areas of the rail corridor to be planted and no section of the rail corridor is wide enough to accommodate canopy species (which are being removed). With no canopy species proposed to be replanted within the rail corridor the works will result in a significant reduction in canopy species along the corridor. This places great importance on any offset works within adjoining road reserves and public reserves to retain and promote regeneration of canopy species with particular emphasis on EEC's. • The Corridor Planting and Revegetation element (Ch6.5) discusses the reinstatement of EEC's within the rail corridor or road verges. Due to setback requirements for the planting of trees within the corridor it is considered unlikely that EEC canopy species will be planted within the rail corridor and as such consideration should be given to planting in adjoining public reserves and road reserves to offset and compensate for the loss of canopy trees within the corridor. Local flora and fauna require canopy trees to provide protection during high winds, reduce predation edge effects, provide for the formation of hollows for the future, provide connectivity to remaining forest and tree patches, provide microclimates and habitat and to provide connectivity to remaining forest and tree patches, provide microclimates and habitat and to provide future genetic resources. This option should be included in the Biodiversity Offset Plan. • The embankment area between Foulbourne Avenue and the Wells Street Bridge is planned for native grasses only compared to existing treed vegetation. Question why is the area south of the bridge is restricted to grasses • The grasses and shrub species to be used in revegetation works within the rail corridor are generally characteristic of remnant vegetation communities with the exception of Ruby Saltbush (Enchylaena tomentosa) a coastal or estuarine species which should not be utilised. • Expand scope of planting of corridor fence areas, to remove bamboo and weed patches straddling the fence and replacement with screening plants including indigenous shrubs and trees - we will examine the UDLP for detail in this regard, but at first sight it appears that existing vegetation will be retained outside the corridor. • Green area as grasses and ground covers: this area is a substantial distance away from the rail line and therefore affords the opportunity to plant screening plants with the ground cover, including small trees such as evergreen ash/ rough bark apple or Angophora Floribunda.	• Typically the project has been able to retain most of the existing screening vegetation on the public side of the rail corridor fence. This includes most areas along The Crescent. • Generally, along the corridor a review of additional tree and shrub planting opportunities has been carried out following community feedback. Appendix D highlights potential areas for additional tree and shrub planting pending council approval. In some areas the additional works are inside the corridor such as near access gates and at other times street tree planting has been proposed such as Yarrara Road and The Crescent. • Transport for NSW guidelines do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. There are no opportunities within the corridor to include these particular species due to their mature height exceeding the offset requirement. • Tree planting in the rail corridor is proposed in the vicinity of the M2 motorway only, predominantly south of the motorway off Beecroft Road. • *Enchleana tomentosa* will be retained as part of the corridor for the Sydney Turpentine Ironbark Forest revegetation areas, however its percentage within that ecological community type will be reduced. • Site topsoil has been stripped and stockpiled for re-use, where space exists within the corridor for this. Some topsoil will need to be imported for the final landscaping as there is insufficient clear space within the corridor to store all removed top soil. This has avoided the need for additional tree clearing solely for soil stockpile purposes. • The funded scope of the project only includes weed management where associated with project works, and does not extend to rectifying existing weed infestation away from the project worksite. • The EEC offsetting strategy was proposed and approved in the EIS – that is, to offset the project's EEC impacts via the NSW Biodiversity Banking and Offsets Scheme. No additional trees will be planted as part of the EEC offsetting strategy for the project.	3.1 and Appendix D

Topic	Community comment/ suggestion	Responses	UDLP section
Plant types - general	• Native plants (not gums) should be used. Should have trees with large canopy as well to shade cars if possible. • Please do not plant natives that will look bad in 5 years time, such as bottlebrush or Banksias. • Reintroducing the Epping Forest pre 1700s (18 century) prior to white man settlement in Australia should be considered. Trees that are indigenous & endemic to the area. • No native grasses please. At least bird attracting Lilly Pilly or Grevillea and local trees replaced • I do not think that the choice of tree should be restricted to Australian Eucalypts. They are very messy year round and there is, apparently, neither the will nor the money to clear up their detritus. They can also be dangerous with limbs falling without warning. • Plant a variety of smaller shrubs and tall trees to provide future shade and habitat. • The native tree list species does not include three of the more prevalent species to be removed as part of the works: Sydney Blue Gum (Eucalyptus salinga), Ironbark (Eucalptus paniculata) and Blackbutt (Eucalyptus pilularis) the species should be included in the offset. • Tree species used in any offset and planting works should be characteristic of the EEC's and other vegetation communities removed as a result of the works. Planted trees species should also include Sydney Blue Gum (Eucalyptus salinga) , Ironbark (Eucalyptus paniculata) Blackbutt (Euclyptus pilularis) • The planting palettes for the stations should consider using suitable indigenous species instead of invasive or exotic species. The use of Fraxinus griffithi is discouraged due to its invasive nature in areas adjoining remnant bushland and watercourses. • Planting schedules - are fantastic, so don't limit yourself to a handful - a good variety of indigenous species would be great to see. • Native plantings, evergreen trees so there's no leaves dropping for pedestrians to slip on. Maxiumum height to provide shade and screening. Shrubs and ground cover should also be native plantings - pencil pines, banksia , plumbago. • Recommended: – Gleditsia triacanthos 'sunburst' in place of Fraxinus griffithii and – Pyrus Calleryana Pear Tree for streets. Graham Ross is researching the exact variety to be recommended and will advise as soon as possible (Not 'Bradford'). • Not recommended in your pallete selection: – Fraxinus griffithii (Evergreen Ash) as this is described as an 'alert weed' in the Sydney North region by the Australia National Botanic Gardens and under no circumstances should it be used in our suburb. – Enchylaena tomentosa (Ruby Saltbush) – Lomandra longifolia (spiny-headed Mat-rush) Suggested replacement - Lomatia silaifolia. • I would like more Crepe Myrtles.	• Within the corridor endemic (locally occurring) species have been selected. In addition the ETTT project has agreed to collect seed from two species of significant local trees: Ironbark and *Euclayptus globoidea spp. globoidea*. • Amendments will be made to species percentages used in planting mixes to better reflect the original ecological communities in line with feedback provided by a local resident and horticulturist, Graham Ross. • Native grasses are an important part of the restoration strategy and provide a long term robust solution for works within rail corridors. Some keystone species (typically the tall tree varieties) will not be evident in the species planted, given that Transport for NSW guidelines do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. There are very limited opportunities within the corridor to include these particular species due to their mature height exceeding the set-back requirement. • The planting palette at station precincts has been revised following community feedback. See responses within the station precinct sections, above. • The Flowering Pear species has been revised to *Pyrus calleryana x Pyrus betulaefolia* 'Edgedell Eddgewood' and *Pyrus betulaefolia* 'Southworth Dancer'. • *Fraxinus griffithii* (Evergreen Ash) has been replaced with a combination of small to medium sized native trees. • The EEC offsetting strategy was proposed and approved in the EIS – that is, to offset the project's EEC impacts via the NSW Biodiversity Banking and Offsets Scheme. No additional trees will be planted as part of the EEC offsetting strategy for the project.	3.1, 3.3, 3.4 and 3.5

Topic	Community comment/ suggestion	Responses	UDLP section
Revegetation – stations	• The trees are what define Cheltenham. So please revegetate the area. • Revegetation at Cheltenham, a Conservation Area is a must, with native plants to the areas, including developed trees. Once the North West Rail link opens there will be less commuters coming from those areas to park at Cheltenham so please consider the loss of some parking spaces for more trees. Noise barriers on the rail corridor are essential and addition of vegetation on the road side. • Cheltenham Station - car park on The Crescent side of station - we would like more large shrubs and suitable trees planted along the fence to block the view of the trains passing by. • Sutherland Road side of Cheltenham Station - cannot comment as there is no picture? When will picture be available? We are concerned about unsightly wires and trees that have grown along the wire fence near Day Road. Please can this be cleaned up and have some attractive trees planted. • In the Nov 2013 artists impression the trees are not as prominent and that makes the station look too modern and out of place in a unique heritage listed suburb. • Revegetation through planting new trees within the station vicinity to make up for the loss of the Bunya Pines at Beecroft station. • Beecroft station precinct – Eastern Bunya Pine - the drainage catchment on this western side of the rail line appears to be very small so we are questioning the need for such a substantial drainage line in this area. – Our Arborist has suggested the tree can be preserved by under-boring a 300mm drain or similar in the vicinity of the tree. – Tree can be preserved by under-boring a 300mm drain or similar – The need for a 500m deep and 500mm wide drain is questioned and we believe this can be substantially reduced in size – The detailed hydraulic design of this proposed work is requested – Copy of the ETTT Arborist's report is also requested – Where will the War Memorial and its rock be relocated? – Shrub planting proposals for this area is endorsed • Northern car park off Wongala Cres – Planing of Angophora Floribunda - 1 per 4 car spaces – Excise small triangles 400x400mm from common corners of car spaces – Use structural soil cells in-ground (Strata Cells by CityGreen) under trees and adjacent car spaces (this would mean 6 trees along this area, not 2 as proposed) and to facilitate these plantings – Solid walling along this car park adjacent to rail - essential to mitigate rail freight noise to Wongala Cres. – Complement the solid walling adjacent to rail line with 300mm x 300mm areas for plantings of Boston Ivy • General plantings: – Put in as much vegetation as possible. The station design is not in keeping with Federation style and the only way to get around this is with the integration of trees, shrubs and grasses to soften the visual impact. The station should be as inconspicuous as possible. – Include planter boxes inside station on the platforms • An area should be made available between the carpark and rail fence for the provision of landscaping, in particular the area behind the angle parking spaces. • Grateful that residents are able to provide feedback. The native gardens were perhaps the best feature of the station so it would be great to see a few a few more garden beds. Community consultation efforts have been great, that has to transfer into the best possible outcomes. Perhaps a few alternative designs could be presented to the community for voting on, much in the same way we did on the station furniture • Water sensitive urban design principles have been proposed for inclusion within the landscaped elements of the works. These principles have included the use of rain gardens within parking areas and road edges. These principles should be considered for the treatment of the proposed concrete lined channel at Cheltenham Station. The use of rain gardens should be encouraged and incorporate the use of indigenous sedges, rushes, shrubs and trees to improve water quality and biodiversity • Water sensitive urban design principles utilising indigenous species should be incorporated throughout the station precincts.	• Areas disturbed by construction activities will be revegetated wherever possible, refer Appendix D. • Additional tree planting will be provided along the rear of the new car park at The Crescent Cheltenham – refer Section 3.3. This planting requires the use of structural soils within the car park to create adequate soil volume for root growth. • The quantity of stormwater required to be carried by the Cheltenham drainage channel prevents any planting within the channel being possible. This would simply be washed away in a storm. • At the new car park along The Crescent at Cheltenham station, substantial shrub planting is proposed between to screen the corridor between Cheltenham Road and the proposed new emergency egress stairs. • Revegetation along the Sutherland Road side of the station is shown in Figure 3-13 • Underground of electrical wires is not part of the scope of the project unless existing wires clash with the position of the new track and associated infrastructure. • Beecroft gardens drainage has been redesigned – refer Section 3.4. • The ETTT Project is aware of the importance of the two Bunya Pines within the Beecroft Station Gardens that have to be removed as part of the project. Discussion about these trees has occurred with numerous residents as well as the Beecroft Cheltenham Civic Trust. The northern Bunya Pine will be too close to the new track and, as a result its root system would be irreparably damaged during excavation to widen the existing rock cutting. In addition due to the need to periodically remove large seed pods from this tree, maintenance would be impractical above the new overhead wiring. Therefore, this tree will require removal. The ETTT Project team is hopeful the southern Bunya Pine can be saved as a result of the drainage design changes, which are yet to receive endorsement by the Asset Standards Authority. Even with such endorsement, it is not guaranteed that this Bunya Pine will be saved. The final decision regarding this would have to be made after an arborist inspection at the time the adjacent cutting is being excavated which is currently scheduled for mid to late 2014. • No relocation of war memorials is proposed. • No opportunities for additional planting within Wongala Crescent car park are available, due to insufficient space • Planter boxes on platforms are not consistent with contemporary maintenance practices. • Water sensitive urban design principles have been provided in the form of: passive irrigation to gardens beds at station precincts; the use of porous paving at both Beecroft station car park; and, the new car park on The Crescent at Cheltenham (in conjunction with structural soils).	Appendix D 3.3 3.4 3.5

Topic	Community comment/ suggestion	Responses	UDLP section
Revegetation – within corridor	• Trees, Trees and more trees. If a Bunya Pine is cut down, another Bunya Pine must be planted or 2-3 • Start revegetation now of depleted vegetation areas - takes time for trees to grow back to their maturity. • More shrubs and planting generally. It is a shame so many trees have been removed along the track. – I trust when the work is finished there will be a full revegetation program to re-establish the leafy nature of the corridor. • Landscaping between Epping station and M2, the plan is to have a mix between native grasses, shrubs and trees. There was a large dense canopy of Sydney Turpentine Ironbark Forest that was removed; please can you plant as many trees as possible. • Make the replacement of removed trees a priority by reducing the scope of the development (such as less defined car spaces). Make exception to any rules in order to maintain the heritage values of the area (which is consistent with the heritage listing for Beecroft-Cheltenham). • Please ensure the trees are thoughtfully replanted - for the sake of future generations who will experience the benefits of the care which is given to considered landscaping, planned and implemented now. • The area associated with the substation on Fig 3-31 should include shrub plantings to increase screening of the rail corridor. • The Concept Design notes the investigation of opportunities to involve Council's Nursery to supply commercial quantities of local native species. It is considered that the provision of stock by Council's Nursery could occur under the arrangement of a Sponsorship of the Bush care/Volunteer programmes run at the nursery in accordance with Council's Sponsorship and In-Kind Support Policy (POL00258) • Council's nursery to provide stock for revegetation works is investigated utilising opportunities outlined in Council's Sponsorship and In-kind Support Policy. • Beecroft/Cheltenham - must be restored to its original environmental and aesthetic appearance. Must be screened visually as recommended by Graham Ross horticulturalist. - Revegetation must not be like pathetic revegetation undertaken by RailCorp some years ago • An embankment existed that provided visual and sonic screens against train traffic. The embankment was heavily vegetated, increasing the effectiveness of the screen. The situation is now that virtually the entirety of each train passing is visible, has caused a very substantial increase in noise. Submit that : embankments that have been removed or reduced in the course of ETTT construction should be restored before construction is completed and embankments should be re-vegetated with a mixture of a) rapidly growing shrubs , sufficient in number to provide screening properties within a short interval b) larger possibly slower growing trees that will provide a more complete screen in the fullness of time or ETTT take alternative measures that would achieve the same practical and aesthetic results • Ensure that remnant bushland along the corridor is enhanced - removed the invasive weeds such as Morning Glory as part of this construction work. • The track needs reinforcement of a retaining wall from the station to Fulbourne Avenue and the UDLP proposes native grasses and shrubs between retaining wall and the fence line. What is the height of the retaining wall? Will the shrubs screen the view of the smooth concrete wall? There is no attempt to provide a visual, noise or pollution barrier? Why doesn't the plan include the planting a barrier of pencil pines or the like along the foot of the retaining wall?	• Final landscaping / revegetation is shown on the landscape maps in Appendix D • Landscaping within each area affected by construction cannot commence until major construction works are complete, to avoid damaging new plants • Generally along the corridor a review of additional tree and shrub planting opportunities has been carried out following community feedback. Appendix D highlights potential areas for additional tree and shrub planting pending council approval. In some areas the additional works are inside the corridor, such as near access gates and at other times street tree planting, has been proposed such as Yarrara Road and The Crescent. • Transport for NSW guidelines do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. Vegetation up to these maximum heights has been included, wherever possible, to address visual impact. Shrub and grass species are proposed in all available landscape areas. • The potential to plant large trees is generally limited to the area along Beecroft Road, Epping – south of the M2 motorway. Even so these trees will be planted as tubestock size and will take time to mature. • Planting outside the rail corridor is typically not within the ETTT Project's funded scope of work • For planting within the corridor, the project team will endeavour to source plants grown from endemic seed stock from Hornsby Shire Council nursery, where available. • Native grass and shrub planting will provide some softening of the retaining wall between Pennant Hills Station and Fulbourne Avenue. The final height of this retaining wall is subject to detailed design, which is underway. In addition, Appendix D has highlighted opportunities for potential additional planting in this area pending council approval. • Any requirement for noise barriers will be assessed separately in the Operational Noise and Vibration Review (ONVR) which will be made publicly available to the community. • Generally vegetation screening is only visual and is not able to provide noise mitigation. • Invasive weeds will be removed within areas where vegetation has been cleared as a result of the project	1.5.1 3.1 3.3 3.4 3.5 Appendix D

Topic	Community comment/ suggestion	Responses	UDLP section
Additional re-vegetation	• Less parking and more trees in station parking areas at Cheltenham and Beecroft • Expand scope of planting of corridor fence areas, to remove bamboo and weed patches straddling the fence and replacement with screening plants including indigenous shrubs and trees - we will examine the UDLP for detail in this regard, but at first sight it appears that existing vegetation will be retained outside the corridor. • Council believes that additional tree and screen planting should be undertaken outside of the rail corridor and request further discussions and input with ETTTA on this proposal. • The more trees, shrubs and natural landscape the better; it will hopefully absorb some of the pollution. • As much vegetation as possible. The station design is not in keeping with Federation style and the only way to get around this is with the integration of trees, shrubs and grasses to soften the visual impact. • Additional street tree plantings along streets opposite the rail corridor frontage. • Maybe children could be involved in planting a Bunya or Hoop Pine seedling (an advanced one) so they can watch it grow over the years, as the original ones in Park won't live forever. Another tree suggestion could be a Wollemi Pine • As far as landscaping my own property and verge to reduce the visual impact it would be more appropriate to do this early in 2014 so that planting would be established in autumn. • Improve landscaping within Hornsby Council lands (nature strips along roads - The Crescent, Cheltenham Road, Sutherland Road) by planting trees to offset the substantial removal of trees caused by construction. • May I just request that there is more than reasonable effort put towards the 'revegetation' of what land remains? Our natural environment and community has borne excessive loss of vegetation and the very least that can be done to show respect for this and the environment is decent quality landscaping and major revegetation (and follow up ensuring survival). • More trees without loss of car spaces can be achieved as indicated below: – 2-4 Southern carpark, opposite Recreation Club - planting of Angophora floribunda - 1 per 4 car spaces. Excise small triangles 400 x 400 from common corners of car spaces. Use structural soilcells in-ground (Strata Cells by CityGreen) under trees and adjacent spaces. – 5-7 Car parking from opposite The Boulevard to Cheltenham Road - planting of Fraxinus Gen (Evergreen Ash / rough barked apple) at 1 per 3 car spaces. Excise small triangles 400 x 400mm from common corners of car spaces. Use structural soil cells in-ground (Strata Cells by CityGreen) under trees and adjacent spaces. • The following sites to be investigated for vegetation restoration: – Byles Creek - bushland regeneration; – Wongala Crescent - bushland enhancement to assist Bushcare site ; – Sutherland unmade road Turpentine Irbark corridor near Clement Close - bushland regeneration ; – Beecroft Village Green - revegetation / screen planting or Turpetine Ironbark Forest near the rail corridor; – The Crescent unmade road and road reserve - regeneration and restoration; – Beecroft Reserve, Wollundry Park, Brickpit Park, Kenley Park, – Wongala Crescent, Sutherland Road, Terra Street.	• Our project approval requires us to ensure that there is no net loss of commuter parking as a result of the ETTT Project works. • Additional vegetation screening (new trees) is now proposed along the rear of The Crescent commuter car park to provide screening between the wheel stop and the footpath. • Transport for NSW guidelines do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. Vegetation up to these maximum heights has been included, wherever possible, to address visual impact. • With the above setback requirements in mind the planting of new *Araucaria* species (Bunya, Hoop, Norfolk and Wollemi Pines) is not possible within the Beecroft Station Gardens area. • Invasive weeds will be removed within areas where vegetation has been cleared as a result of the project • Generally along the corridor a review of additional tree and shrub planting opportunities has been carried out following community feedback. Appendix D highlights potential areas for additional tree and shrub planting pending council approval. In some areas the additional works are inside the corridor such as near access gates and at other times street tree planting has been proposed such as Yarrara Road and The Crescent.	3.3 Appendix D

Topic	Community comment/ suggestion	Responses	UDLP section
Retain trees	• Keep the Cheltenham Palm tree in Cheltenham near the station please. • Iconic canary palm tree (remaining one) • There is a heritage palm tree that residents are very fond of - relocation is crucial and the community is expecting involvement. • Canary Island Palm must be retained in it current position, this is a heritage precinct. • Cheltenham Canary Island date should not be moved for a few car spaces. • Cheltenham Canary Island Date Palm should stay within the station precinct - the car spaces on either side of the palm should be surrendered to accommodate further planting and seats with a community plaque to identify the palm's heritage i.e. planted by William Harris, founder of Harris Coffee. Palm to be moved to Area 9 only if absolutely necessary. • Retention of 2 trees at Cheltenham Station including palm in western car park planting strip and a Eucalypt on Crescent Street opposite the intersection with Lyne Road, (refer to attached aerial photos indicating the Eucalypt tree). We note that the UDLP mentions the relocation of the palm tree. • Council supports the retention and relocation of the existing mature Canary Island Date Palm on the Crescent. Council will work with ETTTA to establish a suitable location for transplanting. • Preserve and protect the Morton bay fig on The Crescent side of the railway near Murray Road. • Retain the historic Bunya Pines • No objection to Bunya Pines going if that is necessary provided other suitable trees are planted. • Every effort made to retain two Bunya Pine trees at Beecroft Station Gardens including relocation of drainage works away from the trucks of these trees - we note that the UDLP mentions the commitment to continue with this effort. • Council supports all efforts for the retention of the Bunyas Pines at Beecroft station garden. • Bunya pines need to be retained somehow - screening for children's playground should have vegetation not just concrete and coloured windows. Who decides who will be maintaining plants after 12 months? • Reattain all trees; just trim these if you need to for safety reasons. • Beecroft and Cheltenham have been appreciated for their greenery. The third rail is perfectly justified but anything that could be done to avoid damaging our trees will be appreciated • I am disappointed at the number of established trees that have been cut down for ease of access. The ETTT should be working around as many trees as possible and only resort to cutting them down when absolutely necessary. • The mature trees located on the corner of Cheltenham Road and Sutherland Road should be replanted / replaced. Trees are an important landscape feature which should be retained to partially screen the new complex from the public domain. • The ecologically endangered species - Sydney Blue Gum and Turpentine Forest - should not be removed under any circumstances. • Rare Blue Gum Turpentine Forest not to be removed • The stretch of Yarrara Road from the shops opposite the station is currently one of line of trees; UDLP shows that these are to be removed. Commitment made at 24 August meeting that every effort would be made to retain the trees. This section of ETTT is where freight trains are most visible, the trains are closer to the road way, trains towering above the road way, increased train noise and diesel fume pollution- UDLP does nothing to alleviate these impacts. • Please replace removed trees where possible, not just native grasses here, there and everywhere. The existing vegetation corridor is beautiful please retain. • Keep and use as much bamboo as you can find for along rail corridor please. • Leave the area as quiet and as leafy as it was originally. People came to Beecroft/ Cheltenham because of the tree effect - leafiness not the railway or the freight trains. • It is extremely important that as many structures should be kept or planted as is possible so as not to spoil the environment. We moved to this area because we like the trees • Sadly, we have seen the removal of many healthy old trees during our time here by developers who are happy to carve up Sydney for profit. However, the devastation along the rail lines at Epping, Cheltenham and Beecroft by the ETTT has been disgraceful. There has been a total disregard of the age of these trees and the potential to keep some of them seems to have been totally out of the question with a preferred attitude of total removal for ease of construction. Our grandson, who is only two years old asked - 'Nanny - why did the men cut down all of the lovely old trees? Where have they gone?	• The ETTT Project is aware of the community's appreciation for the existing vegetation and what it means to see trees removed. While the project team is required to remove vegetation within approved areas to construct the new third track and associated infrastructure, we are committed to retaining as many trees as possible. • Unfortunately some areas of both Blue Gum High Forest and Sydney Turpentine Iron Bark Forest need to be removed as part of the Project. The ETTT Project team works to minimise impacts where ever possible. A Biodiversity Offset Package was presented and approved in the EIS to offset impacts to these valuable ecological communities. • Generally along the corridor a review of additional tree and shrub planting opportunities has been carried out following community feedback. Appendix D highlights potential areas for additional tree and shrub planting pending council approval. In some areas the additional works are inside the corridor such as near access gates and at other times street tree planting has been proposed such as Yarrara Road and The Crescent. • We received specific interest and request from the community and the State MP to investigate saving three different trees at the Cheltenham Station car park: a Canary Island Date Palm tree, a Lemon Scented Gum tree and a Camphor Laurel. Due to proximity of construction works and expected impact on root structure, the Lemon Scented Gum and Camphor Laurel could not be saved, however the Canary Island Date Palm will be relocated to a position nearby, to be determined in consultation with council The currently-preferred location is on the verge between the footpath and road outside 52 The Crescent. Further investigations are underway regarding the presence of buried services at this location. Note that the palm is likely to require temporary relocation off-site, to enable works to be undertaken in readiness for its translocation. • The Morton Bay Fig will only be trimmed. There are no plans for its removal. • The ETTT Project is aware of the importance of the two Bunya Pines within the Beecroft Station Gardens that have to be removed as part of the project. Discussion about these trees has occurred with numerous residents as well as the Beecroft Cheltenham Civic Trust. The northern Bunya Pine will be too close to the new third track and removal of a large portion of critical root zone is required. In addition, due to the need to periodically remove large seed pods from this tree, maintenance would be impractical above the new overhead wiring. Therefore, this tree will require removal. The ETTT Project team is hopeful the southern Bunya Pine can be saved as a result of the drainage design changes, which are yet to receive endorsement by the Asset Standards Authority. Even with such endorsement, it is not guaranteed that this Bunya Pine will be saved. The final decision regarding this would have to be made after an arborist inspection at the time the adjacent cutting is being excavated which is currently scheduled for mid to late 2014. • Retaining car park numbers is a requirement of the project approval. Therefore, surrendering car spaces to accommodate further planting, and seats is not feasible. • No additional bamboo will be planted as it is an invasive weed. The project will not clear any more bamboo than is necessary. • Transport for NSW guidelines do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. Vegetation up to these maximum heights has been included wherever possible to address visual impact.	1.5.4 3.3 3.4 3.5

Topic	Community comment/ suggestion	Responses	UDLP section
Height/maturity of trees	• Please plant advanced trees when replanting around both sides of Cheltenham station. Trees that were 100 plus years old gave the area a unique look and feel as well as welcome noise buffering and shade. We don't want tiny little seedlings that will take decades to grow and are easily uprooted and vandalised. • Tall shade trees • Amenity and view of are on both sides needs to ensure new plantings to 15m height on eastern side of the rail corridor at 3:1 ratio on concern. This improves views. • Reduced noise impacts if plants are maintained at a height of 15m. • 3.3.7 includes trees to grow to heights and density that are similar to what has been removed. Why limit them to trees of 5 metres. • Replant fast growing or mature trees to reduce the terrible vandalism of the old trees torn down for parking areas for commuters. • Plant fast growing natives in the first instance to quickly hide the track area. Also they should: – provide maximum allowable mature height for shading and screening – provide good canopy spread for shading	• Transport for NSW standards do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. Vegetation up to these maximum heights has been included wherever possible to address visual impact. • Proposed revegetation within the corridor will be carried out using tubestock or similar sized pots. Native vegetation adapts quickly to new conditions when seeded or planted in small sizes and will ultimately grow more quickly into a robust vegetation community. • Tree and shrub planting at station precincts have an additional function of streetscape presentation, creation of shade and the need to be vandal resistant therefore larger (semi mature) stock is proposed in these areas. • Generally vegetation screening is only visual and is not able to provide noise mitigation	3.1
Weeding and Maintenance	• Are all dangerous tree branches overhanging the station to be removed? • Maintenance of plants should be the responsibility of the ETTT, at least till adolescence where land owner is not the occupier of the property. Tenants notoriously will not maintain new plantings. • Extend period of time-care - Essential to fund care of planting to 5 years. Community groups might also be able to help. • I strongly recommend that there be a program of replanting and weed control, in line with the Beecroft-Cheltenham Civic Trust's submission. The attractiveness of our suburb is dependent on its bushland, as well as supporting the fauna and flora of the area. • All the replanting must be mature and be maintained by ETTT for at least five years until established. • Revegetate with established trees and maintain them for 5 yrs • Extend period of Time-care - fund care of plantings to 5 years • Increased plant establishment period from 1 years to 5 years • Will all the feral weeds along the rail corridor from Cheltenham to Beecroft be removed? • Weeding vegetation and maintenance work needs to occur by NSW Government and Councils. • A weed management plan to be developed to include the ongoing weed management of the rail corridor impacted by the ETTT project.	• Existing tree maintenance is not part of the ETTT Project • The post completion maintenance period has been extended from 12 months to 2 years. Responsibility for maintenance after two years will transfer to the asset owners, either Sydney Trains and/or council. • Weeds within the rail corridor will only be removed if they are within areas affected by construction works. • Ongoing maintenance is described in Section 6.5.5	6.5.5
Seed collection	• Seed collection - a most important aspect of replanting bushland is the collection and sourcing of seeds. • One additional point concerning the replacement of trees - it isn't just a case of getting any old tree from Hornsby Shire Council, NSW Rail or anyone else. What would be really valuable to replant for the community and our grandchildren is truly local, not only indigenous but endemic trees which would turn a tragedy into a major plus to be able to reintroduce the Epping Forest of the Pre-18th Century. Not impossible at all, it just takes concern and consideration with horticulture involved. Heavens it might even be world best practice. For example, the eucalyptus in the Beecroft fire station is an endemic species and very precious. There's another in the Beehive car park Beecroft.	• The ETTT Project will collect seeds from two species of endemic Eucalyptus trees including a Stringy Bark (*Eucalyptus globoidea ssp. globoidea*) and an Ironbark. The Beecroft Fire station and Beehive locations have been identified as excellent sources of Ironbark seed. • Site topsoil has been stripped and stockpiled for re-use, where space exists within the corridor for this. Some topsoil will need to be imported for the final landscaping as there is insufficient clear space within the corridor to store all removed top soil. This has avoided the need for additional tree clearing solely for soil stockpile purposes. • For planting within the corridor, the project team will endeavour to source plants grown from endemic seed stock from Hornsby Shire Council nursery, where available.	1.5.4

Topic	Community comment/ suggestion	Responses	UDLP section
Cheltenham Station design - heritage	• The proposed Cheltenham station design is not in keeping with the heritage character of the area. No consideration has been given to the local community and the proposed station is an eyesore in a suburb with heritage nature. • Cheltenham station proposed design - the new design maybe practical and economical but aesthetically it is quite unacceptable. Not ever worthy of an outdated post-modernist structure. Better suited in an industrial zone, not residential. Modernity would cry, as it is just not sympathetic to the residential area. Maybe they can get away with this steel and glass design in a commercial area like Epping CBD but not in a federation residential community. • Cheltenham station does not reflect any heritage values of the area. • Cheltenham station is in a heritage precinct. The current design does not have any features that come close to heritage - we need brick, sandstone, pitched roof not skillton and steel and glass - post modern crap • Cheltenham station needs to be rebuilt in a heritage style sympathetic to the local area building style. That is NOT in modernist flat roof steel concrete as suggested by your artist's impression. By removing all the trees and then building the ugly modernist style station you will forever blight the beautiful suburb. Rebuild the station in brick and pitched roof (even colourbond) to blend in with the area. Show the community of Cheltenham some proposed heritage style designs for us to choose from; don't impose something on us we don't want. • Station design - more consideration needs to be made to the Heritage and Conservation Zoning of the Area. Heritage guides should be prominent in the design and it should be low impact from a visual perspective. The access off Cheltenham Road Bridge needs to be in character with the area, we would not be able to build a home like that in the area - so why should this project? • Cheltenham station - must be in keeping with local heritage listed architecture. Clive Lucas or Ian Stapleton should be employed to redesign an appropriate station - bricks and tiles to be used and sandstone not glass and steel. Must be screened with mature attractive trees. • Cheltenham Railway Station: the appearance of the new station is out of character with the local area. Surely it is possible to come up with a more understated design that is more in keeping with the heritage area in which it is being located. • Redesign and remove the roof over the concourse and limit eaves on the buildings to reduce the visual impact. The planned roof is out of character with the heritage listed area. Smaller, less intrusive shelter areas would be more appropriate. • The present design of Cheltenham station with car park is too large. The proposed size makes the station the centre of Cheltenham, rather than the Federation homes. Please down size and design something more sympathetic to the area while maintaining an energy efficient structure. • Redesign for Cheltenham Station a) less intrusive b) sympathetic to heritage precinct c) different construction materials eg bricks, tiles and sandstone d) new federation style as in Beecroft Station not generic one size fits all. Restore our area to its original leafy heritage aspect; respect our environment and heritage and aesthetics • It is significant in size and the design needs to go back to the drawing board. Some brick work and softening. • 3.3.4 Design interest….the design is alien and does not integrate to the heritage value of the existing neighbourhood. The suburban context of Cheltenham is not concrete and bitumen but that of trees, plants and space. All in a usually tranquil surrounding. See 3.3.2 where Cheltenham demonstrates the impact of natural typography and vegetation on determining the street character. • Materials at the stations need to be more sympathetic to the environment/ community considering stringent rules that apply to residential homes. • More sympathetic materials at Cheltenham Station to surrounding area. • Station Entrance (p46) and surround - needs to be sympathetic to the heritage values. This may be achieved by 'Sandstone' titles on some of the side walls. Examples of such titles that have 'sandstone' like appearance and are sealed are Viewgres TM range and would be keeping in the paved plaza area proposed at Item 14. Much more attention needs to be given to the station entrance to blend the architectural styles and tiles of imitation sandstone and natural rock can achieve this at a reasonable cost and weight to structure. • Cheltenham Railway Station - proposed concourse is not appealing to the eye. Far too much grey and concrete in the design. The station is located within vicinity the Beecroft/Cheltenham Heritage Conservation Area. Would be good to see something a little more sympathetic that what is proposed. Any colour used should take inspiration from surrounding natural elements. • Material that most the residents would like to see is brick and located at concourse level • Fig 3-16 council supports new station architecture however more detailing is required for the barriers. These could have some form of detailing and decoration that adds some new materials in association with the character of the Cheltenham area. The screens could be changed to clear glass. • Council supports new station architecture however more detailing is required for the barriers. These could have some form of detailing and decoration that adds some new materials in association with the character of the Cheltenham area. The external finishes and details should also be amended to further complement the components of the surrounding heritage conservation area, for example through the introduction of featured face brick or sandstone cladding. The new materials should complement the existing buildings to be retained on Cheltenham Station.	• The colour of the vertical elements at Cheltenham Station have been changed, including the lift shaft cladding, roof fascias and the bottom solid panel of the throw screens as shown in Section 3.3. • The new colours are a soft "sand like colour" in lieu of the greys and silvers originally presented to the community. • The ETTT Project is not able to change the design of Cheltenham Station to make concourse and buildings from brick, or to make it look 'heritage' because the building design is a contemporary response to compliment the heritage context rather than compete with it. That is, the principle of honest architecture has been adopted whereby the new station should not be made to look 'old'. The station has been designed to compliment – but not mimic – the heritage look and feel of the area. • Overall the station has been substantially scaled back from that proposed in the EIS in line with community feedback; the current design offers the smallest possible footprint and least impingement while still providing the required functionality, compliance to DDA and other modern safety, engineering and crime prevention standards. • Contemporary materials such as glass cannot be eliminated from the design altogether as these are included for passive surveillance and pedestrian safety. • The shape of the roof is a contemporary response to maintenance standards and the objective of maximising natural light. • Transport for NSW guidelines do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. Vegetation up to these maximum heights has been included wherever possible to address visual impact. However, as a result of community feedback, additional small to medium sized trees have been nominated within the car park area, utilising structural soils below the pavement to create adequate soil volume for root growth. • The anti-throw screens on the Cheltenham Road over bridge have a solid lower panel, which is now coloured to match the new lighter tones of the station building. • The planting materials and the footpath materials have been selected to compliment the suburban nature of Cheltenham Station and use simple, robust materials that have always been used in this area. The planting palette has been modified following community feedback and is a mix of natives and exotics to reflect existing plantings.	3.3

Topic	Community comment/ suggestion	Responses	UDLP section
Cheltenham Station design – anti-throw screens	• Current anti-throw screens give a feeling of an internment camp or prison. Please research material replacement with a view to: texture and colour of materials, inclusion of artwork panels, break up the sections with different application of materials, use of vines on side panel mesh to soften visually. • The anti-throw screens are very ugly and aren't compatible with the Cheltenham heritage area. Would appreciate a re-design in a less obtrusive form. • Anti throw screens make it look like Silverwater gaol. No problems now – don't install but if problems present then retro fit the anti-throw screens) • Remove anti-throw screen (only install if a hazard exists in the future). • The proposed grill mesh anti-throw screens at Cheltenham Station would have a detrimental impact on the visual character of the Beecroft/ Cheltenham Heritage Conservation Area. An alternative material or finish should be used. For example, the screens could be changed to clear glass or a powder coated colour image could be applied to provide some decorative interest.	• Anti throw screens cannot be removed from the design as they fulfil a safety requirement. • The anti-throw screens on the Cheltenham Road over bridge have a solid lower panel which is now coloured to match the new lighter tones of the station building. • The upper mesh component of the barrier is an appropriate light weight material for attaching to an existing bridge. Wind loading of new components is an important consideration for the structural integrity of the bridge. The mesh is also considered to be visually recessive in that it has a high level of transparency, and is therefore not proposed to be coloured. • Glass is not a suitable structural material for anti throw screens. Perspex is easily scratched and vandalised. Glass and Perspex both have higher wind loading characteristics to consider which would not be appropriate for this bridge.	3.3
Cheltenham Station design – access	• Kiss and Ride would be better located in area 3 - adjacent to number 1 platform - is considered to be the optimum location. • Where will people are dropped off on either side of the new Cheltenham Station? Is there space for a kiss and ride? People currently enter into the car park and drive out after picking up/ dropping off their passengers. • Kiss and ride should be moved to other side of the station. Federation bollard looks out of place with the furniture, bin and bike rack, better they all have common theme so make them more modern. • Remove all 'kiss and ride' parking areas near the bridge as these will add to congestion and become a hazard (as drivers try to turn around on the tight streets to get back to the lights on Cheltenham Road). • Concourse are requires widening - Link between Area 1 and Area 14 is likely to be a very busy place with train and car commuters, as well as school children, moving in different directions and congregating as they converse. It appears to be too narrow and will present a bottleneck effect. We suggest widening the pathway to the south by at least another metre over the rail line. This concourse access way should be widened to accommodate commuter plus Girls' School peak use as it is likely to be an area of congregation • All access to the planned station at Cheltenham is via a single entrance off the existing bridge. Install an underground concourse (similar to the existing Beecroft station) with the entrance at the southern end of the existing platform to allow a level entry suitable for elderly and large school groups. It would offer large and more level entrances on both sides of the tracks. • The proposed station plaza at corner of The Crescent and Cheltenham Road is required to cater for large numbers using Cheltenham Station at peak times due to limited width on the footpath on the bridge to station entry. The area should have a better relationship to street and provide a level area adjacent to Cheltenham Road. It should also have terraced steps to provide more direct access for people coming to and from carparking on The Crescent. Any landscaping provided in this area needs to ensure that it allows for clear sight lines into the plaza and ensures the area remains safe. Adequate lighting is also to be provided for safety. Council requests further input into detailed design of this station plaza area. • CGHS have expressed concerns re new design and the safety aspects the narrow exit at the top of the bridge, Safety should be paramount. • The walk-way over Cheltenham Road Bridge and leading up to the station top entrance needs to be a more generous width for practical safety reasons as CGH converge on this area daily. • Confirm gradient of ramp at Cheltenham station from west side of station at compliance with DDA • Disabled access at Cheltenham station will not be improved by the installation of lifts if the disabled person has to get up onto the bridge first and no drop point exists in front of the bridge station. • The proposed Cheltenham station design makes access to rail facilities even more difficult and results in a significant residual visual impact. • The pedestrian crossing should be moved from the existing south side of The Crescent to Cheltenham Road end and the Cheltenham crossing moved to the North side of The Crescent from Cheltenham. • Proposed pedestrian plaza duplicated on north side of Cheltenham Road linking the new positioning of the pedestrian crossings. • Cheltenham station - I think the access overpass lifts and stairs should be located away from the Cheltenham road bridge as people converge onto the narrow footpath so close to the trough traffic on Cheltenham road could be quite dangerous and also residents living on the city side of station have quite a steep climb up to Bridge level and now with the 3rd track will have to climb stairs on forward journey and return journey whereas before could walk directly off platform on to the Crescent. • Please consider helping to make the walk from Day Road to the south bound platform at Cheltenham much easier for the elderly and the young. This can be achieved by a short walk path along the rail from Day Road to the new/ extended platform, with the trees cleared, it seems there is plenty of room for the construction of such a path, which would be level instead of the current high gradient narrow walk along Sutherland Road. • When there is track work, a better way of boarding buses when travelling to Hornsby is to maybe have the buses pull up so you can board the bus from flat surface at the moment you have to wait either on road or on slanting footpath (frequent traveller to and from Cheltenham station). • Station doors Cheltenham Road entrance need to be able to be opened to allow girls to flow through • There needs to be a pedestrian crossing across Sutherland Rd to the eastern side of the station. Something that would line up with access to the station masters office. • Redesign to adequately address safety access for the huge number of girls from Cheltenham High. • There is a need to amend the opposite corner near the pedestrian crossings as with so many kids walking from the station to the school, grass cannot grow on the corner. It would perhaps be best just to pave the corner verge in similar material to the new station.	• Kiss and Ride is located on The Crescent to: – avoid extending the car park on Sutherland Road; to the south and thereby avoid an extensive retaining wall to cater for the steep topography in this location – provide a location close to the new station entry and plaza/waiting area; and, – to optimise the narrow space area where the Kiss and Ride is located given that parallel parking bays are required. • Cheltenham Station is currently wheelchair accessible as both platforms have direct level access from the adjacent streets. Due to the construction of the new third track to the west of Platform 2, the direct access to this platform would be lost. The new station concourse, proposed to include lifts, would replace this direct access and importantly provide cross-corridor access for less mobile people. Lifts would also ensure compliance with easy access guidelines under the Disability Discrimination Act 1992 (DDA). All the disabled parking spaces in the current Cheltenham Station design are in the modified parking area on the eastern side of the track. Access to the lifts, concourse and platforms from these parking spaces will be via a DDA compliant path from the car park to the city platform. From there, access to the country platform is gained via the two new lifts. • The Cheltenham Station concourse, platforms, access points, width of the footpath and the paved plaza were designed by taking into account the current and forecast patronage numbers to 2036, which include the students of Cheltenham Girls High School. • Existing car parking numbers must be maintained, this is a requirement of the project approval. • A DDA-compliant station access between the car park and the platforms will be provided on the eastern side, not on the western side. Existing footpaths are not DDA-compliant on the western side, due to the steep topography of the area and this cannot be changed. The EIS design did include a new lift to The Crescent however this design was eliminated in favour of a less imposing station entrance off the overbridge, in response to community feedback. This however has had the effect of requiring all DDA-compliant access to be positioned on the eastern side, off Sutherland Road. • Modifications to pedestrian crossings and footpaths beyond the construction footprint is not part of the scope of the ETTT project. However for pedestrian safety reasons the new plaza at the corner of The Crescent and Cheltenham Road has been included.	3.3

Topic	Community comment/ suggestion	Responses	UDLP section
Cheltenham Station design - lighting	• Screening from lights, no detail on Cheltenham station lights and the spillage over to existing properties.	• A diagram showing lighting levels resulting from the reconfigured Cheltenham Station parking areas is now included in the document. The lighting levels at the front of each property are below the levels nominated in the relevant Australian Standard.	3.3
Cheltenham Station design - other	• The overall design and materials of the concourse building is supported • Hardware treatment of the station is considered good. • Potential change to finishes at Cheltenham Station. • Thank you for redesigning the proposed Cheltenham station. The new, smaller design looks like a big improvement over the initial proposal. • In my opinion the modern design of train stations is dreadful like a giant prefab dummy! • The roof of the stairs going down from the overbridge to the platforms seems to have a gap in it where rain could blow in. There can be very strong and cold winds in winter and I think the design needs to be thought through with this in mind so that passengers stay dry, and warm, if they take the stairs. • Station precinct concept designs (fig 3.7 and 3.8) affecting Cheltenham , Beecroft and Pennant Hills. Takes away from credibility of study , as there is no and never has been an existing village at Cheltenham. At Beecroft and Pennant Hills existing villages are on the western side of the line and not the eastern side as shown in the diagram. • Remove (or at least reduce) the 'paved plaza' at the corner of Cheltenham Road and The Crescent and return trees to the location to assist with reducing the visual impact of the proposed station. • You need to try harder on Cheltenham station architecture. Can we get some alternatives for consideration • Change the planter box at the corner of Cheltenham Road and The Crescent to a tree planting with garden bed (this will greatly reduce the visual impact of the station. • Potential changes to finish materials and colour of the lift shaft at Cheltenham. • Colour paint to expose structure - grey is too commercial from their point of view. • Cheltenham station appears ugly - softening with planting • Cheltenham Station - include a water fountain in area 9 and 14. • I like the faux timber panels under the roof and the freestanding letters that form the station name. • Cheltenham Station awnings extion to 80% of station - Contrary to previous information provided - awning coverage to 80% of station length as the new standard for all new station redevelopment and new stations on the City Train Network. This proposed awning extends down to the corner of The Crescent and The Boulevard and is not shown in fig 3.14. This is the first time such a structure has appeared on any plans or concept drawings as provided to the community. We object to such a structure on the basis that it is: – Too extensive – No consideration was given to the visual impact from residences along The Crescent as awning height will have huge visual impact on those residences facing the railway line as all vegetation has been removed. There really has been no thought to the visual impact this awning will have to the residences of 54 to 58 The Crescent and it is deceptive that your artist impression taken from the view of 60cm above ground level looking North to the station on page 44 of your Urban Design CD ROM does not show it or its height affect and visual affect from the residents facing the station. The fact that it has only appeared now is an utter disgrace particularly if it is part of the minimum design standards for new or upgraded stations on the Sydney network. • By narrowing the proposed width extension to Platform 1 by 1.5m would allow the third track to be moved 1.5m towards Sutherland Road side and thus increase the land space on The Crescent side for Green Planting of appropriate hedging plants in keeping with the existing street planting of the area. This would also improve the visual aspect of the development as well as provide mitigation for sound wave dispersion and absorption and is far more desirable than the concrete walls as sound barriers. • Be generous, even at the cost of parking spaces. Residents have given up a lot more in the devaluation of homes with this freight line. It's the least you can do. • Cheltenham station Area 8 should include seating and more substantial trees to soften visual impact. • Cheltenham station area 10 appears ugly. Softening required with planting. • Prior to the construction of the freight corridor, Cheltenham Station could have been considered to be akin to that of a non-urban bush railway station. Many members of the community have voiced objection to construction of an urban landscaped Railway Station. • Cheltenham Station – Current anti-throw screens give a feeling of an internment camp or prison. Please research material replacement with a view to: texture and colour of materials, inclusion of artwork panels, break up the sections with different application of materials, use of vines on side panel mesh to soften visually. – Include a water-fountain (bubbler) in area 9 and 14 – The walk-way over Cheltenham Road Bridge and leading up to the station top entrance needs to be a more generous width for practical safety reasons as CGH converge on this area daily. – Station doors Cheltenham Road entrance need to be able to be opened to allow girls to flow through. – Ensure generous seating and bicycle racks on Western side as well as Eastern side of station. – Planter boxes in the internal station platforms	• Consideration has been given to weather conditions, drainage and shade as part of the design process. • Figure 3-7 and Figure 3-8 are generic and do not refer to Cheltenham specifically. They are included to demonstrate the design principles for integrating with the existing landscape and defining the extent of station precincts. • We can confirm that the awning coverage and the new platform widths are the minimum required to comply with Transport for NSW standards. • The pedestrian plaza at the corner of The Crescent and Cheltenham Road has been included to meet the pedestrian flow demands of the station in peak periods. The plaza creates a level area adjacent to the pedestrian crossing to accommodate larger groups. It includes seating walls and is also located near the Kiss'n'Ride, creating a safe waiting place. • It is not intended to provide further station design options - community feedback has been incorporated in the final design • Area 8 (The Crescent) includes two bench seats adjacent the Kiss'n'Ride. Area 8 (Sutherland Road) slopes do not allow room for seating. Transport for NSW standards do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. Therefore, trees with a mature height >6m cannot be planted in Area 8 (The Crescent) and >15m Area 8 (Sutherland Road) • Provision of a bubbler is not considered practical at this location • Refer to details above regarding station access • Seating and bicycle racks will be provided in the precinct, as shown in Section 3.3	1.5 3.3

Topic	Community comment/ suggestion	Responses	UDLP section
Playground at Beecroft	• A sheltered area will be a great addition to the already amazing playground. An idea is to put maybe a sandpit or a station shop like area. I get this idea from the many shops at the stations that sell chips, drinks and many more. I have never been to the park before but I believe that my comments may lead you to build my ideas. Please take into account that I am only a child. I may not be able to change your thinking, but I hope my ideas will help. • Also consider maybe a sheltered area where children can play safely as they are not always out in the sun. • What provision for shade? • Another suggestion is to maybe put a small play area where older kids aged 8-11 can play. This will put greater diver in age range. • Please check how much the playground is used? I do not believe many children would play on the park equipment. There are many parks in the area away from the train noise. • A water fountain - drinking water • A water fountain is missing. • This is an excellent park location well utilised by the community and needs to be well set up with suitable play equipment • Seating required • Support the playground area provided no trees are cut to extend it. • Only support the extension of the playground if it means no additional trees will need to be removed • Do not support the extension of the playground area if has a detrimental effect on the leafy ambience of Beecroft. • Do not support the extension of the park if it means the loss of more trees • Extra seating is also a benefit for option 1. • Firstly, thank you NSW Transport for retaining the children's park in Beecroft - much appreciated! • When my children were younger looking at the trains coming and going was a great part of the entertainment at this park. • Consideration should be given to replacing the perimeter fencing on the street side of the playground, to something more in keeping with the village atmosphere of Beecroft. • A public toilet in this park with water available is the only thing missing. • What facilities will be put back into the community (BBQ area?) • This park is VERY important to the Beecroft community. • The proposed area for extension of the park is rarely used and would really benefit park users as many people use this park." • Yes please extend the play area • Equipment is great but if extended, another set of equipment should be put in. I would propose another set of climbing equipment in new area and more seating. • Concerned about the potential of vandalism for the masonry wall. • Support extension of the playground provided there is no alternative to losing the rest of the park anyway. • Sutherland Shire Council has a remarkable adventure playground. Please could Hornsby Shire council + ETTT planners who will restore the playground at Beecroft - please do a site inspection of the playground at Sutherland Shire Centenary Park, Karimbla Road, Miranda and implement some of the features there please. Putney Park also has good features, such as soft fall ground cover. • Better free bicycle parking is required at Beecroft station and more friendly toilet facilities • Beecroft Station Gardens Upgrade - including playground with more swings upgrade of pathways, garden beds and plantings and other new design elements. Council is offering to draw up a master plan for this work on the proviso that ETTT secures all capital works funding, or a major contribution. We note that the UDLP is now on exhibition, mentioning the expansion of the playground space but the upgrade of the Gardens generally is not mentioned as far as we can tell. Council offer still stands. • Council supports an expansion of the Beecroft Station playground. However, Council request further input into playground design, equipment selection and details • Beecroft Children's Playground must be extended to allow adequate play space and no electrical boxes to be placed in close proximity. • Beecroft playground extension with no loss of trees • We consider adequate sound proofing in the playground but all along the corridor to be the most important community issue. • What option is better for noise reduction? This is an important issue due to number of trains planned for this line. • Council will support either of the playground screening alternatives proposed in the UDLP and will accept the preference of the community feedback.	• Following feedback from the community, the proposal to extend the playground to the south was explicitly supported by 90%, providing that no additional trees were removed as a result. The final design incorporates the extension. • The public exhibition process provided options to screen the playground from the rail corridor. Option 1 was a vegetation screen with seating and option 2 was a masonry wall with coloured glass viewing holes. Of the 142 respondents that expressed a preference about the playground, 66% preferred option 1, 23% preferred option 2 while, 8% would like to see a combination of both and 3% did not support either option. • Following community feedback the playground extension design will include: – A vegetation screen along ¾ of the playground with a short section of a wall with viewing holes – Additional vegetation screening for the relocated isolation transformer. – Seating, both along the new garden beds and separate seats within the playground area. – Retention of existing train themed equipment and relocation of the existing swings. – Additional playground equipment will include spinners and springers, with appropriate soft fall surface amendments. – A drinking fountain – A design, that ensures no additional trees are required to be removed as result of the extension. That is, the existing Jacaranda trees to the south of the playground will be retained. – Modifications to nearby footpaths in order to accommodate the playground extension and improve pedestrian circulation near the bus stop. • Council has advised that it does not support shade structures in parks due to maintenance issues and as such none have been included in the playground design. • A sand pit in the playground was not considered appropriate by council. • The existing playground is for 0 to 5 year olds and it was agreed with council that the playground should continue to cater for this age group.	3.4

Topic	Community comment/ suggestion	Responses	UDLP section
Lift, ramp and disabled access at Beecroft Station	• Put disabled access in at Beecroft to minimise future disruption - while workers are all there making a mess of the place you may as well put disabled access into Beecroft station. • By upgrading Beecroft Station with a lift it will help those in wheelchairs and the disabled. • To comply with the Disability Discrimination Act 1982, as amended (NSW) install a lift at Beecroft station. 2 at Cheltenham, and Pennant Hills, yet none proposed for Beecroft. • Suggest you build ramps for pedestrian underpass ad ramps to platform; maybe also lift as there are lots of elderly people in the area. • Will a lift be provided at Beecroft station? A significant proportion of the community are either OAP's or young families with strollers. The current stairs at Beecroft station does not permit easy access. • As there is work going around in most of the stations it would be great to install either lift or ramp options in the Beecroft station. Need this with our kids and prams. • My husband and I are over 60 years old. We often use the train but it is getting more and more difficult to use the stairs especially with shopping bags and when we are coming home from the airport with luggage, could you upgrade the Beecroft station will escalators or a lift? • Can't understand why you wouldn't make Beecroft station Pram friendly. • Who can advise about a lift at Beecroft to the rail platform? We all want one! • A lift is needed for Beecroft station • Construction of a Beecroft Station Lift (recognising implications for station upgrade - possible $10 - $15 million cost) • Council continues to request a lift be provided at Beecroft station as part of the upgrade works • There is no lift at Thornleigh station. It is really inconvenient for commuters. Can we consider adding a lift? • If you focus on the changes being convenient for the purposes of getting a third track through without genuinely investing in the station and facilities, then you offer nothing of value to the Beecroft community other than change, more rail traffic and noise and loss of treescape. You'll always be on the back foot with this model.	• We acknowledge receipt of a significant amount of community feedback in relation to existing access arrangements at Beecroft and also Thornleigh Stations. Unfortunately the ETTT project is not funded to deliver any upgrades to Beecroft Station access in particular provision of a lift.	3.4
Isolation transformer at Beecroft	• The location of an electrical transformer immediately adjacent to a children's playground is not acceptable. • Don't put the transformer in the kids park. Please locate it in the new car park in Beecroft. • Council request further consideration of alternatives for the proposed substation adjacent to the playground. If the substation is to be located as indicated in the UDLP screen planting is to be provided within the fenced enclosed area. • Electricity box should not be located in a children's play area plus once again you propose to remove perfectly good tress	• The isolation transformer cannot be moved to the Beecroft Station car park as that would result in a net loss of car parking spaces available in the final design. This would be inconsistent with the project's commitments outlined in the Submissions Report and the Conditions of Approval. • Trees and other vegetation will be planted around the isolation transformer to provide a visual screen. • The isolation transformer complies with all relevant electrical safety standards. • The transformer will not be within the playground. • The fencing position has been revised to relocate it closer to the transformer which will create more garden area in the public domain rather than behind the transformer fence. Planting to the garden area around the transformer includes shrubs and three new Crepe Myrtle trees.	3.4

Topic	Community comment/ suggestion	Responses	UDLP section
Pennant Hills Station design	• The proposed station building modification is unacceptable – the roof colouring should be a blending green, light colour to reflect heat – the upward jutting canopies are too high and do not provide shelter from wind, rain and sun, the upward jutting canopies should not define the structure – the canopies could be continuous following the structural line of staircases etc – the butterfly canopies do not provide shelter from wind, rain and sun – the butterfly canopy exaggerate the height e.g. as demonstrated at street level above – if the butterfly canopies are 'gutter cleaning' driven, with no trees in close proximity (no leaves), this is not justifiable – the height impact of the Yarrara Road frontage needs to be reduced – the lift shaft should not influence the roof line as the station building (Beecroft Road lifts at Epping Station) – the roof line at the frontage should be sloped down towards the street – the deflection wall should be made a feature wall, for example; potential for embossed artwork e.g. native animals, potential for local school artwork participation, graffiti proof (no blank surfaces). – benches should be free of arms as they use up two spaces, otherwise Fig 3.52 is acceptable – waste bins should match benches • Our objections to issues raised in this submission have been raised a number of times before, including with Minister Berejiklian. It is difficult to blame the project team because the plans appear to have been forced upon them and they have no powers to change them. The Trust looks forward to further discussions on these two elements. We are not satisfied with the forced 'one style suits all' approach to station design being pursued by Transport for NSW. Ours is not a new station on a new rail line. Pennant Hills is an established station in a well established suburb with a rail station dating back to the 1890's. • The Pennant Hills station design is terrible!! It doesn't fit with the existing structures on the eastern side and those two roof extensions from the main building are horrible! Will this design protect citizens in rain and wind? No! • It needs a whole redesign with the roof slope over the stairs going the opposite way. There are no trees anymore so leaves will not be a problem. • Fig 3-47 shows Pennant Hills Station architecture is not to be consistent through the whole station. Council requests that a common architecture continue through the whole station to provide consistent appearance and character internally and externally. Pennant Hills Station is not a heritage listed item and is not located in a heritage conservation area. There are no historical or cultural reasons to retain the visual difference between the existing and new development work. Accordingly, Council does not support juxtaposition of new and existing station buildings. Council supports retention of the clock tower. • It has to fit with the other buildings on Yarrara Road and existing station, with a green roof and better design. • 3.5.3.1 Pennant Hills station concept plan shows the proposed position of the pedestrian bridge to be replaced. This plan shows the northern end of the platform. Vegetation shown makes a mockery of fig 3.4 (page 27 • Visual impact - looks absolutely horrible from the Yarrara Road aspect, especially the new footbridge. One design does not fit all .Suggest; change the design of the V shaped support structures to something more delicate, eg the footbridge over Epping Road near Wicks Road. Paint it and the fence white or green so that it blends in with the background. • There should be further detailing of the finish of the retaining walls on Yarrara Road, possible changes include textural finishes or use of sandstone, face brick or tiles at Pennant Hills Station. • Improvements to architectural character and streetscape interface with the Yarrara Road frontage of station building and footbridge at Pennant Hills Station • 4.1.1 The climb actually levels about immediately at the southern end of the station. If there was no platform required, the new freight track could be lowered so that the safety wall did not have to be as far above ground level. Will this be done? • Pennant Hills Station design does not fit into the local heritage streetscape, flying canopies do not provide any shelter from the weather and look absolutely awful. Suggest change the design to fit in with the rest of the station with downward sloping roofs, no flying canopy and paint green like the rest of the station (or paint the rest of the station the same as the new part) . There's no going to be any tall trees anywhere near these roofs so no need for 'easy to clean' gutters in the middle of the roof. • Fig 3-46 indicates a reduction in the width of Yarrara Road. As a result opportunities for tree planting are limited. Council requests that there is a reduction in stairs and ramps along this verge to the minimum required under access standards, to provide increased street verge widths. • Pennant Hills is valued for its leafy nature and canopy of trees, UDLP effectively presents the rail corridor as rudely distinctive from rather than a part of the suburb and we believe that TfNSW can do a lot better. • The super modern extension is unsympathetic to the existing structure, its domineering and overwhelming from the street view. Suggestions: discard the high flying roof canopies in favour of lower multi segment ones which conforms to the angles of the stairs; discard the V shape roof in favour of traditional shapes continuing the trainable roof motif; use similar colours to the existing roof and walls; have the northern side of the western street face closer conforming to the shape of the existing concourse roof. • Pennant Hills Station needs more greenery. It looks very ugly. At present there are shrubs etc all along the present station access on Yarrara Road to the junction with Pennant Hills Road. What about green walls?	• The ETTT Project will implement a tile-finished feature wall with designed Eucalypt-inspired pattern on the western face of stairs/ramp at the pedestrian footbridge, and the wall below the stair to the concourse. In addition a creeper is proposed to be planted in the undercroft area to soften the visual impact of this wall. • The ETTT Project will change the proposed roof colour to Colorbond 'Mangrove' which is a shade of green. This colour will not match the existing weathered colour but it will provide a suitable contrast while still being a green, rather than grey, colour. Note that the ETTT project is not funded to renew the whole station including the existing roofs. • The design of the station canopies has to ensure good platform coverage for protection from inclement weather and sun (it is good practice to design the canopy edge as close to the platform edge as is permissible within the standards). The design also has to comply with Transport for NSW standards which call up coverage, heights, extent and maintenance access as defined constraints. As such, the design of the platform canopies has been developed taking into consideration the following: – Transport for NSW standards require that unless the gutters are set back 1300mm from the platform edge they cannot be maintained without a track shutdown. – The design sought to locate the gutter as far from the canopy edge as possible for safe maintenance access, whilst providing the widest platform coverage. • The current proposals provide an optimised platform to soffit height for good platform visibility, clarity of signage and quality of space. • The intention of the canopy design is to provide a seamless form that "fits" with the existing and proposed roof lines, but that sits separately from it to promote views and ventilation. The architects have created a contemporary design that responds to the requirements for: safety, maintenance, weather protection and maximum coverage to platforms. The gap in the canopies has also been subject to a weather study and the overhangs designed to reduce exposure to rainfall to an acceptable level • The chosen rubbish bins and benches are in line with the community feedback obtained during 2013. • The new platform on the new track is being provided for 'future-proofing' purposes and must remain in the design • Trees are proposed for Yarrara Road street frontage as per section 3.5	1.5 and 3.5

Topic	Community comment/ suggestion	Responses	UDLP section
Pennant Hills Station design - footbridge	• The proposed footbridge and its positioning will significantly increase the use of the pedestrian crossing at the corner of Yarrara and Pennant Hills Road. The improvement of this pedestrian crossing should be included in the UDLP consistent with the improvements at the Yarrara/ Ramsay Road intersection. • The pedestrian bridge (near Pennant Hills) should either have a roof or be fully open. It should also have an architectural entry statement. • The proposed pedestrian footbridge is hideous (fig 3.46 and 6.41) – the structure is excessively prominent with its ugly V-shaped struts – it looks like the rail bridge over the Hawkesbury River, hardly contemporary – this proposal must be aimed to maximise an ugly visual impact – if this bridge has been designed as an integrated element (6.3.3) integrated to what?" • This footbridge is not part of the station per se, it is part of the locality's pedestrian network and as such it should be relocated closer to and parallel with the Pennant Hills Road bridge. If the prefabrication of this structure is a governing factor this location would at least remove it from the prominence of the currently proposed location. – the railings should be coloured green or grey to blend into the background – the western wall should be in sandstone • Pennant Hills Station concept plan shows the proposed position of the pedestrian bridge to be replaced. It is also indicative of the ability to shift or remove the proposed new platform to avoid narrowing Yarrara Road bad thereby increasing pedestrian safety. • Replacement footbridge. The existing bridge contains a major power supply and water main that will have to be cut off and rerouted under the new bridge. While more costly, if a temporary pedestrian bridge was built to the north, the new bridge could be built at a slight angle to Yarrara Road to reduce the height and bulk of the steps and ramps .Believe that there can still be a slight slope and still comply with regulations especially if the platform was deleted and freight earn lowers. • Fig 6-42 Replaced footbridges - temporary pedestrian bridge was built to the north, the new bridge could be built at a slight angle to Yarrara Road to reduce the height and bulk of the steps and ramps. Additionally, if the platform was deleted and existing one shifted north, the bridge would not have to be as long and allow more space to replace some of the existing trees and shrubs.	• The ETTT Project will upgrade the existing footpath on the eastern side of Yarrara Road near where it meets Pennant Hills Road. This will eliminate the current excessive cross-fall. • The new pedestrian footbridge is longer than the existing bridge to accommodate the third track and therefore it is a larger structure and it is required to be designed and constructed to current Australian Bridge Standards. These Standards require the bridge to be designed to a number of loading conditions such as potential impact from trains hitting the support. • To keep disruption to a minimum, the bridge is also designed to be prefabricated off site so it can be lifted into place, therefore keeping the existing bridge in operation for the majority of the time. • The truss design is appropriate for a bridge with these requirements and the architects have created interesting patterns with glazing on the elevations to add a higher level of refinement to the design, refer Figure 6-43. An alternative would be to build the new bridge from solid full-height beams (girders) each side, which would block all visibility to and from the bridge. • As the adjacent footpaths are not provided with weather protection, the bridge is not covered either. Therefore an architectural entry statement is not considered in appropriate as it would suggest weather shelter is available on the bridge itself. • The Yarrara Road frontage is impacted by the bridge and new ramp structure however a minimum footpath width of 3m has been maintained along with small tree planting to optimise pedestrian amenity. • The objective of the bridge location was to best reflect the current location to maintain pedestrian movements to the station and village. Repositioning the bridge further south would unfortunately block access to the RMS footbridge across Pennant Hills Road and is therefore not possible. • The ETTT Project will implement a tile-finish with designed eucalypt-inspired pattern on the western face of stairs/ramp at the pedestrian footbridge, the collision wall and the stair undercroft wall. • Existing utilities will be relocated in to the new bridge. Doing this twice by implementing a temporary footbridge in order to remove the current one then optimise the new bridge alignment is not considered value for money, for the limited benefits it might provide (the new ramp and stairs could not be eliminated entirely). • The height of the bridge cannot be lowered.	1.5 3.5
Pedestrian access - other	• It also is indicative of the ability to shift or remove the proposed new platform to avoid narrowing Yarrara Road and thereby increase pedestrian safety. • Fig 3.47 - extension to existing station building Pennant Hills - does not show narrowing of Yarrara Road and ramps at the traffic lights. Space allowances appear to be greater for pedestrians than those supplied to me by the ETTT. • We would really like the footpath from Kandy Ave (on Beecroft Road) Epping to be concreted up to Carlingford Road. Currently it is dirt (mud in wet weather) and very uneven to walk on. • Improvements to pathways in Beecroft Village Green combining with the path to the Beecroft Road footbridge proposed by RMS with pathways upgrade to Beecroft Station. The UDLP does not contain such provisions. • The workmen have placed fabric along the railway side of Beecroft road and it would be great to have a footpath on that side all the way to Epping Station. When trains terminate at Epping station we often have to walk home along the main road to our home in Cheltenham.	• The Pennant Hills Station island platform is the minimum width required by Transport for NSW standards and takes into account all the required safety clearances. Narrowing the platform is not possible. • Footpath widths on Yarrara Road, Pennant Hills comply with the AustRoads requirements. • Yarrara Road will be narrowed by up to a maximum of 40cm over a distance of approximately 80m in the vicinity of Ramsay Road. This narrowing will not result in any traffic impacts, and the same number of lanes will remain (notwithstanding that further narrowing will be required temporarily during construction. • Installation of additional pedestrian crossings and footpaths that are not required as a direct result of ETTT Project work. These measures are not funded within ETTT Project's scope of works. Assessment for need and installation of new pedestrian crossings and new footpaths is a matter for council and/or Roads and Maritime Services. • Existing topography of Sutherland Road and The Crescent is too steep to accommodate DDA compliant paths and no changes to existing footpath grades are being implemented as part of the ETTT Project. It should be noted that the original Cheltenham Station design included direct access from The Crescent (via a third lift) however the feedback received during the EIS exhibition phase strongly indicated that the size and scale of the proposed station and concourse was not appropriate for the area. The redesigned station includes a smaller concourse up against the Cheltenham Road Bridge with two lifts and all the disabled car park spots being relocated to the eastern side of the track. • At Cheltenham Station, on the Sutherland Road side near the station entry new paths have been required to be constructed to provide access to the disabled parking areas and these have been designed to DDA standards.	3.3 3.4 3.5

Topic	Community comment/ suggestion	Responses	UDLP section
Design general	• Charcoal coloured (shotcrete) concrete walling, so to minimise graffiti, as well as use of Boston Ivy wall plantings. • Retaining wall finishes should be as natural as possible – sandstone would be a good option. • The maintenance timber bin and seats are not carried out as part of council's regular maintenance regime. Any furniture that is expected to be maintained by Council would need to have alternative more durable materials in high use areas. • The proposed amendments to Beecroft Station precinct are supported. The use of black palisade fencing, featured face brick and sandstone clad retaining walls will complement the materials and finishes of the surrounding heritage conservation area. Further use of Face brick should be considered to replace the extensive use of smooth concrete for retaining walls adjacent the carpark. • The ETTT project has meant the removal of all the trees and that affect has a significant effect on the visual amenity of the whole area. Even the use of brick or stone facing would be a massive improvement. • All walls should be graffiti proof, or with artwork already inscribed. Benches should not have arms, as this decreases seating capacity .all floor tiles must be no slip in all weathers. • Ensure generous seating and bicycle racks on Western side as well as Eastern side of station. • Cheltenham - Beecroft - The Crescent Scout Hall to Copeland Road There is a need for more detail from ETTT on the treatment of the proposed and substantial concrete wall along the Village Green	• The ETTT Project will retain natural sandstone cuttings wherever possible. Shotcrete will be used to cover shale cuttings to stabilise the cutting. Charcoal coloured Shotcrete will be used throughout the heritage precinct. • Furniture in public areas at the station precincts will be in line with the community preference outlined during consultation in 2013. • Face brick cannot be used on the retaining wall at Beecroft Station car park due to space restrictions,however the ETTT Project will include a brick paved footpath in this location to complement the existing brick paving through the village. • For ETTT assets within public areas, such as at station platforms, porous surfaces such as concrete are to be treated with an anti-graffiti coating. For corridor assets, i.e. those not in public areas, surfaces such as retaining walls and shotcrete-covered rock will not be treated with an anti-graffiti coating. At these locations, due to the difficulty in obtaining access with the required equipment such as a high-pressure water sprayer, the maintenance strategy will comprise painting over the graffiti with neutral colour paint. • Boston Ivy planting to base of corridor retaining walls and cuttings had been previously investigated. The space at the toe of the cuttings inside the corridor is not available for planting into to due to access requirements and drainage functions (drains are located in these areas). • The wall at the village green will be a reinforced soil wall as described in Section 6.1.3. There is a substantial amount of shrub planting proposed in front of the wall to soften the visual impact.	1.5.4 3.4 6.1 6.1.3
Sculptures	• We would also propose a Sydney wide competition with artists and art students from Sydney College of the Arts (SCA) or COFA to submit designs for the Sculptures at Cheltenham Station. • Sculptures by the station. Leased with community about the inclusion of sculptures within the gardens. This is a unique opportunity to create space which stimulates and offers more than expected. Excellent promotional opportunity for ETTT. " • Sculptures by the station - Liaise with community about the inclusion of sculptures within the gardens. This is a unique opportunity to create space which stimulates and offers more than expected. Excellent promotional opportunity for ETTT.	• The ETTT Project will work with council to develop public art options for Cheltenham and Beecroft station precincts. The public art is unlikely to involve sculptures but rather artwork on walls or footpaths integrated into the new works. • At Pennant Hills a feature wall with tiled mosaic pattern of Eucalypt trunks is proposed on the footbridge ramp wall and the stair wall on the Yarrara Road frontage.	1.5.4

Topic	Community comment/ suggestion	Responses	UDLP section
Operational noise	• Noise reducing walls along community centre block. • Noise mitigation - put in noise barriers now, as first priority to 'stop' construction noise - then it can be ascertained re its effectiveness. • There is no noise barrier included to protect residents and the Beecroft village from the increased freight noise. • Sound barriers on the eastern side of the rail corridor between Cheltenham and Beecroft. • No mention of noise barriers and these should be a must. • No provision for noise/visual pollution barriers these should be installed in residential sensitive areas and can be softened with smothering climbers. • Because of the steep gradient and the noise of the train - I would prefer a sound proofing wall to be built all the way from Cheltenham to Beecroft. • Masonry wall should be built along the new track to reduce the noise level. Without effective noise reduction work the public health is at risk. Especially when more freight trains travel along the rail, the well-being of nearby residents will be damaged. The masonry wall is the best option. • How can the noise be reduced? • Real issues are noise and pollution. What are your options for dealing with these? A survey perhaps • Acoustics - noise of diesels bouncing off canopies • A large sound restricting barrier should be erected in Wongala Crescent Beecroft between Chapman and Albert Ave as the train line is above the embankment for part of its length in that area. • You have lied to the community about the noise issue - you have no effective mitigation measures. In fact you never did have any. The noise problem is technically outside your competence. Your cheap attempts at community manipulation on the noise issue are to be deplored. But of course we should not have been surprised at what you are doing because we have the experience of the NW Rail Link. • The wheel-squeal noise is worse now with the removal of vegetation which provided a buffer. • We want our home to be insulated and double glazed with the increase in freight noise? • The documentation provided does not cover the area south of Epping Station to Eastwood station. The section prior to Epping Station should have noise barriers similar to those installed at MacDonaldtown. Additional noise barriers should be installed along High Street Epping • Noise barriers at the source • Are there plans to put in a second sound wall in between Epping Station and M2? • Acts as noise deflector (per independent sound engineering reports I have had commissioned) and therefore will amplifier and deflect sound waves towards residence without adequate green shrubbery or trees to defuse sound pattern, particularly with respect that there is no noise limit on the old diesel locomotives used on line (why Freight Corp have transferred oldest locomotive stock to this route - Ref Freight Corp Internal Diesel Operations Strategy) and the fact that there is no noise limit requirements on Diesel locomotive operating in and on the City Train Network or within metropolitan areas. • Noise - The levels of noise associated with ETTT project are not limited to the project itself but also to the ongoing operation of the third line and the freight trains. The questions therefore are: – What audiometric testing has been done in accordance with the new regulations (which came into force on 1/1/14) in relation to premises affected significantly by the freight trains, particularly on corners? – What is being done to attenuate the noise from the freight trains in accordance with the regulations? – What function if any do the charcoal concrete retaining walls indicated by a yellow line on drawing no ETTT-LD-13 in relation to noise attenuation? – What other steps are being taken in relation to noise abatement of freight trains particularly on corners? • The noise level of the old diesel locomotives is a battle for another day • For the east side of the station (Sutherland Road) some kind of noise barrier would be appreciated - the freight trains on the curve make an, at times, unbearable noise. • The whole third line is obnoxious you have no idea of the wheel squeal that we have to put up with from the freight trains, particularly the coal trains. • Will diesel engines pass by the play area? It is critical to know what train locomotives will be pulling the rolling stock. • Freight train - Emissions - a national standard is needed, Noise - preferably tier 3 or 4 (at highest) and Vibration - for exhaust and noise. • The Council should lobby the State and Federal Governments for legislation on controls freight trains in accordance with other industries. This includes noise and pollution. • Sound levels based on averaging over 1 minute is a joke! What are the peak levels? • There will be years of noise, ugliness, heat, dust and the knowledge that the wishes of residents will always be ignored by the elected government and its instrumentalities. • The movement of the railway line by narrowing the platform on The Crescent side will also reduce wheel noise squeal noise which is the single biggest issue pollution issue (outside coal dust from the uncovered Lithgow coal trains) of good trains (as passenger fleet has no little or no wheel squeal) which now make it impossible to sleep with any open window at night with residences facing the railway line. In fact residences have to pause speaking within their homes at night at present until the goods train rumples through for 3 minutes as the noise level is that intrusive. Mascot Kingsford Smith Airport operates under a curfew and it is a pity that a noise level that is at the same level as a plane passing over Hunters Hill and Leichhardt that continues for 3 to 4 minutes at a time and is worst if Up Train is slowing for point crossover at Epping is allowed after 11pm at night.	• The ETTT Project is aware of community concerns about operational noise. Operational noise mitigation for the project will be delivered in line with the Environment Protection Authority's (EPA's) Interim Guideline for the Assessment of Rail Infrastructure Projects (IGANRIP) and Rail Infrastructure Noise Guideline (RING) as well as the project's Conditions of Approval (CoA) issued by the NSW Minister for Planning and Infrastructure. • An Operational Noise and Vibration Review (ONVR) will be prepared to detail the process and planned mitigation for the project. This report will be made available to the public prior to finalisation. • As with property treatment, it is too soon to confirm the requirements for noise walls. However noise walls will be considered and assessed as part of the ONVR process. Should the ONVR identify that noise walls are required, additional consultation with affected communities will be undertaken. • Various types of rolling stock are used on the Sydney Trains network. • The ETTT Project does not set noise and health standards for operation of freight trains but has to ensure the project complies with mandated requirements.	

Topic	Community comment/ suggestion	Responses	UDLP section
Screening	• At my home, the visual impact will be high - I would like to see more shrubs (3-4m) opposite my property rather than just natural grasses. • The only thing to save this design is for mature trees to remain and more planted to cover this eye sore. • Screening off of trains along boundary fence from Cheltenham Road to Day Road Sutherland Road side and from The Boulevard on The Crescent Side. • The use of vegetation screening should be increased as this is a present day characteristic. • Advanced plantings to be used to screen the visual impact of the tracks and station from the effected residences. • Existing and any future access gates should also have a visual barriers/screen as without these there is a high visual impact on residences opposite the gates. • The existing gates should have a barrier, so that residents do NOT look directly onto the track • Potential screening walls between the rail corridor and houses between the car park and the rail corridor at Cheltenham and Beecroft stations. • Potential embellishment of the screens at Cheltenham • Request for consideration re visual impact where extent of screening will not change (resident currently has an open view to the corridor) but track is significantly closer and screening is requested on this basis. • Increase plant screening on The Crescent side and tree planting by decreasing size of drainage channel - by narrowing this drainage channel if it is actually needed given there has not been one there for over 100 years. The existing car park and road has not been affected or needed such a channel until now with the existing curb an guttering providing sufficient drainage to creek (that drains into Lane Cove River Basin).	• Planting of large trees within or in close proximity to the rail corridor is not possible due to Transport for NSW guidelines which do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. • Opportunities to plant trees at the modified car parks are limited due to the Project's requirement to maintain the number of parking spaces currently available. Any additional tree planting or vegetation retention at the car parks has only been nominated where would directly impact the number of spaces the ETTT Project would leave behind is not reduced. • Proposed planting is outlined in Appendix D • Existing and permanent gates cannot have barriers in front of them as they are required for maintenance access. • The size of the open drainage channel south of Cheltenham Station is governed by the catchment size and expected volumes and velocity of water and it cannot be reduced. Additional vegetation screening is proposed along the rear of the car park to provide small tree planting between the wheel stop and the footpath. • Generally along the corridor a review of additional tree and shrub planting opportunities has been carried out following community feedback. Appendix D highlights potential areas for additional tree and shrub planting pending Council approval. In some areas the additional works are inside the corridor such as near access gates and at other times street tree planting has been proposed such as Yarrara Road and The Crescent. • Larger sized plant stock is proposed at station precincts. Trees will be planted as semi mature specimens.	5 Appendix D
Decisions and processes	• As indicated in the Urban Design and Landscape Plan, the ETTTA is to ensure that Council is consulted prior to any works being undertaken on the Council verges. • Streetscape and carpark plants - consultation with Graham Ross, Horticulturist. • Consulting some independent architects in Beecroft & Cheltenham would also be an advantage to the redesign. • As two of the historical Bunya Pines are under threat - a proposal put forward by Graham Ross is for a commemorative replanting of pines in Beecroft Memorial Garden to replace the threatened Bunya's. The ceremonial planting of 4 pines - Bunya, Hoop, Wollemi and Norfolk would be a lasting legacy to the future generations and go some way to replacing the ones which may be lost to the freight line. We seek funding for the 4 Pines project from Lend Lease, Leighton, State Government and local businesses. A proposal is being drafted - see Save Beecroft and Cheltenham Alliance." • Council believes that an integrated approach to the whole of Beecroft Station Garden and Village Green is required due to the impacts from the ETTT project work. There is also a proposal from RMS for a pedestrian bridge over Beecroft Road. It is requested that a comprehensive master plan be established for this area. Council will work with ETTT on the preparation of such a master plan if required. It would be beneficial for this master plan to inform the final treatment of works to be funded by ETTT for this area. The Master plan should also consider the creation of a cycle link along this corridor. Council has not budgeted for improvements to Beecroft Station gardens. Council seeks a commitment of funds from ETTT to this garden improvement as a gesture towards local community benefit.	• Council is consulted on works affecting any of their assets. • Planting of large new Pines at Beecroft Station Gardens is not possible as they would not comply with the clearance requirements from the rail infrastructure. • Provision and implementation of a master plan for Beecroft Station Gardens and Village Green is not within the funded scope of the ETTT Project.	

Topic	Community comment/ suggestion	Responses	UDLP section
Consultation	• The train station bin was full of these hand outs. What a waste of money. If you want to help commuters give us more free parking and better roads. • Not sure why I am filling this in and posting it back because I feel you will do what you want to do anyway. This form just makes it look like you care! • Very happy with communication and consultation. • Received your 'CD' on Monday night - this meeting on Sat morning - how long was I (and everybody else) given to study these documents to make an informed submission? People need time to consider not be rushed to meet ETTT's timelines. • Community consultation has been poor lack of action on safety concerns, traffic and tree removal. • What devastation you have launched on us. No real community consultation. Just a case of 'cop this!' 'Lump it or leave' • The consultation period is too short, especially since it is wholly within December. • Details of the final UDLP or at the very least the improvements adopted post the community consultation should be communicated to the residents with an individual copy to all parties who made a submission within such a short consultation period. • I'm not sure if this feedback form was given to regular users of the park. I received mine outside the station at 7.30am while walking the dog. It was being given to train commuters, some or most of these people would have no interest in the park. Was it given out during the day to people at the park? • Without you telling us what the pros/ cons are of each UDLP - related proposal, how are we supposed to make informed choices? Or are we missing the point? • I have been so disappointed that your organisation has pretended to listen to community concerns and wishes, but all we have got in reply is this type of 'window dressing' dialogue. We do not think that consulting with us on questions of design of station seats; playground plantings etc. constitute a dialogue. • Thanks for meeting Hornsby Shire Council in November to discuss the Urban Design and Landscaping Plan. We have discussed further means of providing some benefits to neighbours of the project along the ETTT corridor. • Definition of consultation, 'the act of consulting or conferring; deliberation of two or more persons on some matter ' is most appropriate. Unless the Department of Planning staff have personal and relative knowledge to the ETTT project, and have visited the site to enable each and every submission, or access to someone who can give them informed written advice, the consultative process is flawed. • All homes opposite Cheltenham station (both sides) to have individual consultation re noise and visual mitigations. All homes along The Crescent and Wongala Cres to have individual consultation re noise and visual mitigation. • Not enough sincere community consultation. • Six page A4 brochure - 'How we have listened - We have received some fantastic feedback and suggestions from the community to date, and where possible we have adopted these changes to improve our design. Why were other issues rejected? Was AECOM given a copy of all submissions DP &I assessment and complaints. Is the UDLP unreliable?	• Consultation on the Urban Design and Landscape Plan (UDLP) is an important aspect of delivering the ETTT Project and we are very pleased that over 230 submissions were received during the public exhibition period. • The UDLP was on public display from 29 November 2013 to 10 January 2014, providing ample opportunity for the submission to be sent in. The community information sessions were held on 4 and 7 December 2013 where residents could ask ETTT Project team members any question they had. Our staff members were also available over the phone or email to answer any queries. • Over 12,000 UDLP newsletters and feedback flyers were distributed to residents living along the project corridor and handed out at train stations. • The UDLP consultation undertaken is in line with the ETTT Project's Conditions of Approval. • Residents living on both sides of Cheltenham Station, as well as all those living along the rail corridor, were invited to participate in the consultation process for the UDLP. The same will apply for consultation regarding the Operation Noise and Vibration Review which will outline the operational noise impacts as a result of the ETTT Project and mitigation measures required. • Once the final UDLP is approved by the Department of Planning and Infrastructure, it will be made publicly available on the project website. All feedback received during the consultation is included in the UDLP appendices as well as the corresponding responses to suggestions and comments. • While we have been able to make many changes as a result of great community feedback, items suggested that impact on the structural integrity of the planned infrastructure or items that conflict with specifications/standards could not be implemented e.g. planting or retaining large growing trees in close proximity to the new track or associated infrastructure. We were also not able to add items that are directly outside of the funded scope of the ETTT Project.	1.5
Information	• In the artist's impression of Cheltenham station the tall trees were shown as retained so we feel we were not informed correctly. • More hard copies need to be available for people to take away. • Figures 3.3 'Typical cross section tracks level at the Crescent' - this is wrong, the tracks are in a deep cutting under Pennant Hills Road. And figure 3.4 'Typical cross section tracks above street level at Yarrara Road' - this is wrong it is probably the worst cross section that is near the Bowling Club. • Fig 3.46 - this concept design including trees over one lane of Yarrara Road and the distant view is meaningless. It should have been based on an actual photograph. • Context analysis and landscape assessment 4.1.1 Landform - The climb actually levels out immediately at the southern end of the station. If there was no platform required, the new freight track could be lowered so that the safety wall did not have to be as far above ground level. Additionally - there is no 'gently rolling topography'. • Request that copies of are provided to the Beecroft Cheltenham Civic Trust to help inform their submission • Hydraulic design of drainage work proposed adjacent to the Epping to Thornleigh Third Track and old Bunya Pine near the Children's playground, off Wongala Crescent, near Hannah Street, Beecroft. • ETTT Arborist's Report in respect of the Bunya Pines and other trees, in the reserve off Wongala Crescent, near Hannah Street, Beecroft. • Details of Heritage interpretation signage indicated which is unclear in the plans; we seek more detail be provided for effective review. • On page 68 of the document three significant eucalypts are circled but, as we know it, only the one on Yarrara Road is to be removed - please confirm. • It is unclear where bins will be located. Council request further input into the location of any bins that is expected to service. • Please provide notice to residents when you shut things like Cheltenham station East side carpark/ drop off zone for cars. • Last week the east side carpark (Cheltenham station) was close without warning. Cars dropping off passengers to the station had nowhere to drop off of turn around. This led to dangerous traffic etc on the east side of Cheltenham station. Advising customers prior to 1 day closures like that would stop local anger and inconvenience. Poor communications leads to poor outcomes. " • Distribution of community feedback does not include the whole suburb.	• Hard copies and CD copies of the Urban Design and Landscape Plan were available at both community information sessions while the CDs were mailed to all adjoining property owners. • Artists impressions included in the UDLP are based on the status of the design at the time they are developed. Detailed design sometimes results in changes having to be implemented. • Typical cross sections are used to outline typical arrangements along the rail corridor. It is not an intention to mislead anyone. • Requested information was provided to Beecroft Cheltenham Civic Trust. • Figure 3-46 (now Figure 3-54) is an artist's impression of what the proposed design would look like and therefore could not be based on an actual photograph. • Only trees on the railway side of Yarrara Road are being removed as a result of ETTT Project work. • Bin locations are now marked in the station precinct layouts. • Notice about upcoming works and changes is provided to nearby residents and commuters in advance of the works/changes taking place. All communication materials about the ETTT Project are also available on the Transport for NSW website www.transport.nsw.gov.au/pojects. • The new freight track cannot be lowered through Pennant Hills station	1.5

Topic	Community comment/ suggestion	Responses	UDLP section
Undergrounding of services	• Install overhead wires underground, so mature trees can soften the impact. Here is an suggestion, why not look at sourcing blue stone or iron stone bricks, reminiscence of early 20th Century (look at the example of the original Cheltenham Station Masters House on the corner of the Crescent and Cheltenham road). • ETTT Alliance needs to look at placing overhead electrical wires underground around Cheltenham Station. This practice is standard around new developments in the outer Northern West (why this was not part of the guidelines is a little strange?) Placing the electrical overhead wiring underground would allow for trees to be planted around the station in the landscape design (which is what the community desires). This is one issue is paramount to 'Worlds best Practice' consideration from the ETTT Alliance, Transport NSW & Minister's Office is a must. • Cheltenham station: ALL powerlines and telephone cables to be placed underground between Cheltenham road, Day Road and The Boulevard (west) to allow for newly planted trees not to incur periodic Council chopping. • Place the electrical wires underground at Cheltenham station therefore allowing a better visual impact and enabling for taller growth trees to replace what was lost – in fact over time improve as no disfigured pruning would be needed. • West side Sutherland Road - Between Cheltenham Rd and Day Road. All powerlines/ telephone/ cable lines to be put underground. Line of trees to be planted outside of rail corridor on Council land. Important as visual impact of the removal of so much vegetation. • I believe the underground power is to be installed at Cheltenham West side in which case, as a nod to the Federation era, a row of Palms from Cheltenham Road down to The Boulevard would be a wonderful link between Federation and new design and materials of the station • It is not clear from the UDLP if the existing electrical cables on The Crescent are to be placed underground however ETTTA has indicated that this is possible. Council supports the placement of these cables underground this to enable larger trees to be planted on The Crescent. • If cables are placed underground on The Crescent the tree species can be larger than the Fraxinus proposed. Council recommends Lophostemon Confertus as an alternative, with Banksia integrifolia, Elaeocarpus reticulatus, Angophora hispida are other considerations. Council requests further input in final tree species selections. • Overhead services : Given the limited space around the station (Cheltenham) putting the wires underground wires below ground would be more desirable , and eliminate the unsightly wine glass pruning that occurs at a late date • Underground power installed at Cheltenham Station west side. • Importantly, the overhead power and telephone/ Foxtel/ cable lines need to be placed underground at all areas where construction is taking place including areas where new trees are to be planted to rehabilitate the bushland setting. This is necessary to ensure that existing and new trees are not destroyed by contractors engaged in the future to protect utility lines.	• The ETTT Project will underground the existing overhead powerlines along The Crescent between The Boulevard and Cheltenham Road. This work will involve trenching along the eastern side of The Crescent to take the powerlines underground, trenching across The Crescent to get to the western footpath, trenching along the western footpath to maintain power connections to 3 properties: 52, 54 and 56 The Crescent. • The project also requires undergrounding of some electrical wires at Pennant Hills station along part of Yarrara Road. • Undergrounding of overhead powerlines is already taken into account when the landscaping design has been proposed. I.e. it does not provide any additional opportunities to plant larger vegetation in the area. • Undergrounding of overhead service at other locations is not funded as part of the ETTT Project scope of work. • Transport for NSW standards do not allow new tree planting within an offset from rail infrastructure equal to the mature height of the tree. Therefore, *Phoenix canariensis* cannot be planted along The Crescent between Cheltenham Road and The Boulevard as they exceed the mature height restriction.	3.3
Visual impacts on property	• Potential relocation of some gates to be away from current houses (potentially a very complex issue) - requests from some people to have Visual Impact Assessment updated because their living area is on an upper floor. • I have been saddened by the destruction of many trees to make way for the ETTT. It affects both the views of the many houses along the railway as well as for people on the train, as well as contributing to the continuing erosion of trees and bushland in the area. • The UDLP includes plans to mitigate the impact on the views from properties along Yarrara Road facing the track, but, in our opinion all properties along Pennant Hills Station to Wells Street bridge section should be treated as high impact including the Bowling Club property. • It appears that where we live is classified as having low grade visual effect from the third rail. It will be about 30m from our front windows, which is level where the trains as they go by. So needs screening to take place to cut out the sight of the trains, of course this will not have an effect on noise level. • The post-construction assessment is incorrect. Firstly, it takes the view from ground level at the boundary, not from all angles and levels within the properties. Secondly, the photographs were taken pre-removal of flora and as such are misleading. I suggest we meet at the properties to view from the various properties so that a better assessment be made. • Receiver landscaping treatment conditions are vague and are open to interpretation with no right of appeal as to appropriateness. Planting of young plants which, given the denuding during construction and time for these plants to reach maturity, would be ten years or more before the construction effects are fully mitigated. "Pre agreed maximum figure" has no definition and could be so small that it is ineffectual. • The equal views of flora from the rail corridor must be maintained post mitigation. The UDLP does not appear to address the mitigation standard and that it will return the views to as good as or better than pre-construction. The look of a substantial bushland corridor must be maintained.	• Visual Impact assessments assess the residual visual impact, which is the difference between the existing visibility of the corridor and the visibility of the corridor once the proposed revegetation has reached maturity. • The Visual Impact Assessment methodology explains that assessment ratings are based on differential change from existing to proposed condition. • Assessments were carried out at eye level at the front property boundary for each dwelling with additional notes regarding the particular characteristics of each property to address other issues such as existing garden screening or the height of the dwelling. • Properties classed as experiencing moderate or high visual impacts as a result of operation of the ETTT Project will be contacted by the project team directly in mid 2014 to discuss and identify opportunities for at receiver landscaping.	5.3 5.5

Topic	Community comment/ suggestion	Responses	UDLP section
Commuter parking	• I would strongly suggest you take into consideration the workers trying to travel to jobs, in the city or surrounding areas. I would like to see the area used for parking. There is not enough parking for commuters. The Thornleigh station car park is fully by 7.30am and if the car park is full commuters have to search local street parking. The Government want people to use public transport but to get to a station you need to still drive, the roads are over-crowded and there is no parking available. • Car parking is an issue, if people are being encouraged to use the trains there should be more parking spots available. • We need more parking areas than playground areas. • Why eliminate interchange facilities with buses at Cheltenham. This is madness. We need better integration of services not reduced features due to localised opposition (a very small component of the potential train users using Cheltenham). • More station parking at Epping, Eastwood, Beecroft, and Thornleigh. • You can beautify the station and its surroundings as much as you like, but it is all useless unless there are increased car parking spaces available. I see no provision for parking on any of your diagrams. • I support more car parking. • Extending the Sutherland Road carpark: it would appear that the proposed redevelopment of this car park is significantly reducing the capacity for standard commuter parking. Every opportunity to provide off-street commuter parking should be taken and is therefore recommended • Increase car parking on the Sutherland Road side of the station. There is sufficient flat land that requires very little remedial work that would support an additional 20 to 24 car parking spots and thus allow the loss of 4 additional spots on The Crescent side to support further tree plantings. • Sutherland road - retain existing car park arrangements. A number of locals drop off passengers so a separate entrance and exit is optimal. All car parks may be for disabled and no additional car parks needed to the south. An additional car park will further impact adversely on the environment. • Redevelopment of the Sutherland Road carpark: the new proposed configuration removes the current 'kiss and drop' capability. With a combined entry/exit driveway, any attempt for motorists to use this for kiss and drop will necessitate awkward and unsafe multi turning within the carpark. Recognised that kiss and drop is to be provided on the Crescent side, the major need will be in the mornings for the passengers travelling to the city, so retaining the Sutherland Road Kiss and Drop with a circulating configuration similar to the present arrangement, would improve dynamics. • Any car parks created should have shade trees with barriers. • Consideration is required for timed parking outside and along residence places facing The Crescent (54-58) and The Boulevard (2-4) to allow these residences the opportunity and chance of having visitors that can reasonably expect to park outside or near these properties Monday - Saturday for periods of time. • If you want people to use the trains they must be able to park their cars at or very near to the station. We do not want another fiasco like Epping station where this was neglected. • So, now we have lost the battle and the project has ease of access etc how about a bit of thoughtful consideration and planning to do something good and re green this now barren moonscape? Trees and car spaces can certainly co-exist with careful planning and consultation with specialists. Why not do something with future forethought which will make a difference to a community to say nothing of the fauna who now homeless could regain habitat? • Pave the car park surface as seen in Figure 3.19	• Once the ETTT Project is completed, there would be no net loss of parking at the stations. Provision of additional commuter parking and pedestrian access beyond that being affected by the third track is outside of the ETTT Project scope. Additional car parking is not linked with the Northern Sydney Freight Corridor program, which focuses on increasing capacity and reliability of freight trains. • Limited opportunities exist to plant trees within car parks however, in response to community feedback, additional small tree planting is proposed along The Crescent car park between the wheel stop and the footpath. • The car park surface is bitumen, with areas of paved porous paving associated with tree planting at both Cheltenham (The Crescent) car park and Beecroft (Wongala Crescent) car park. • ETTT Project does not have the authority to implement timed parking where it has previously not existed. This is a matter for council.	
Cycleway	• Cycleways following the rail corridor - Pennant Hills to Beecroft and Beecroft Tennis Courts to M2, with M2 crossing attached to new rail bridge. • Council appreciates ETTTA making provision for cycleways along the rail corridor and requests that the ETTTA project include construction of the concrete paths and a M2 crossing attached to new rail bridge. • "Byles Creek - 'Provision for a future cycleway' is stated. What does this mean? Is the project aware that subsidence close to the existing temporary fence has occurred making the path dangerous? In places, a steep drop is within 450mm of the existing fence and work will likely create further subsidence. The gap is so narrow that walking along the fence path is dangerous. "	• The provision of cycleways along the rail corridor does not form part of the ETTT project and will not be constructed as part of the project. • Transport for NSW is pursuing a series of measures to focus on safety and integration of cycleways with public transport in NSW. One of these initiatives is a Cycling Investment Program to improve the planning, management and delivery of cycleway capital programs, supported by design solutions and standards to reflect customer needs. This includes working with councils and developing partnerships with local communities to deliver local cycling infrastructure. More information on these initiatives can be found in the NSW Long Term Master Plan (Transport for 2012b). • Construction near Byles Creek will ensure a future cycleway can be built.	

Topic	Community comment/ suggestion	Responses	UDLP section
Gate access	• Existing gates along the corridor, particularly gate 11 and gates along The Crescent, in front of residents must be removed, to allow continuous screening and vegetation. • Remove railway gates which are outside home to allow for continuous screening by sound barriers and thick vegetation. • Existing gates to be made invisible from streetscape and homes (removed and relocated).	• Access gates to the rail corridor cannot be removed as they are strategically placed to allow for maintenance access by Sydney Trains. Any temporary construction access gates will be removed at completion of the project.	
Drainage design	• Proposed drainage channel is not well-documented: – What is the catchment for this notable civil work? Does it have the dimensions shown and could it be better designed into the car parking area? – What are the downstream flow impacts in Day and Sutherland Road properties? – What effort is being made to ensure design is consistent with landscape, as it is an open channel? – ETTT is requested to provide the hydraulic design for more detailed review • Cheltenham drainage to the east - replace proposed open drain with pipe - possibly under Sutherland Road - this would allows more offset tree planting. • The concrete lined drainage channel at location 5 on the plan should be changed to a more sustainable native grass lined swale to assist in provision of landscaping and reduce water runoff. • Cheltenham drainage to the east - replace proposed open drain with pipe - possibly under Sutherland Road - this would allow more offset tree planting.	• The size of the open drainage channel south of Cheltenham Station is governed by the catchment size and expected volumes and velocity of water. • The drainage channel and drainage crossings across the railway corridor are designed so as not to have downstream impacts. • A copy of the design was provided to the Beecroft Cheltenham Civic trust. • Due to maintenance requirements, the drain south of Cheltenham Station cannot be piped or changed to a grassed swale. Additional vegetation screening is proposed along the back end of the car park to provide screening between the wheel stop and the footpath.	3.3
Health impacts	• What is being done to protect children from the diesel fumes from freight trains? Are we putting our children in any danger of respiratory illness? • Disregard for our health and no protection from the coal dust which we will get every 2 hours. • Health is our priority. Which measures will protect our children from ear-piercing noise and fumes from 50-yr old locos? • The major concern is uncovered coal and the impacts of this on the respiratory system of young children and the community. • If there is an increase of diesel locomotives it is a public health hazard to have a children's playground beside the railway station at all. Playground should be removed completely if it is diesel. • In addition the air pollution has worsened due to the vegetation not available to absorb the diesel fumes and coal dust due to uncovered loads.	• The EIS made an assessment of the impact of increased diesel locomotive traffic along the line and found these impacts to be acceptable • The project will lead to a significant overall reduction in diesel fuel use, compared with if the project was not delivered, by reducing the growth of road freight. • The ETTT project will not lead to any increase in the coal carrying capacity of the Main North Line. This is because coal traffic is not time-sensitive and significant spare freight capacity already exists at night, which could be utilised by coal trains. The focus of the NSFC program is capacity and reliability during the core period (04:00 to 22:00) which is related to the container freight market. This market is time-sensitive, and consequently three-quarters of the additional freight train movements facilitated by the ETTT will be during the day time. • Operational noise will be addressed separately in the Operational Noise and Vibration Review (ONVR)	
Soil management	• Soil from bush clearings – Ensure that clearing of areas disturbed are mulched to ensure weeds do not overtake endemic flora – No external soil trucked in to replace soil removed, original soil to be stockpiled and returned – Rare Blue Gum and Turpentine Forest along the rail corridor to remain untouched" • This element also discusses the potential for translocation of topsoil. While the re-use of topsoil and soil seed bank should be encouraged this process would require considerable time to allow for preparation of the receiving site. • No external soils to be shipped in.	• Mulch is currently used throughout the project as an erosion and weed control device in many areas. • Soil from the corridor is stockpiled for later re-use where ever possible, however due to the narrow rail corridor, there are only limited spaces where materials can be stored. Therefore external materials need to be brought in during subsequent construction phases to provide a medium in which the rehabilitation plantings can grow. • Unfortunately some areas of both Blue Gum High Forest and Sydney Turpentine Iron Bark Forest need to be removed as part of the Project. Impacts to these areas have been approved and the Alliance works on measures to minimise impacts where ever possible. A Biodiversity Offset Package is being developed to offset impacts to these valuable ecological communities.	
Support/ do not support the project	• I support the construction of the third track and think you are doing an excellent job. • I like the adoption of a smaller size and scale of the new Cheltenham station. Thumbs up!! • It's a step in the right direction to improve transportation of freight by rail. Very happy about this development as it will take lots of heavy trucks off the road and also improve freight movement. • You are doing a magnificent job. I feel sorry for you having to put up with all the complaints from residents who complain about you having to remove trees that are in the way of the new rail line - important infrastructure pieces of work. Keep up the good work and don't get to frustrated by the 'greenies' who do not understand the word 'progress' • It is about time Cheltenham got into the 21 Century - good work • Looks terrific - good on NSW • Keep up the good work! • Thank you for your help to improve our access to Epping. • No objection to the proposed option • The community has been overwhelmingly against the whole 3rd track project, and its destructive influence on the area. • What you are doing is a disgrace - destroying the Beecroft and Cheltenham community	• This feedback is appreciated	

Topic	Community comment/ suggestion	Responses	UDLP section
General statements – no response applicable	• The third track just needs to be built most efficiently for lowest cost. • Don't use tax payer dollars on glossy brochures and PR stunts. I understand that the Project team are required to meet legislative requirements within the defined rail corridor such that the planting of trees (that would effectively hide the railway line and Station) is precluded by the need to restrict tree height to a size where there is no possibility for a branch to fall onto the railway line. This is understandable. What is not understandable is the absence of plans by the Australia Government, State Government and Local Council to work together to establish a plan whereby new trees and vegetation outside of the rail corridor could be established and protected in order to minimise the visual and noise impact from the new construction. • The Australia Government could assist the process by expediting the NBN rollout; the Hornsby Council in taking the responsibility to implement the planting of new trees and vegetation outside the rail corridor; and the State Government through ensuring these measures are incorporated into the plan and/or coordinated outside of the terms of the Project if unable to be included at this time. • Your organisation has lost the plot and cannot be trusted. • Why are we carting longer trains with more OLD diesel engines and why are we carting coal north through the city to Newcastle/ Queensland. This would indicate that the Government needs to ensure that the ports are upgraded by the mining companies. • Don't repeat mistakes of eg Lane Cove, River Crossing for Epping - Chatswood when a sub-optimal solution was forced on the decision • How will the Minister resolve the many contentious issues so that justice can be seen to have been done? • I go to Cheltenham Girls High School and I think the massive amount of environmental degradation is stupendous. • There are a few good examples in my opinion around this area, and sadly, many very poor ones. I'll be interested to see what kind of compensatory means are taken by both ETTT and NWRL. • It really could be a happier outcome if these new transport links do take the pressure off our roads and the environment is respected and communities are protected rather than left open to plunder under the guise of a better NSW. • This landscaping ploy is an attempt by you to influence community opinion on one of the most economically worthless and environmentally destructive projects ever envisaged in the Sydney region. It is at best a job creation scheme for bureaucrats. • Put the community first - not profit margins • At least in 40 years time no one will try to protect these new stations just bulldoze the eyesore. Let's hope by then architects revisit what it is about building design that gets into people's hearts and dump these ghastly, grey, square, eyesores that is the 'modern look'.		

Note: Some feedback may have caused offence to some readers and has therefore not been included

Feedback form: Urban Design and Landscape Plan

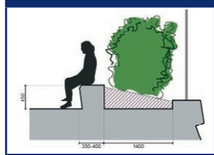
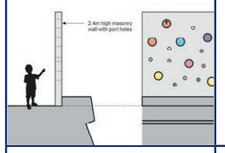
Providing feedback on the Urban Design and Landscape Plan (UDLP) will help us to understand what the community prefers. We encourage your feedback on any aspect of the plan.

To ensure your feedback is considered as part of finalising the UDLP, please provide your feedback by **Friday 20 December 2013**. Return your completed form by folding this sheet in thirds, sealing it with tape and placing it any Australia Post letterbox. Please ensure the barcode over the page is visible.

Alternatively, you can email your feedback to us at **projects@transport.nsw.gov.au**

Screening options for the children's playground at Beecroft Station

Please tick your preferred option and provide any additional comments.

		Preference	Other comments
	Option 1 – vegetation screen with seating		
	Option 2 – masonry wall with coloured glass viewing port holes		
Other suggestions for the playground			

☐ **I support the extension of the playground area (please tick).**

Other comments / feedback / suggestions

Other comments / feedback / suggestions CONTINUED

**Please note items that impact on the structural integrity of the planned infrastructure or items that conflict with specifications/standards will not be able to be implemented e.g. planting of large growing trees in close proximity to the tracks. Not all community feedback will be able to be incorporated.*

Delivery Address:
Locked Bag 6501
ST LEONARDS NSW 2065

No stamp required
if posted in Australia

Epping To Thornleigh Third Track Project
Attn: NSFC Project Director
Reply Paid 86689
ST LEONARDS NSW 2065

Contact details

For further information you can:

- call Transport for NSW on 1800 684 490
- call the 24 hour construction response line on 1800 775 465
- email projects@transport.nsw.gov.au or
- visit www.transport.nsw.gov.au/projects

Northern Sydney Freight Corridor

Epping to Thornleigh Third Track

Urban Design and Landscape Plan: have your say

NOVEMBER 2013

Ph: 1800 684 490 | www.transport.nsw.gov.au/projects

Artist's impression of Cheltenham Station

The Epping to Thornleigh Third Track (ETTT) Project involves construction of six kilometres of new and upgraded track within the rail corridor between Epping and Thornleigh stations on the western side of the existing tracks. The new (third) track will separate northbound freight from all-stops passenger train movements along the steep incline between Epping and Thornleigh.

The construction of the third track and associated infrastructure will have an impact on the visual amenity of the area. An Urban Design and Landscape Plan (UDLP) has been developed to outline how we propose to manage and minimise these impacts.

Community information sessions

We encourage you to attend one of our upcoming community information sessions listed below. Project staff, including environment, construction and urban designers will be on hand to answer questions.

Wednesday 4 December, 5pm – 7pm
Pennant Hills Bowling Club
52 Yarrara Road, Pennant Hills

Saturday 7 December, 10am – 12 noon
Cheltenham Recreation Club
60-74 The Crescent, Cheltenham

Please note you may drop in at any time during these hours. The same information will be available at both sessions.

The plan describes and shows visually how the area will look after construction has been completed and landscaping has matured. It builds on feedback and suggestions from the community received during and since the exhibition of the project's Environmental Impact Statement late last year.

Have your say

The UDLP will be available for the community to provide comments and suggestions from **Thursday 28 November until Friday 20 December 2013**.

You can access the UDLP on the project website at www.transport.nsw.gov.au/projects (go to Northern Sydney Freight Corridor and then ETTT) or at one of our local display locations:

Epping Library
Chambers Court, Epping NSW 2121

Pennant Hills Library
Yarrara Road, Pennant Hills NSW 2120

Cheltenham Recreation Club
60-74 The Crescent, Cheltenham NSW 2119

Copies of the plan on CD can also be provided on request.

Feedback can be emailed to us at projects@transport.nsw.gov.au or sent to us by post using the reply paid feedback form enclosed in this flyer. Please provide your feedback by **20 December 2013**.

Australian Government

NSW GOVERNMENT

ETTT ALLIANCE

How we have listened

We have received some fantastic feedback and suggestions from the community to date, and where possible we have adopted these changes to improve our design. Some elements we have changed include:

- redesign of Cheltenham Station (to reduce the size and scale)
- elimination of the proposed taxi and bus facilities at Cheltenham
- proposal to increase the children's train-themed playground at Beecroft
- adoption of community preferred station furniture
- aligned planting palette for station precincts and rail corridor to reflect community preferences
- eliminated northern stairs and reoriented lift at Pennant Hills Station
- altered fence near the Scout Hall at the request of Scouts NSW
- retained (by relocating) the palm at Cheltenham Station (see more details in planting section)
- increased street planting on Yarrara Road south of Ramsey Road, Pennant Hills.

While we have been able to make many changes, items suggested that impact on the structural integrity of the planned infrastructure or items that conflict with specifications/standards could not be implemented e.g. planting or retaining large growing trees in close proximity to the new track or associated infrastructure.

About the Northern Sydney Freight Corridor (NSFC) Program

This project is part of the NSFC Program, a joint Australian and NSW government initiative to improve the capacity and reliability for container freight trains between North Strathfield and Broadmeadow, Newcastle.

Program benefits

An efficient rail freight network stimulates new business activities, creates new jobs and increases the productivity and competitiveness of Australia's industries.

Transporting freight by rail also makes roads safer and it is better for the environment. When completed, the NSFC Program will:

- take more than 200,000 heavy vehicle movements off the road each year
- reduce diesel use by almost 40 million litres per annum
- reduce the growth of annual greenhouse gas emissions by more than 100,000 tonnes.

Artist's impression of Pennant Hills Station

Proposed extension and screening of the children's playground at Beecroft Station

We recognise the importance of the train-themed playground on the southern side of the station pedestrian underpass and note this is an important local icon that is used by many families.

We are focused on minimising temporary and permanent impacts on the playground. While some temporary impacts to the playground are expected in late 2014 (for up to eight weeks) to ensure safety during construction works nearby, there is no plan to close or remove the playground or its equipment. See map adjacent for more details.

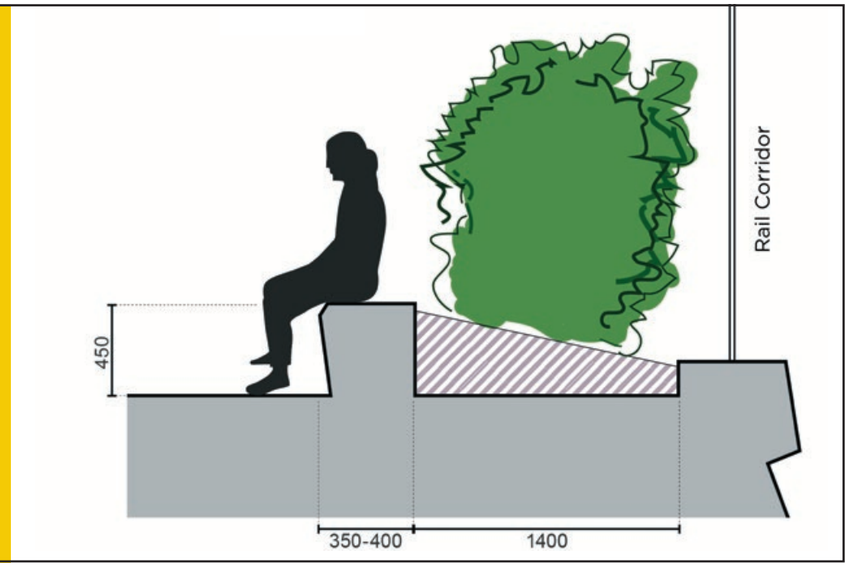
We are also working towards no permanent encroachment into the playground on the eastern side (against the rail corridor) and are very pleased to propose an extension of the playground area to the south. In addition to this we have proposed two possible options on how to screen the playground from the rail corridor.

We invite and welcome your comment on these options (see below) and any other suggestions you would like us to consider. You can note your preference and make other suggestions on how we can landscape the area on the feedback form enclosed.

Screening options

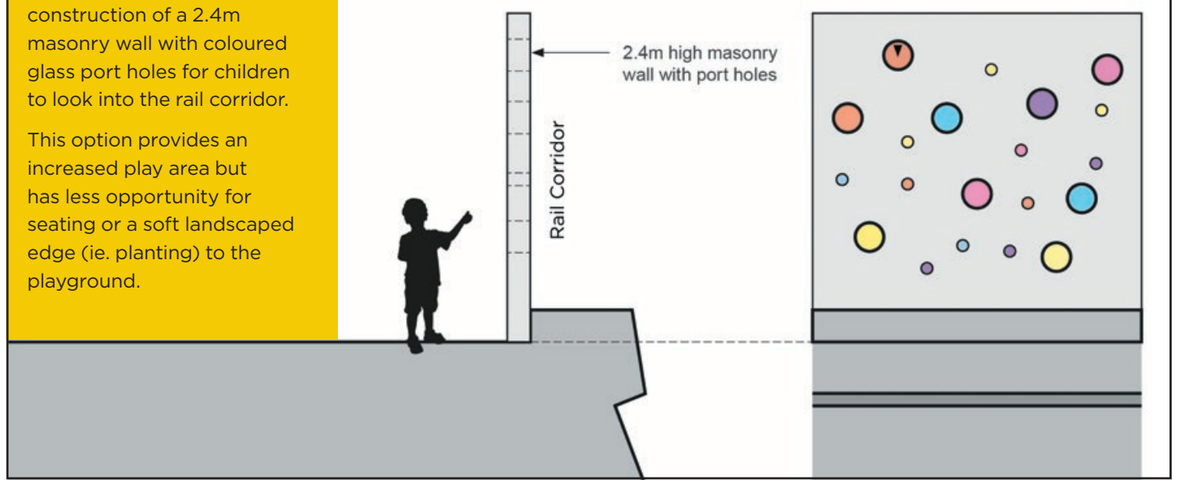
Screening option 1 includes a 2.4 metre standard palisade fence with a 1.4m wide screen planting buffer and informal seating for park users.

This option softens the interface with the corridor and increases seating opportunities. However, due to the screen planting buffer it would reduce the space available in the playground.



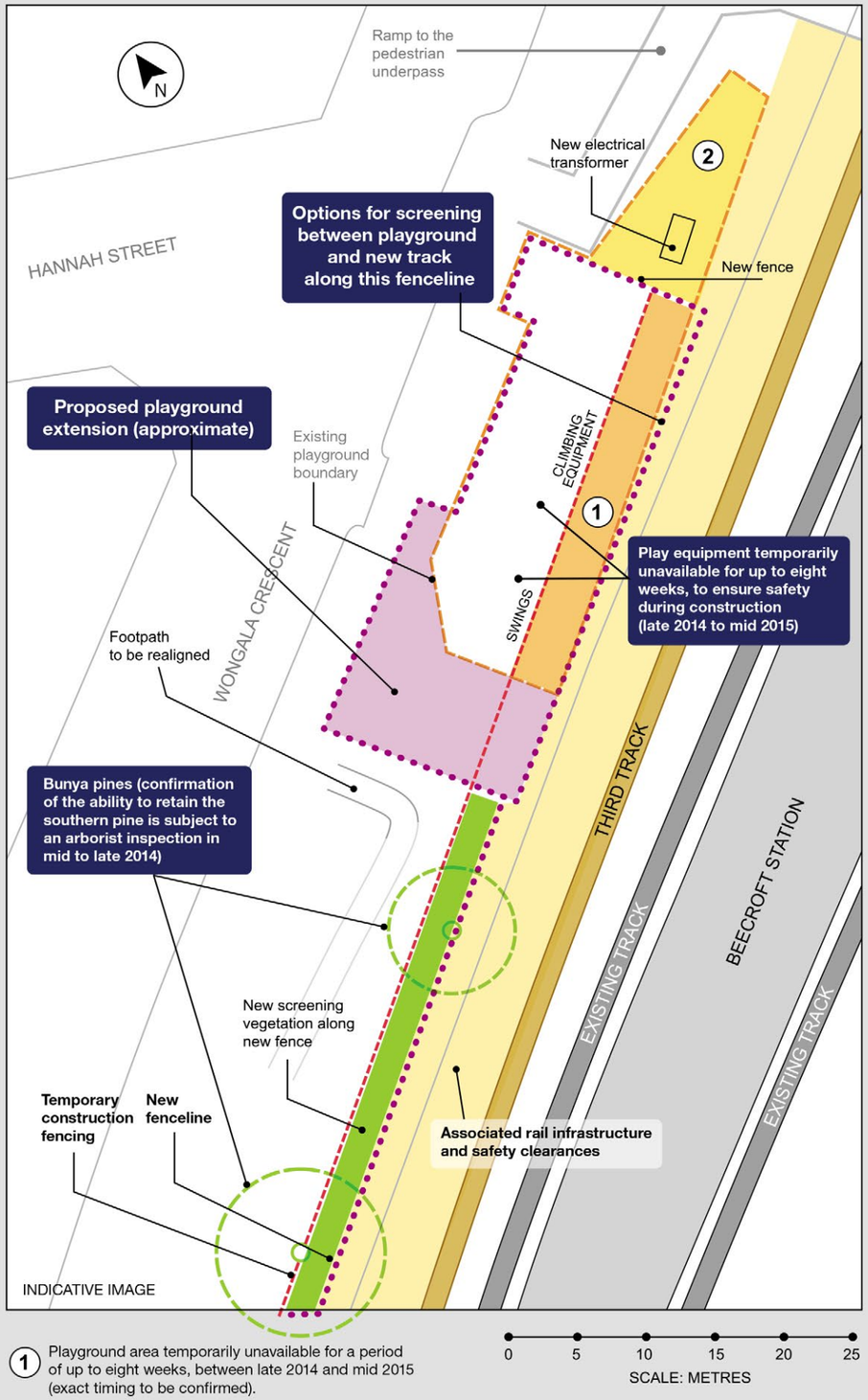
Screening option 2 includes construction of a 2.4m masonry wall with coloured glass port holes for children to look into the rail corridor.

This option provides an increased play area but has less opportunity for seating or a soft landscaped edge (ie. planting) to the playground.



Beecroft playground aerial map

(Temporary and proposed permanent configuration)



1. Playground area temporarily unavailable for a period of up to eight weeks, between late 2014 and mid 2015 (exact timing to be confirmed).

2. Area to be removed from the playground from December 2013 onwards. This area will be landscaped to replace removed vegetation.

Revegetation

We have received a lot of feedback about the removal of vegetation and regret the need to remove trees and vegetation to construct the project. We understand your appreciation of local trees and bushland, and are committed to removing only vegetation that is necessary to deliver the project.

In line with your feedback we have amended our planting palettes to maximise the use of native plants in the rail corridor. We have also increased the use of Crepe Myrtles, Coastal Rosemary, Grevilleas and Brush Boxes at the stations and car parks, and Blueberry Ash, Rough Barked Apple and Sweet Bursaria along the rail corridor, as these species were the most popular.

We also removed the Lily of the Nile, Bitter Gorse Pea and Blady Grass from the planting palette (your least favoured plants).

Opportunities to plant large trees at the modified car parks and in close proximity to the track are, however, limited due to the requirement to maintain the number of parking spaces currently available and to comply with safety standards.

The UDLP provides full details of how and where vegetation will be reinstated at station precincts and along the rail corridor.

Saving Cheltenham's Canary Island Palm tree

In response to your suggestions, we are happy to report the treasured Canary Island Palm tree at Cheltenham Station will be relocated.

A new site for the tree will be found in the coming months in consultation with Hornsby Shire Council. Your suggestions are welcome on where an appropriate location might be.

Furniture

Furniture styles selected for the station precincts will be delivered in line with the preferred styles (selected by the community in April 2013).

Update on the Bunya Pines at Beecroft

Two Bunya Pines (within the Beecroft Station gardens) were identified in the Environmental Impact Statement as likely to need to be removed due to their proximity to the new cutting. We are aware of the importance of these trees to the local community and are investigating options on how to save at least one of the trees (the southern pine, furthest from the cutting) by looking at the possibility to modify the design and eliminate part of some drainage infrastructure. The final decision on whether the Bunya can safely remain will be made by an arborist when the adjacent cutting is made, currently scheduled for mid to late 2014.

Grevillea

Blueberry Ash

Crepe Myrtle

Time is needed for plants and trees to establish to provide screening.

Next steps

All feedback received will be considered and where possible suggestions will be adopted. The UDLP will be updated to reflect these changes.

Once finalised, the plan will be submitted to the NSW Department of Planning and Infrastructure for assessment.

The final UDLP, once approved, will replace the draft UDLP on the project website. An update will be provided to the community, including a description of the changes made.

If you are unable to attend an information session and would like to speak with us about your suggestions or you have some questions, please contact us by phone on **1800 684 490** or by email at **projects@transport.nsw.gov.au**.

We look forward to hearing from you.

Please provide your feedback to us by 20 December 2013

Process to confirm urban design and landscaping

Late 2012 – Environmental Impact Statement exhibited (many submissions provided feedback on importance of good urban design and landscaping)

Early 2013 – Submissions Report completed. A new mitigation measure to open up urban design and landscaping to community to comment in response to submissions received. Cheltenham Station redesigned based on feedback/suggestions from the community.

April 2013 – Initial consultation on urban design and landscaping. Over 300 submissions received.

PROJECT APPROVED IN JULY 2013

May to November 2013 – UDLP prepared, following advancement of detail design and suggestions from community adopted where possible.

28 November to 20 December – Urban Design and Landscaping Plan placed on exhibition. More community consultation, information sessions held and community feedback welcomed.

WE ARE HERE

Early 2014 – Suggestions from community investigated and UDLP updated to reflect changes made (where possible). Finalised UDLP submitted to the Department of Planning and Infrastructure for assessment. Final plan, once approved, will be made available to the community.

This document contains important information about public transport projects in your area. If you require the services of an interpreter, please contact the Translating and Interpreting Service on 131 450 and ask them to call Transport for NSW on (02) 9200 0200. The interpreter will then assist you with translation.

Chinese

这份文件包含你所在地区公共交通工程项目的重要信息。如果你需要传译服务，请致电翻译与传译服务机构，电话131 450，要求他们为你接通交通工程部(Transport Projects Division)，电话是（(02) 9200 0200。传译员会为你做翻译 。

這份文件包含你所在地區公共交通工程項目的重要信息。如果你需要傳譯服務，請致電翻譯與傳譯服務機構，電話131 450，要求他們為你接通交通工程部(Transport Projects Division)，電話是(02) 9200 0200。傳譯員會為你做翻譯 。

Korean

이 문서는 귀하의 해당 지역에 있는 대중교통 프로젝트에 관한 중요한 정보를 담고 있습니다. 통역사 서비스가 필요하시면 통번역서비스에 131 450으로 연락하셔서 이들에게 대중교통 프로젝트 부서 (Transport Projects Division)에 (02) 9200 0200으로 연락하도록 요청하십시오. 그러면 통역사가 번역과 함께 귀하를 도와드릴 것입니다.

Contact details

For further information you can:

- call Transport for NSW on 1800 684 490
- call the 24 hour construction response line on 1800 775 465
- email projects@transport.nsw.gov.au or
- visit www.transport.nsw.gov.au/projects

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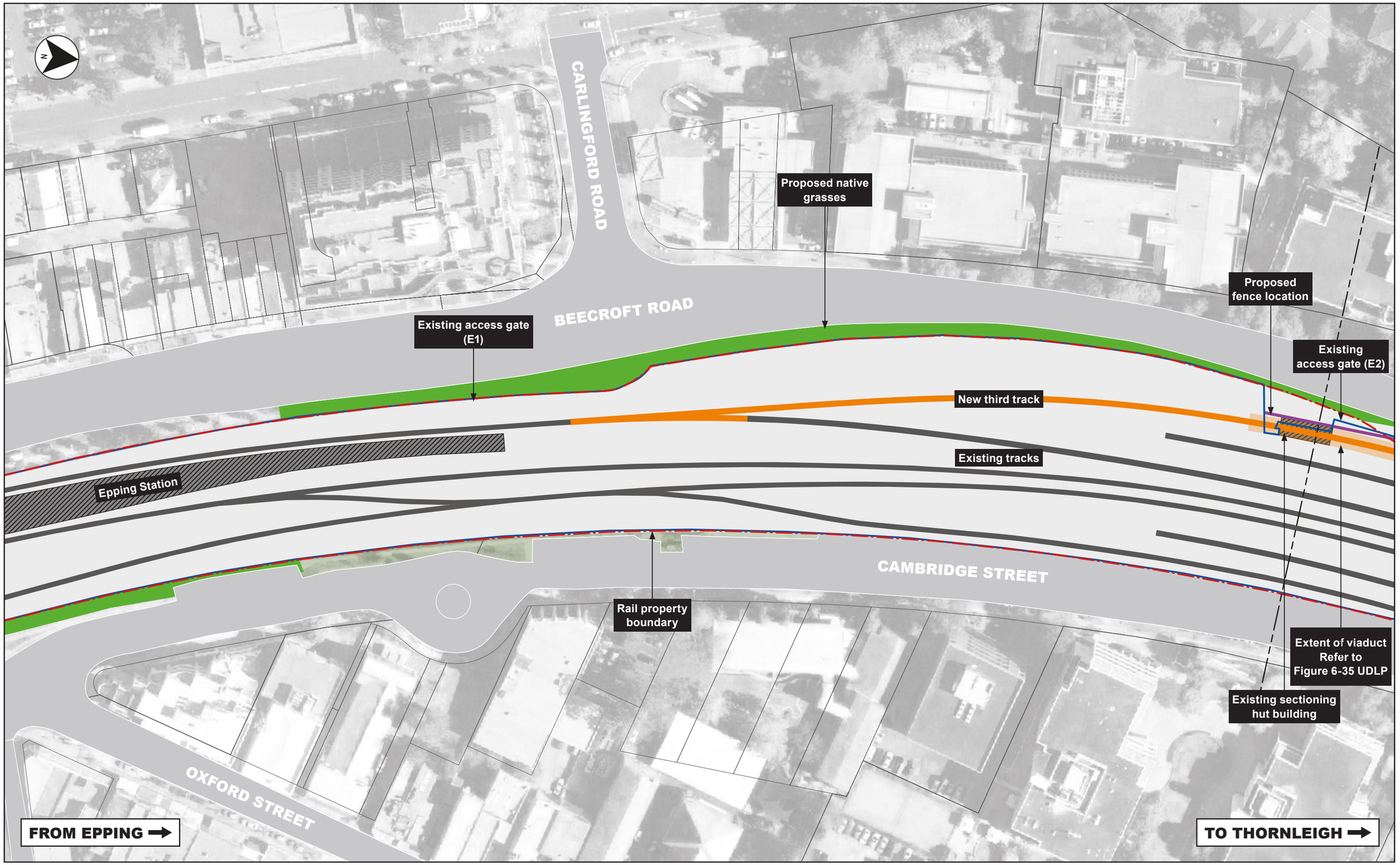
Appendix D
Landscape maps



AECOM

ETTT ALLIANCE

Residual visual impacts

- High
- Moderate
- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

Scale Bar:

0 5 10 15 25 50m

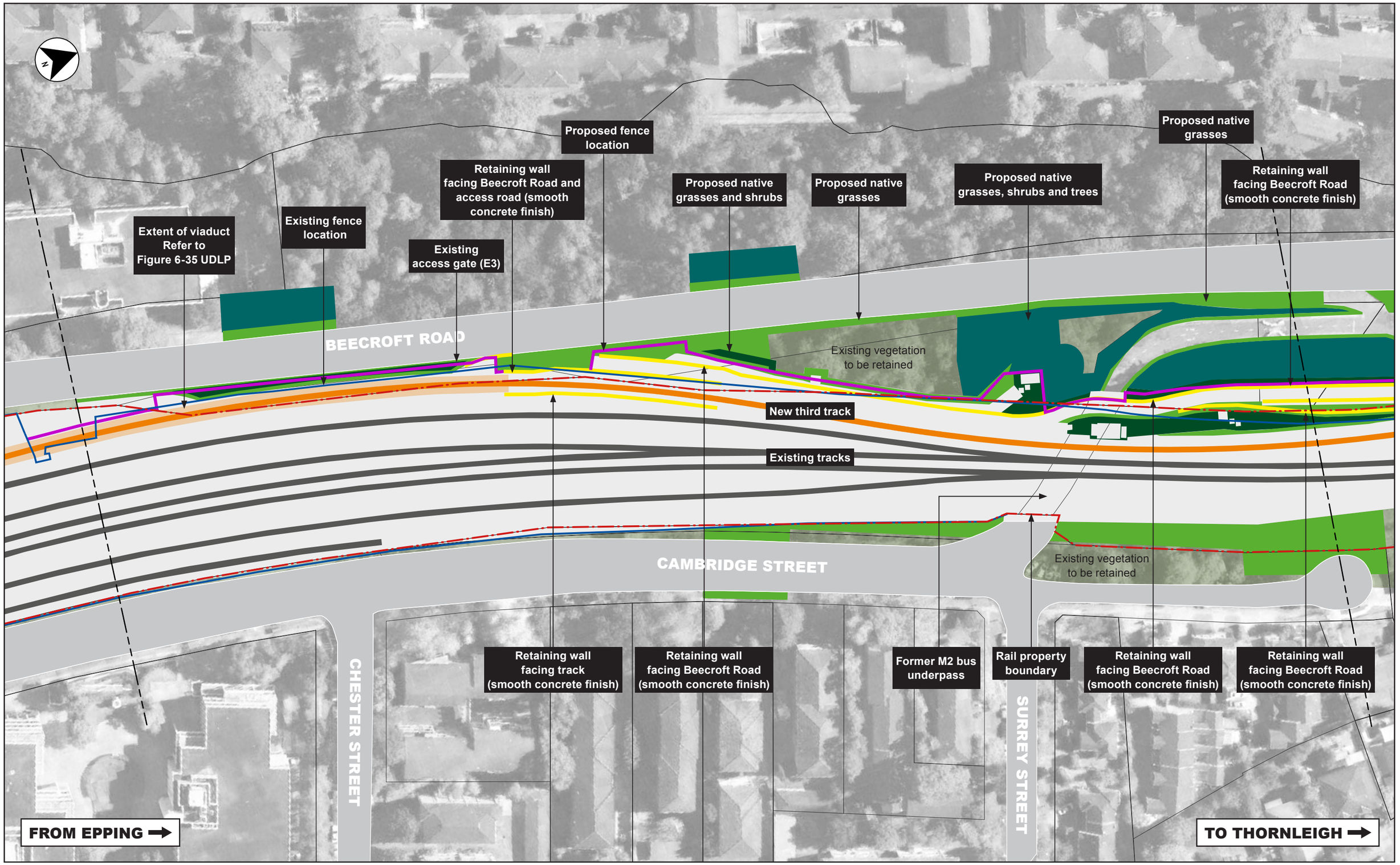
1:1000 @ A3

Project Name:

Epping to Thornleigh Third Track

Drawing Name	Landscape Plan	Revision
Drawing Number	ETTT-LD-1	17

2 JUNE 2014



AECOM

ETTT ALLIANCE

Residual visual impacts

- High
- Moderate
- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

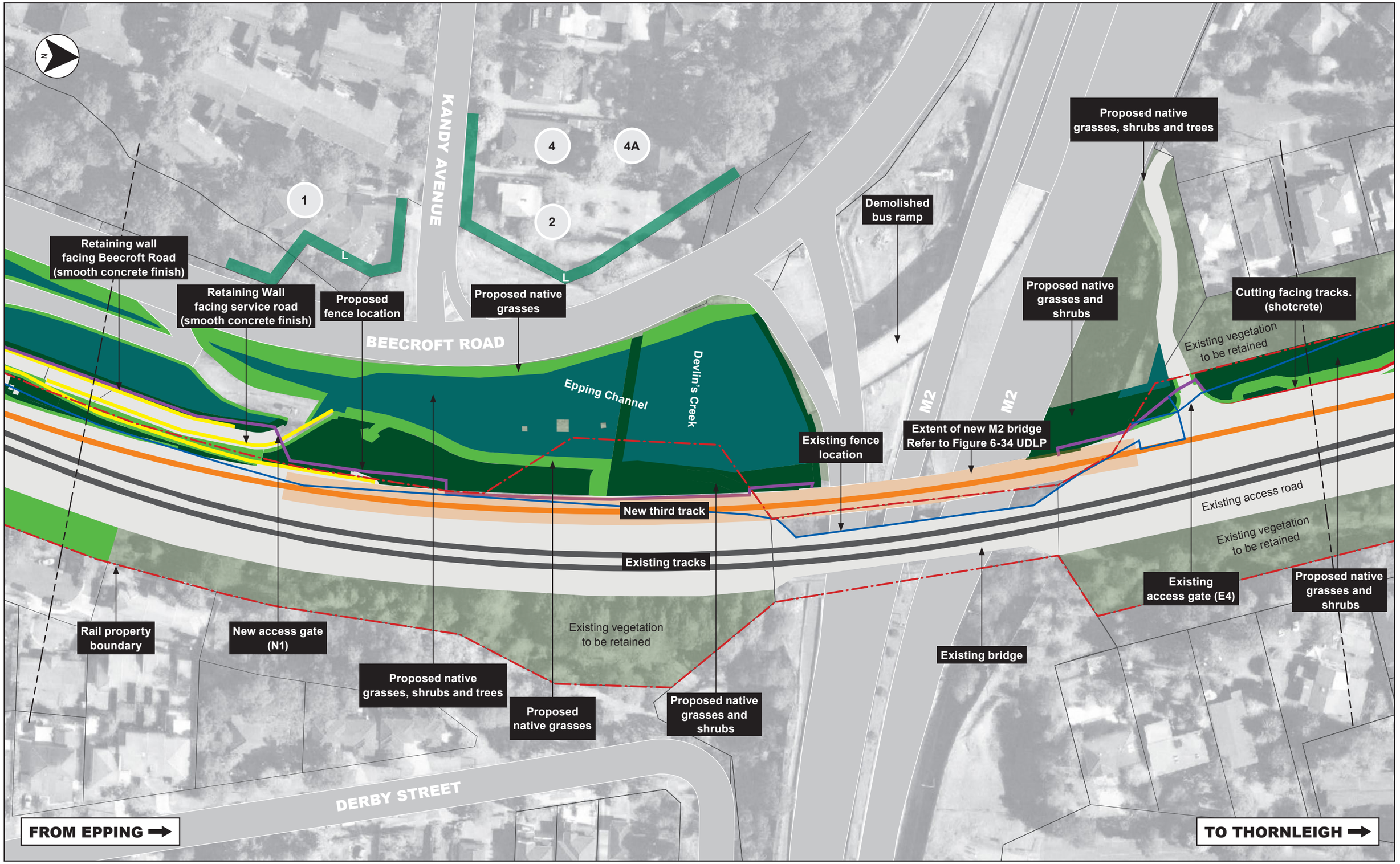
Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-2**	**17**

2 JUNE 2014



AECOM

ETTT ALLIANCE

Residual visual impacts

- High
- Moderate
- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

Scale Bar:

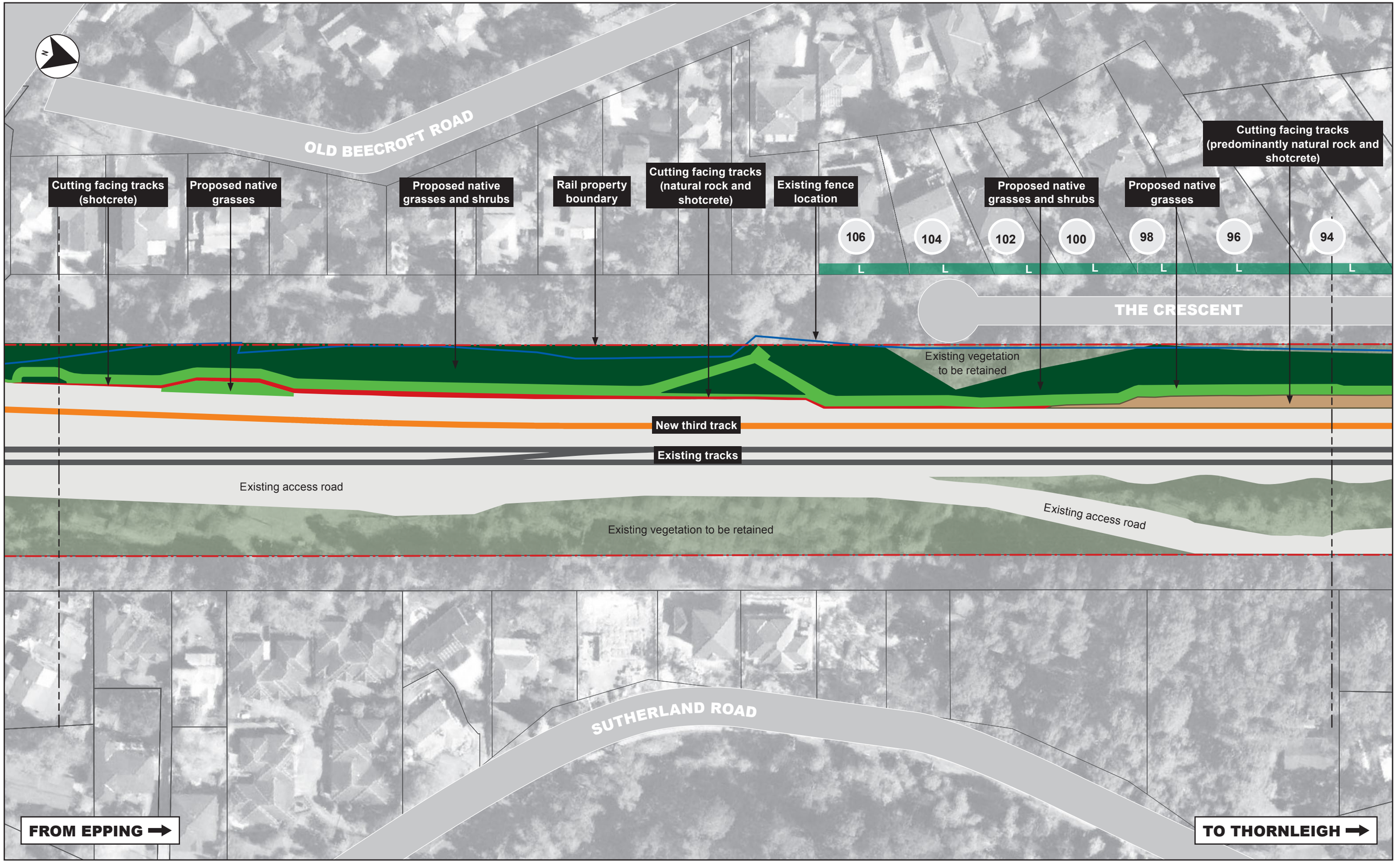
0 5 10 15 25 50m

1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-3**	**17**

2 JUNE 2014



AECOM

ETTT ALLIANCE

Residual visual impacts

- High
- Moderate
- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-4**	**17**

2 JUNE 2014

Cutting facing tracks (predominantly natural rock and shotcrete)

Existing fence location

Additional tree shrub and grass planting

Existing access gate (E5)

Proposed native grasses and shrubs

Additional tree shrub and grass planting

Proposed native grasses

Rail property boundary

Cutting facing tracks (shotcrete)

Proposed fence location

Proposed new individual street tree planting pending Council approval

Retaining Wall facing tracks (smooth charcoal coloured concrete)

Additional tree planting to carpark

96 94 92 90 88 86 84 82 80 78 76 60-74

L L L L L M M M M M M L L

LYNE ROAD

Cheltenham Recreation Club

Carpark

THE CRESCENT

Existing vegetation to be retained

New third track

Existing tracks

Existing vegetation to be retained

Existing access road

Existing access road

New signalling bungalow

Cutting facing tracks (shotcrete)

SUTHERLAND ROAD

New communications hut and new Metronet mast

Existing access gate (E6)

COBRAN ROAD

Existing access gate (E7)

FROM EPPING

TO THORNLEIGH

AECOM

ETTT ALLIANCE

Residual visual impacts

- High
- Moderate
- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

Scale Bar:

0 5 10 15 25 50m

1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-5**	**17**

2 JUNE 2014

Cheltenham Recreation Club

Proposed new individual street tree planting pending Council approval

60-74

Proposed fence location

Croquet Pitch

Additional tree planting to carpark

Tennis Courts

THE BOULAVARD

Shrubs (inlcuding some ornamental species)

Retaining Wall facing the tracks (smooth charcoal coloured concrete)

58 56 54 52 50

THE CRESCENT

Rail property boundary

CHELTENAM ROAD

Proposed new individual street tree planting approximately one per house pending Council approval

Proposed native grasses

Proposed native grasses and shrubs

22 48 46 44

Existing fence location

New third track

Existing tracks

Existing vegetation to be retained

Existing access road

Cheltenham Station (section 3.4 in UDLP)

Existing access road

Retaining Wall facing The Crescent (smooth, charcoal coloured concrete) becoming trough structure moving south

SUTHERLAND ROAD

Cutting facing tracks (natural rock and smooth charcoal coloured concrete)

6 8 10 12a 14 16 18 20

New small walls to improve pedestrian access to station

20 22 24 26

Existing access gate (E8)

Cutting facing tracks (predominantly natural rock and shotcrete)

FROM EPPING

TO THORNLEIGH

AECOM

ETTT ALLIANCE

Residual visual impacts

- High
- Moderate
- Low

Properties with no rating are assessed as being negligibly impacted

- Historical listed house
- Historical listed garden

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

Scale Bar:

0 5 10 15 25 50m

1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-6**	17

2 JUNE 2014

N

Cutting facing tracks (predominantly natural rock and shotcrete)

Additional tree shrub and grass planting

THE PROMENADE

Additional tree shrub and grass planting

Proposed native grasses and shrubs

Existing Beecroft substation

Rail property boundary

Retaining Wall facing The Crescent

New access gate (N3)

Additional shrub and grass planting

Proposed native grasses

Cutting facing tracks (Predominately natural rock and shotcrete)

22 48 46 44 32 28 24B 1

M L M L L L L

Existing fence location

Existing access gate (E9)

THE CRESCENT

Existing vegetation to be retained

New third track

Existing tracks

Existing vegetation to be retained

Existing access road

Existing access road

SUTHERLAND ROAD

L L

26 28

Existing access gate (E10)

CHORLEY AVENUE

KETHE ROAD

SUMMERWOOD WAY

FROM EPPING

TO THORNLEIGH

AECOM

ETTT ALLIANCE

Residual visual impacts

- High
- Moderate
- Low

Properties with no rating are assessed as being negligibly impacted

Historical listed garden

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

Scale Bar:

0 5 10 15 25 50m

1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-7**	**17**

2 JUNE 2014

N

MURRAY ROAD

Cutting facing tracks (predominately natural rock and shotcrete)

Existing access gate (E11)

Existing fence location

Rail property boundary

Proposed native grasses

Existing access gate (E12)

Proposed native grasses and shrubs

1 2 24A 24 22 20 18 16 14A 14 12 10 8 6 4

L

THE CRESCENT

New third track

Existing tracks

Existing vegetation to be retained

Existing access road

Existing access road

SUTHERLAND ROAD

GLENELG PLACE

Cutting facing tracks (natural rock and shotcrete)

FROM EPPING

TO THORNLEIGH

AECOM

ETTT ALLIANCE

Residual visual impacts

- High
- Moderate
- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

Scale Bar:

0 5 10 15 25 50m

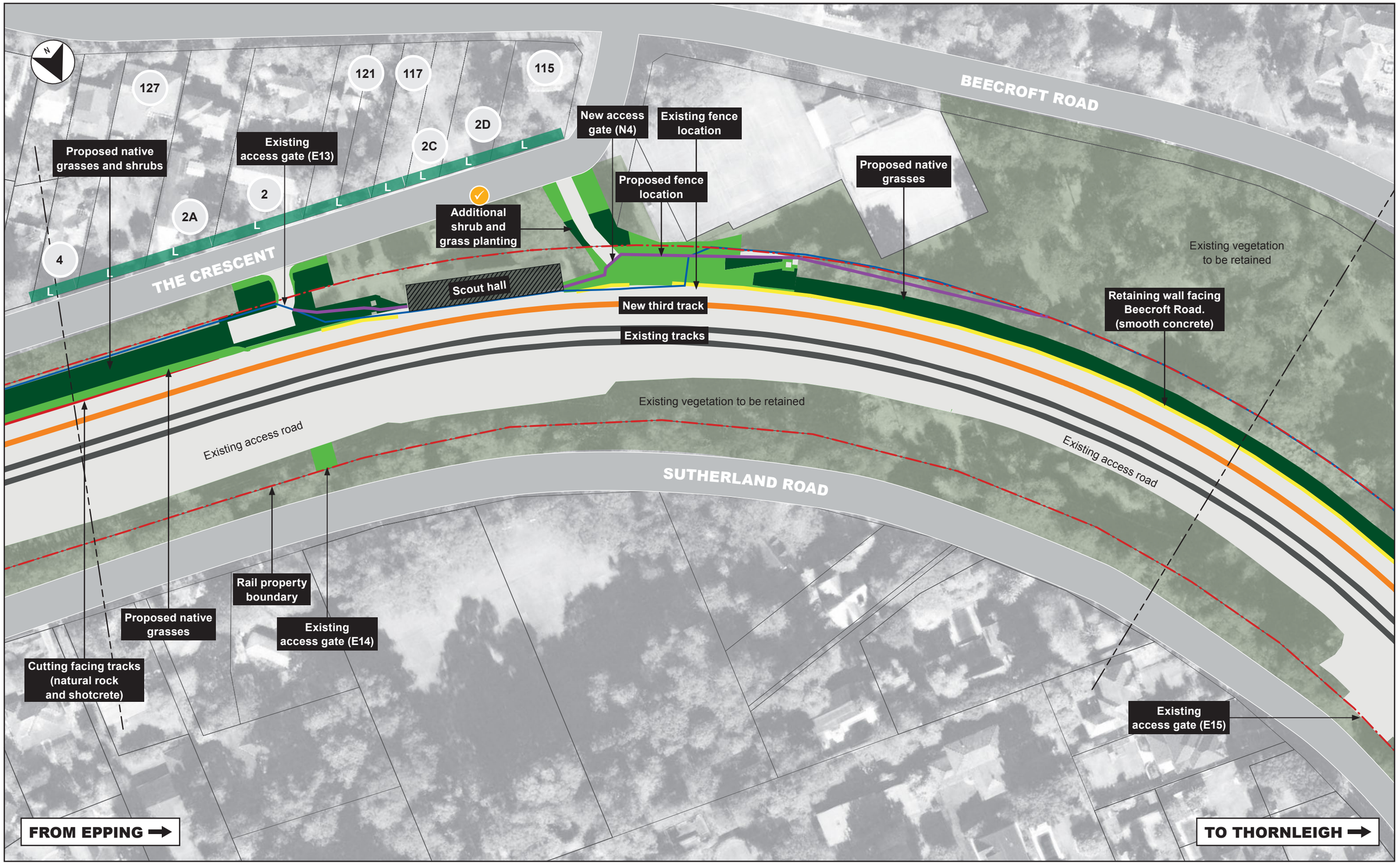
1:1000 @ A3

Project Name:

Epping to Thornleigh Third Track

Drawing Name	Landscape Plan	Revision
Drawing Number	ETTT-LD-8	17

2 JUNE 2014



AECOM

ETTT ALLIANCE

Residual visual impacts

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- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

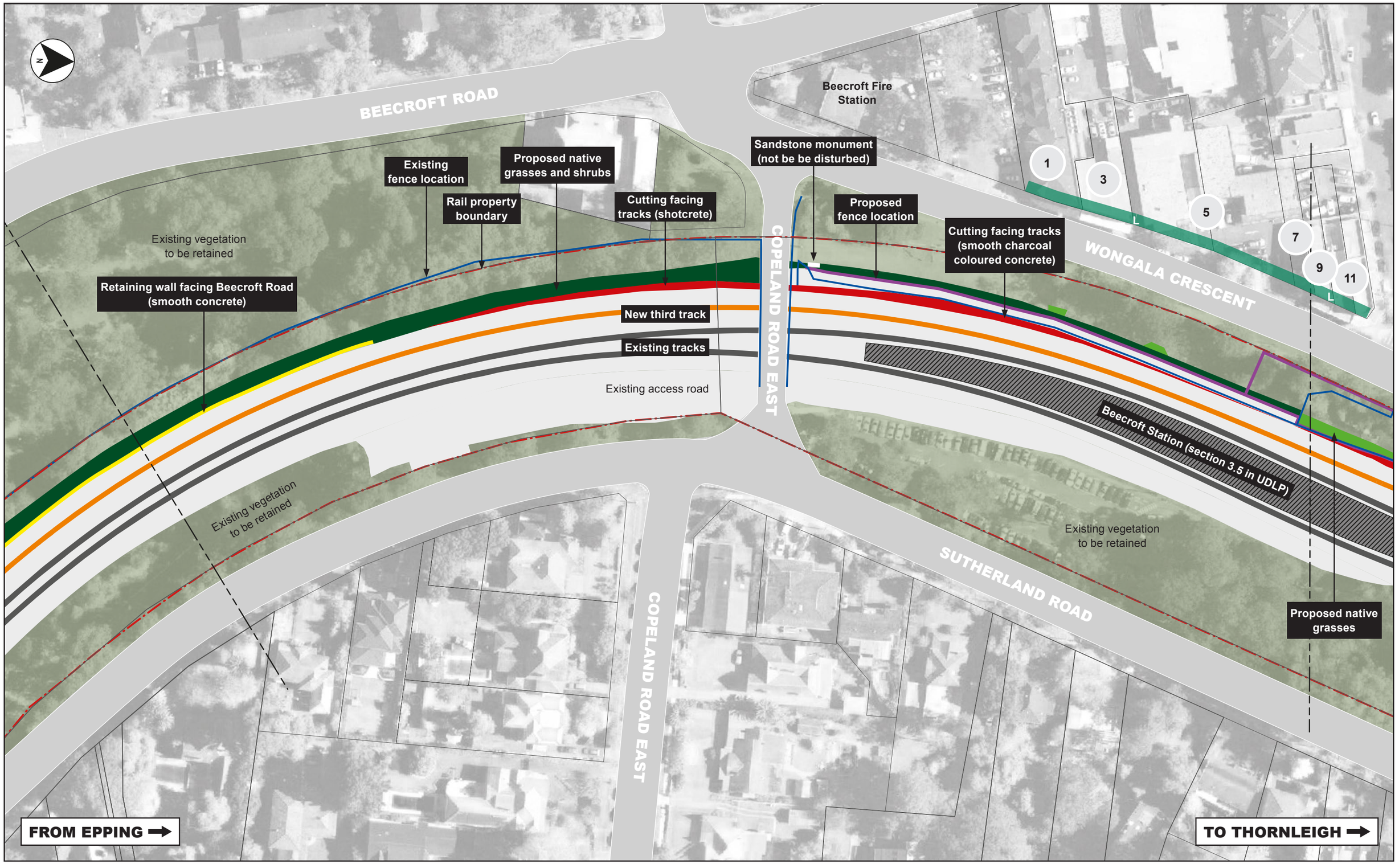
Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-9**	**17**

2 JUNE 2014



AECOM

ETTT ALLIANCE

Residual visual impacts

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Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

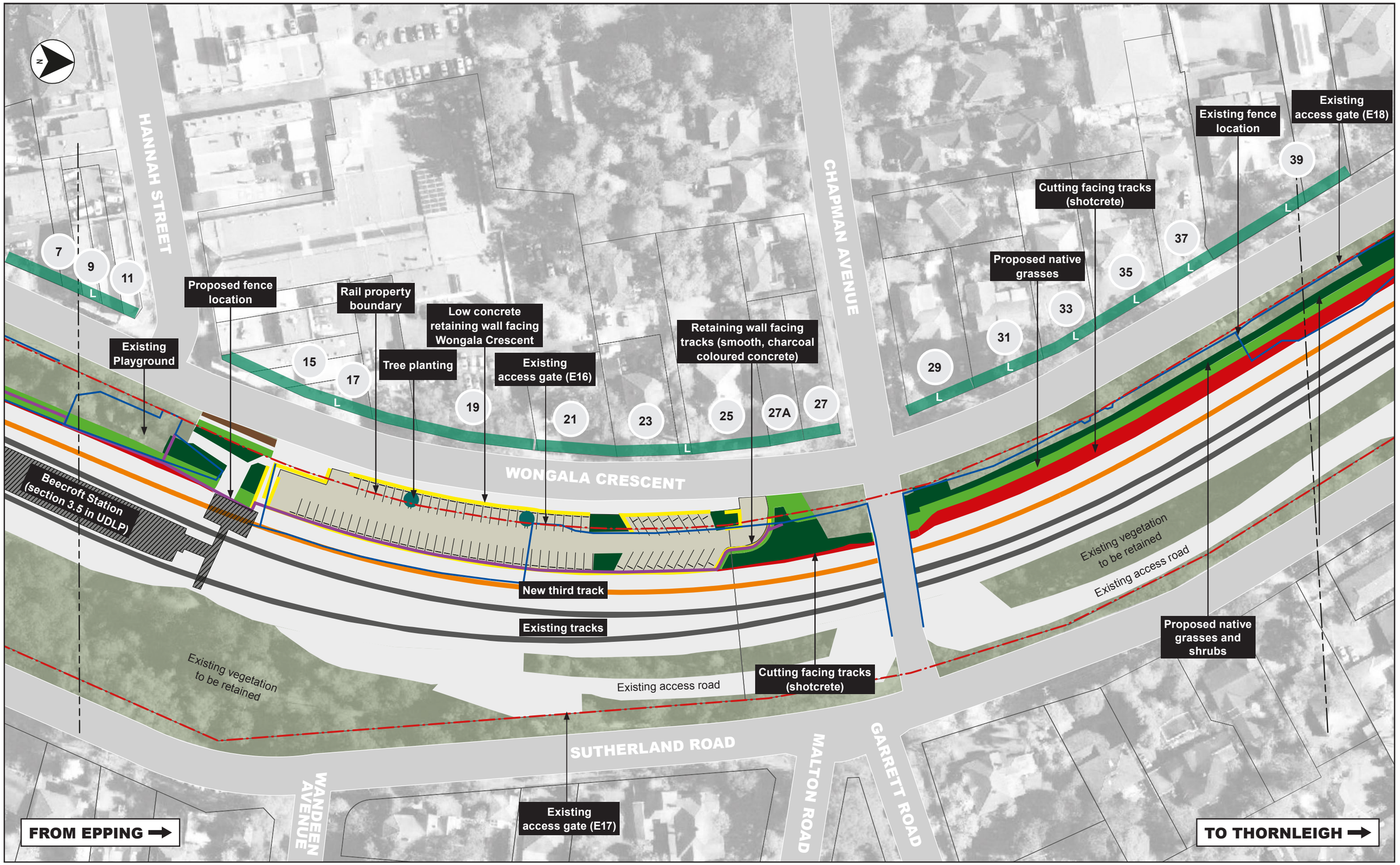
Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-10**	**17**

2 JUNE 2014



AECOM

ETTT ALLIANCE

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Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

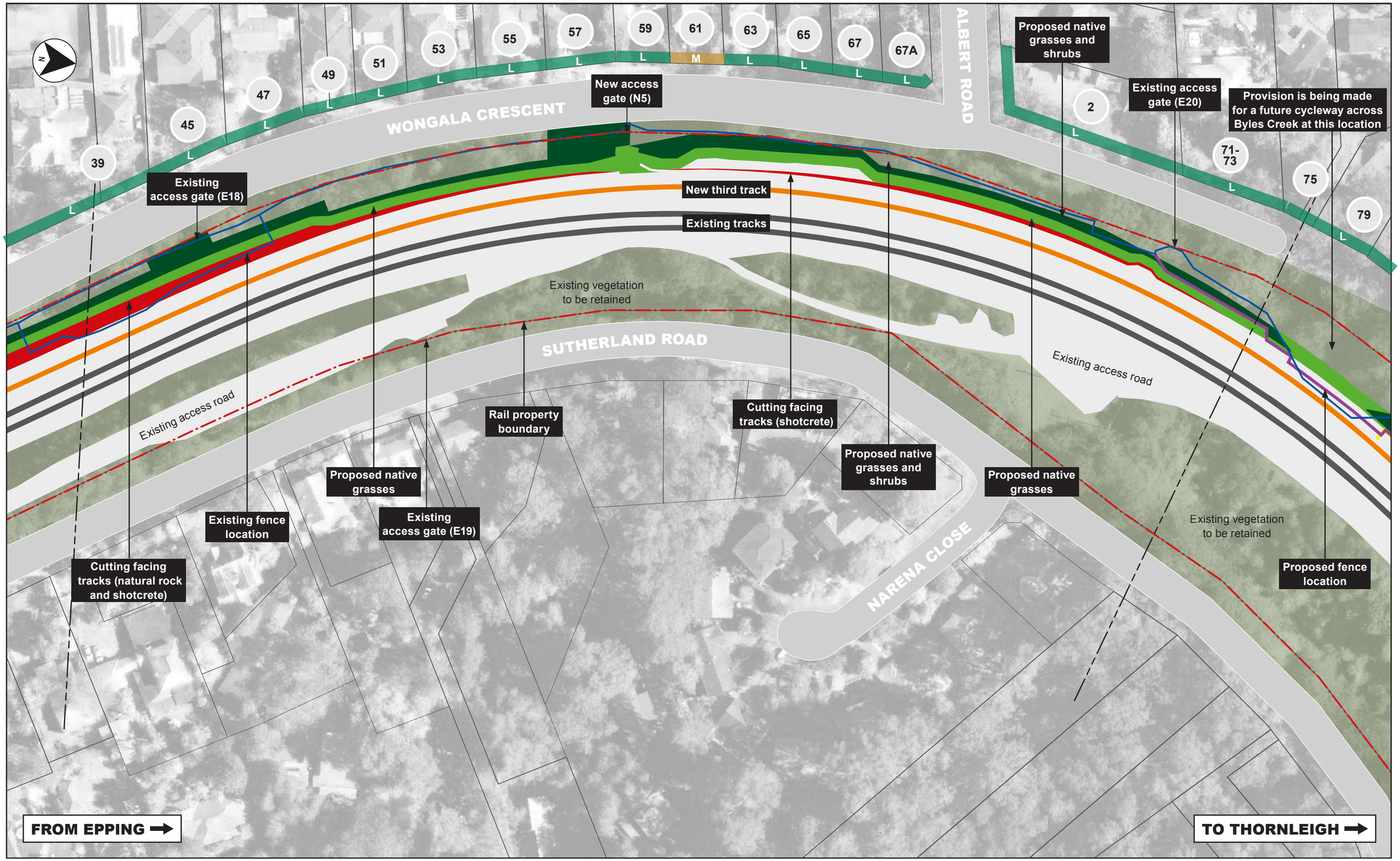
Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-11**	**17**

2 JUNE 2014



AECOM

ETTT ALLIANCE

Residual visual impacts

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- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

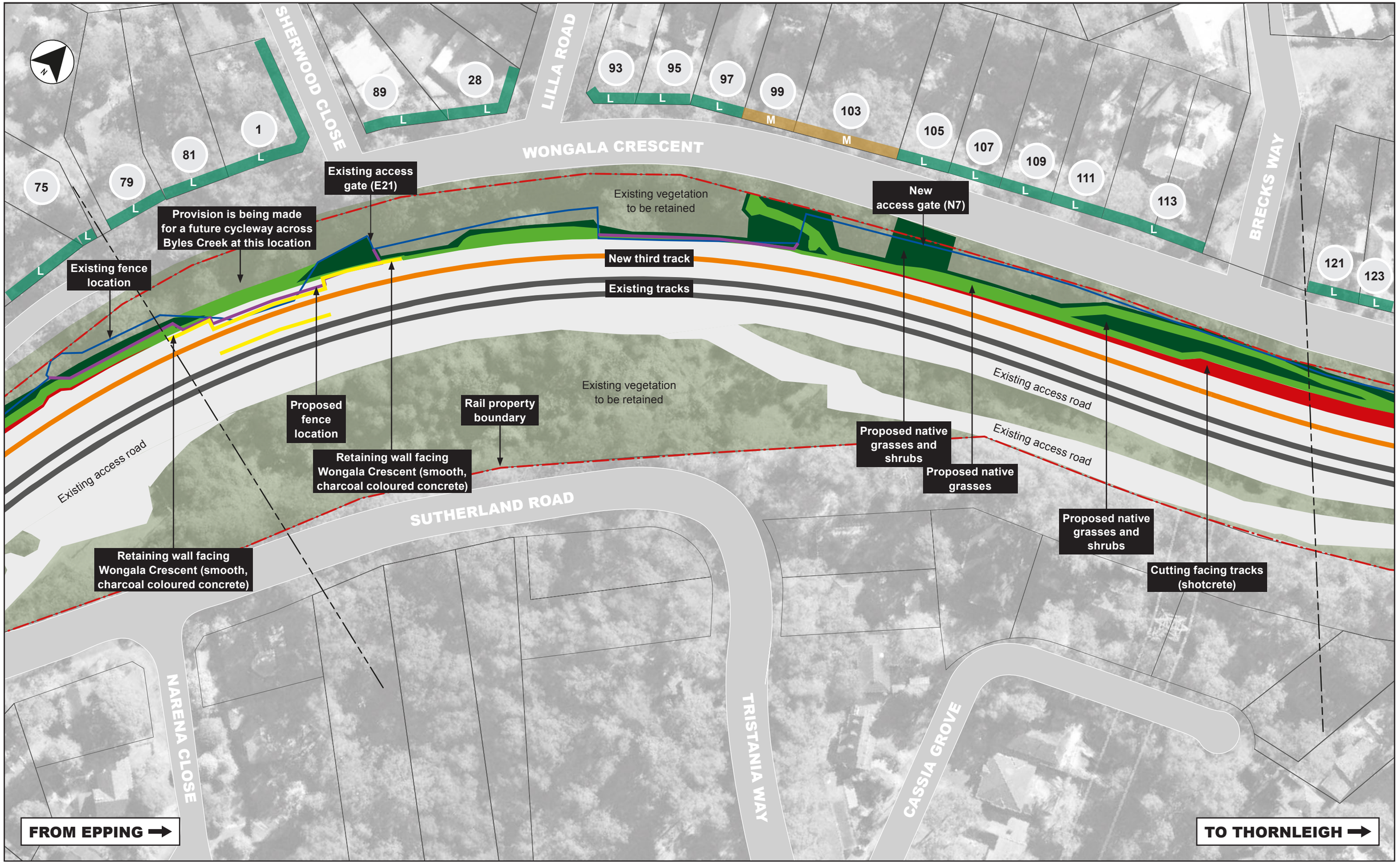
Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-12**	**17**

2 JUNE 2014



AECOM

ETTT ALLIANCE

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Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

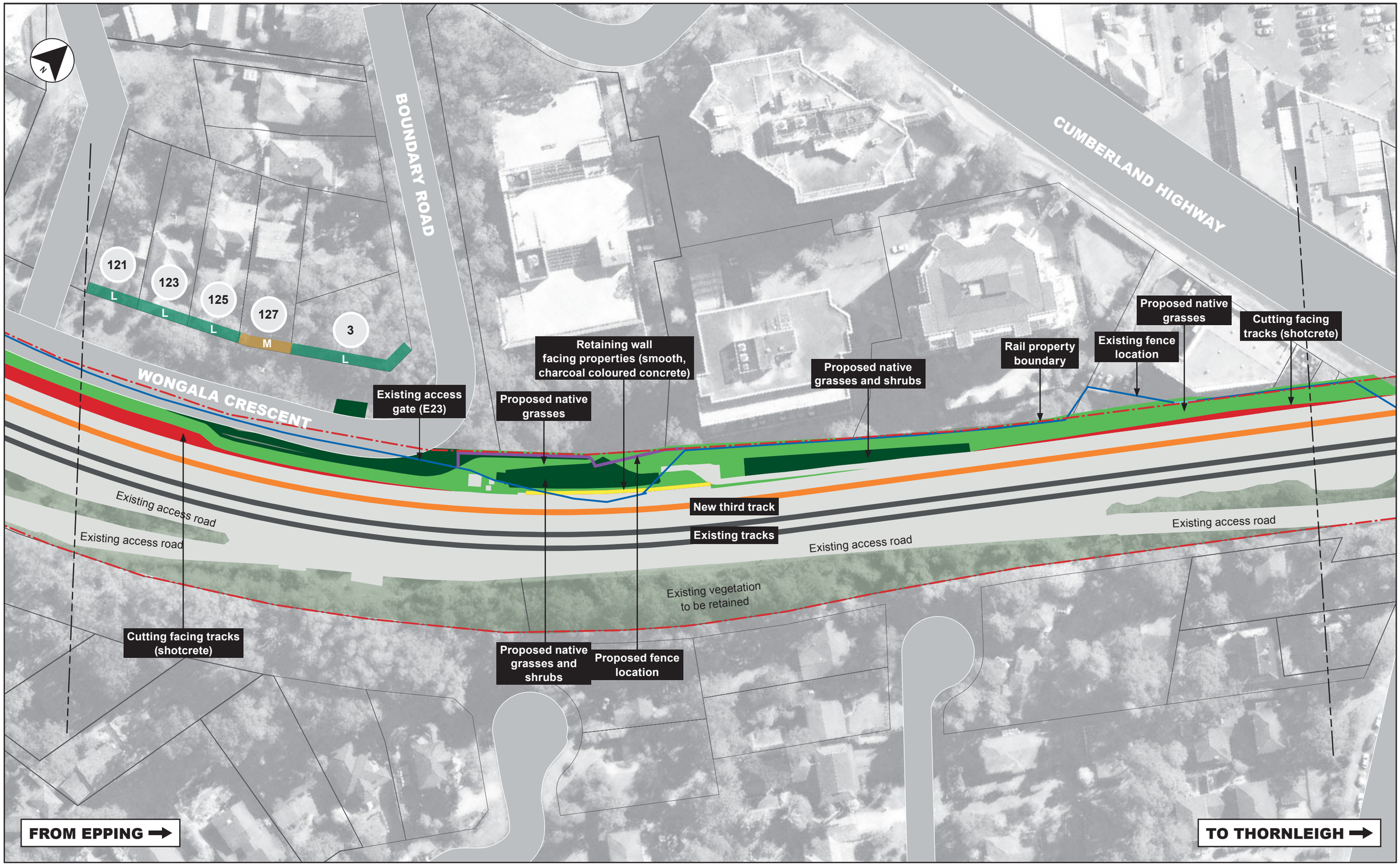
Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-13**	**17**

2 JUNE 2014



AECOM

ETTT ALLIANCE

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Legend:

- Existing fenceline
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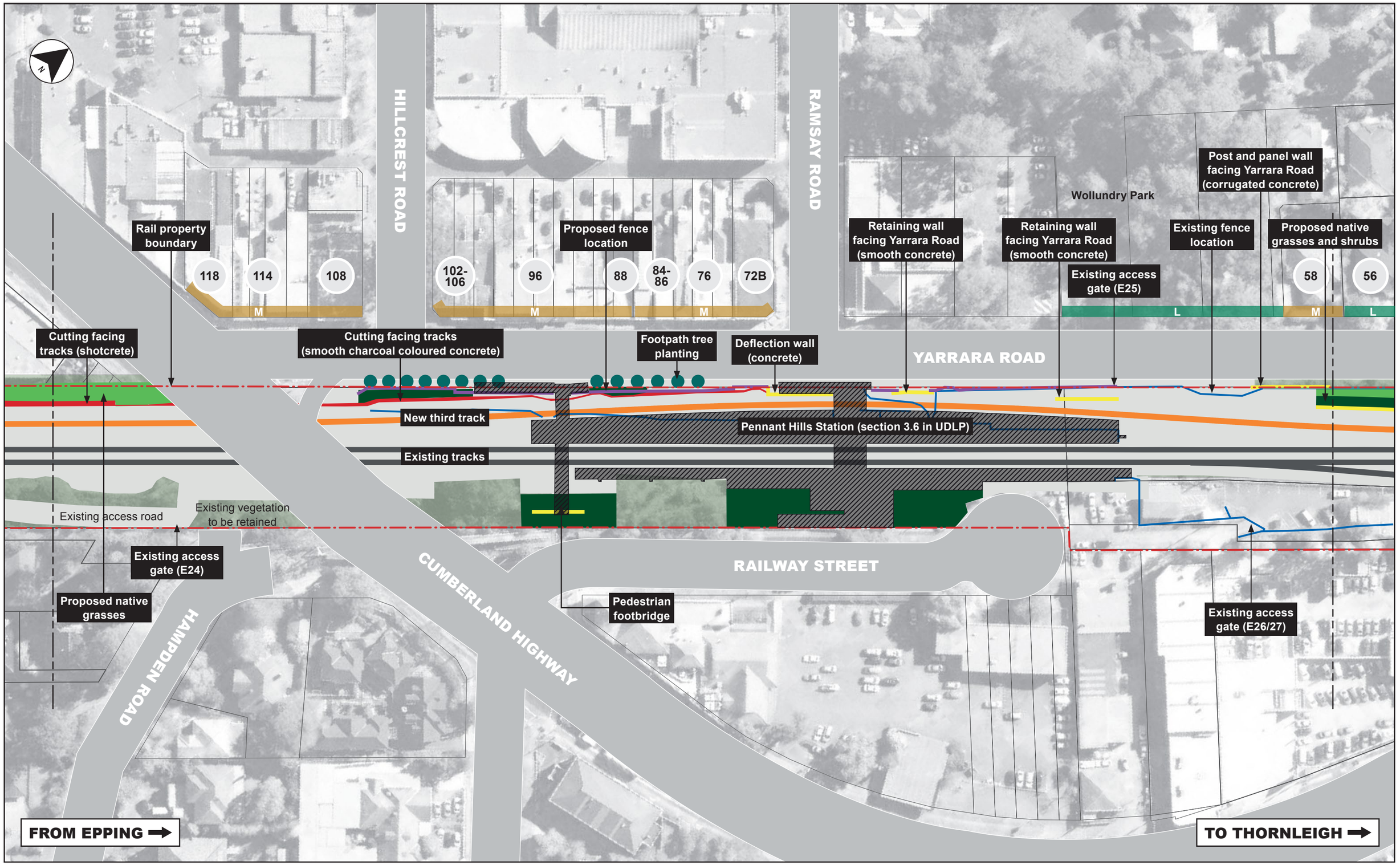
Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-14**	**17**

2 JUNE 2014



AECOM

ETTT ALLIANCE

Residual visual impacts

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- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

Scale Bar:

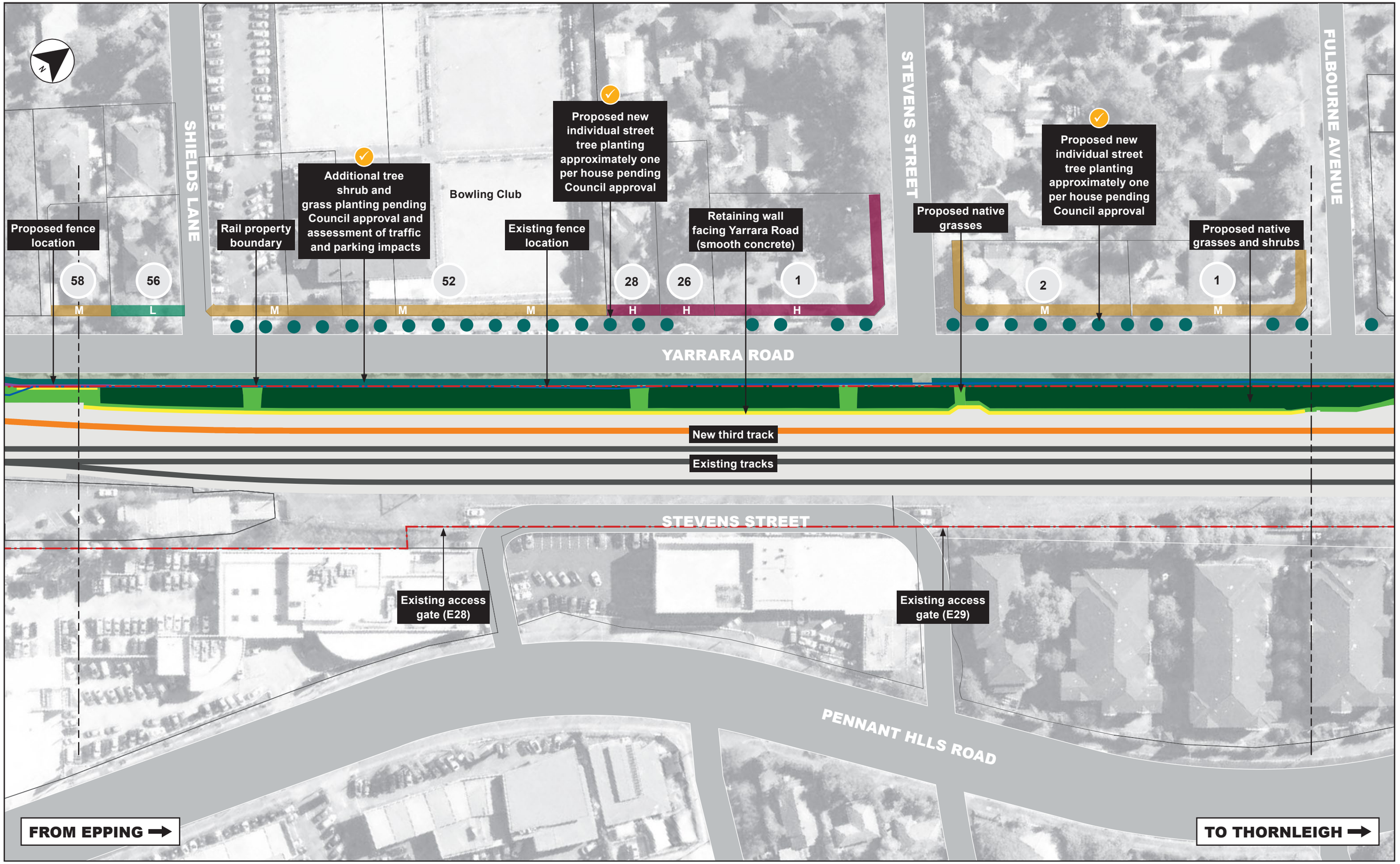
0 5 10 15 25 50m

1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-15**	**17**

2 JUNE 2014



AECOM

ETTT ALLIANCE

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- Moderate
- Low

Properties with no rating are assessed as being negligibly impacted

Legend:

- Existing fenceline
- Proposed fenceline
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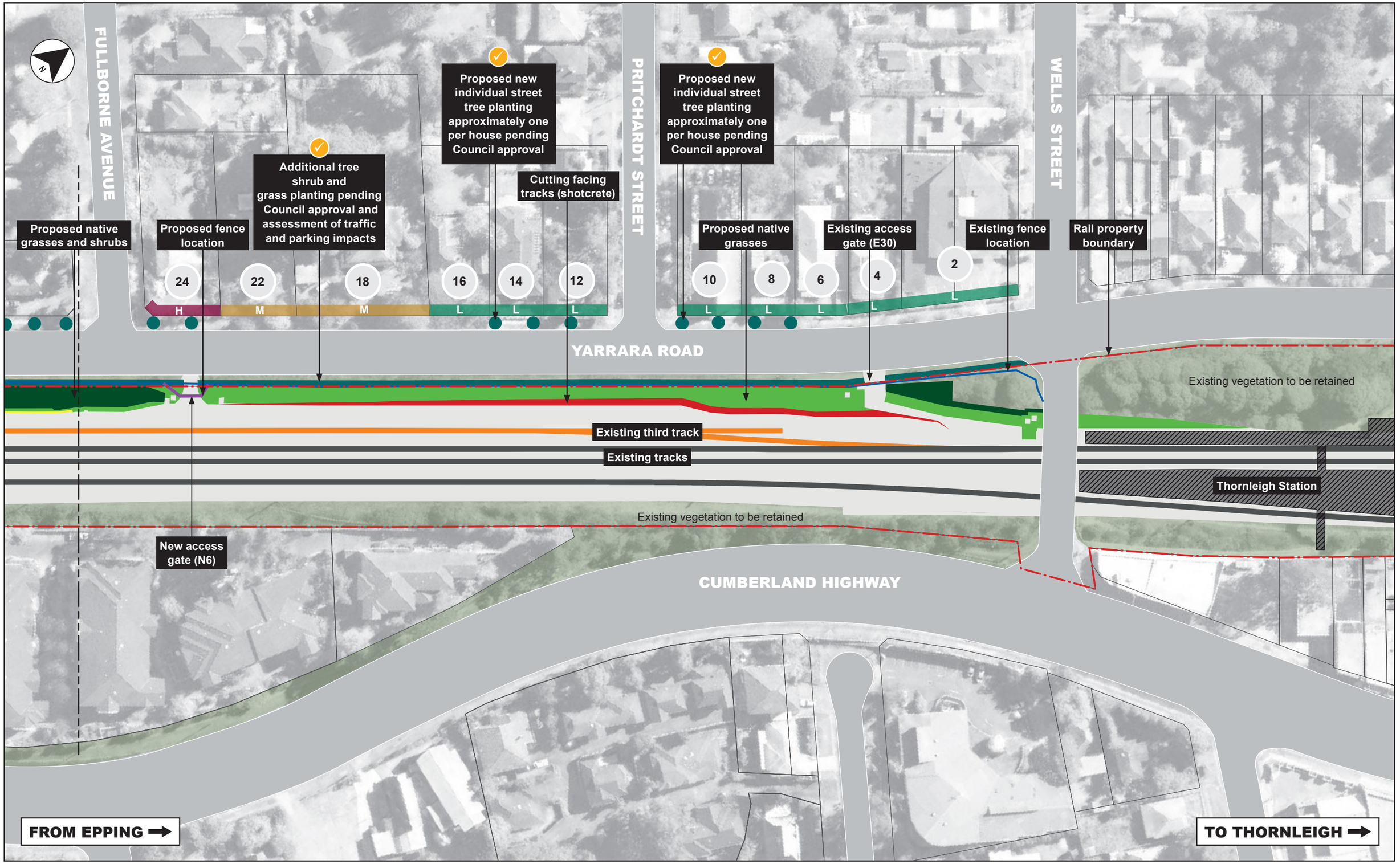
Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name: **Epping to Thornleigh Third Track**

Drawing Name	**Landscape Plan**	Revision
Drawing Number	**ETTT-LD-16**	**17**

2 JUNE 2014



AECOM

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Legend:

- Existing fenceline
- Proposed fenceline
- Rail property boundary

Scale Bar:

0 5 10 15 25 50m
1:1000 @ A3

Project Name:

Epping to Thornleigh Third Track

Drawing Name	Landscape Plan	Revision
Drawing Number	ETTT-LD-17	17

2 JUNE 2014