Station Design and Precinct Plan – Sydney Metro Trains Facility South and Marrickville Dive

City & Southwest Chatswood to Sydenham project

Project:	Chatswood to Sydenham	**Date:**	4 April 2022
Group:	C&SW SEP	**Status**	Final
Author:	Julieanne Boustead	**Revision:**	L
Company:	Sydney Metro	**File number:**	SMCSWLWC-SYC-DSY-EM-PLN-005684
File name:	Station Design and Precinct Plan (SDPP) – SMTF South and Marrickville Dive		

Table of Contents

Executive summary

This Station Design and Precinct Plan has been prepared to fulfil Condition E101 of the Chatswood to Sydenham project approval SSI 15_7400 for Sydney Metro Trains Facility South (SMTFS) and Marrickville Dive.

Condition E101 requires that:

> *Before commencement of permanent built surface works and/or landscaping, the Proponent must prepare **Station Design and Precinct Plans (SDPP)** for each station. The SDPP must be prepared by a suitably qualified and experienced person(s), in collaboration and consultation with relevant stakeholders including but not limited to relevant council(s), Urban Growth NSW, the Department, Chambers of Commerce and the local community. The SDPP(s) must present an integrated urban and place making outcome for each station or end state element. The SDPP(s) must be approved by the Secretary following review by the DRP and before commencement of permanent aboveground work…*
>
> *… Elements covered by the SDPP(s) must be complete no later than the commencement of operation of the Sydney Metro to paid services, unless otherwise agreed with the Secretary.*

The Condition notes that the SDPP may be submitted in stages to address the building and landscaping elements of the project. This SDPP is for the SMTFS and Marrickville Dive. This SDPP has been prepared by Systems Connect.

Separate SDPPs have been or are being developed for:

- Crows Nest Station
- Victoria Cross Station
- Barangaroo Station
- Martin Place Station
- Pitt Street Station
- Central Station
- Waterloo Station
- Sydenham Station
- Ancillary infrastructure, comprising the Artarmon Substation, Chatswood Dive and new noise walls along the rail corridor.

This SDPP presents an integrated urban and place making outcome for SMTFS and Marrickville Dive. Through a three (3) stage detailed design process that culminates in the delivery of Issued for Construction documents and drawings, the project team has consulted and coordinated internally and externally with stakeholders, systems and services. The project team has utilised various software tools to review and coordinate, test and assess design options, outcomes and assumptions, investigate impacts and issues and finalise the final urban design and place making outcome.

1. Introduction

1.1. Purpose of the Station Design and Precinct Plan

This report has been prepared to document the Station Design and Precinct Plan (SDPP) for the SMTFS and Marrickville Dive component of the Sydney Metro City & Southwest Chatswood to Sydenham project. The plan has been prepared to present an integrated urban and place making outcome to guide the design of the permanent built surface works and landscaping associated with the project.

An integrated urban and place making outcome must be achieved through the consideration of existing and planned public domain and private developments adjacent to the project and effective consultation and collaboration with relevant stakeholders. Through a three (3) stage detailed design process that culminates in the delivery of Issued for Construction documents and drawings, the project team has consulted and coordinated internally and externally with stakeholders, customers, systems and services. The project team has utilised various software tools to review and coordinate, test and assess design options, outcomes and assumptions, investigate impacts and issues and finalise the final urban design and place making outcome.

The preparation of the SDPP is a requirement of Condition E101 of the Chatswood to Sydenham project approval SSI 15_7400. Condition E101 allows the SDPP to be submitted in stages and, as identified in the Staging Report, staging of the project is represented on a precinct basis. Consistent with the requirements of Condition E101, this SDPP:

- details specific design objectives, principles and standards
- identifies design opportunities including incorporation of public art and salvaged elements
- describes the key design features
- outlines implementation of the plan, including maintenance and monitoring
- provides evidence of consultation.

As required by Condition E101, the SDPP has been prepared by suitably qualified and experienced person(s):

- Julieanne Boustead, Principal at Hassell – Qualifications: Bachelor of Planning and Design and Masters of Landscape Architecture, Registered Landscape Architect 1285 – Experience: over 30 years
- Peter Monckton, Senior Associate at Hassell – Qualifications; Bachelor of Architecture Hons 1, Registered Architect NSW – Experience: 39 years
- Andrew Ewington, Associate at Hassell – Qualifications: Bachelor of Landscape Architecture, Registered Landscape Architect 3273 – Experience: over 30 years
- Phillip Meehan, Senior Architect at Hassell – Qualifications: Bachelor of Arts in Architecture and Masters of Architecture, Registered Architect NSW 9099 – Experience: 12 years.

Appendix D contains further details on their relevant experience.

1.2. Project overview

Sydney Metro is Australia's biggest public transport project.

Services started in May 2019 in the city's North West with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. There will be new metro railway stations at Martin Place, Pitt Street and Barangaroo and new metro platforms at Central. In 2024, Sydney will have 31 metro railway stations and a 66km standalone metro railway system. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre.

Sydney Metro is made up of:

Metro North West Line (formerly the 36km North West Rail Link) Services started in May 2019 in the city's North West between Rouse Hill and Chatswood, with a metro train every four minutes in the peak. The project was delivered on time and $1 billion under budget.

Sydney Metro City & Southwest The Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of the Metro North West Line at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the ultimate capacity to run a metro train every two minutes each way through the centre of Sydney. Sydney Metro City & Southwest will deliver new metro stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Waterloo and new underground metro platforms at Central Station. In addition it will upgrade and convert all 11 existing stations between Sydenham and Bankstown to metro standards.

Sydney Metro West Sydney Metro West will be a new underground metro railway that will double rail capacity between Greater Parramatta and the Sydney central business district (CBD), transforming Greater Sydney for generations to come. This once-in-a-century infrastructure investment will have a target travel time of about 20 minutes between Parramatta and the Sydney CBD, link new communities to rail services and support employment growth and housing supply. The construction of Sydney Metro West will create more than 10,000 new direct jobs and 70,000 indirect jobs. Stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD.

Sydney Metro - Western Sydney Airport Metro rail will also service Greater Western Sydney and the new Western Sydney International (Nancy Bird Walton) Airport. The new railway line will become the transport spine for the Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service. Six new stations will be delivered at St Marys, Orchard Hills, Luddenham, Airport Business Park, Airport Terminal and Western Sydney Aerotropolis. The Australian and NSW governments are partners in the delivery of this new railway.

1.3. Scope of this Station Design and Precinct Plan

This SDPP presents an integrated urban and place making outcome for the SMTFS and Marrickville Dive.

The SMTFS and Marrickville Dive sites are located in Marrickville and are bounded by Sydney Steel Road and Edinburgh Road to the north, Railway Parade to the east, Sydenham Pit and Drainage Pumping Station to the southwest and the Sydney Trains rail corridor to the southeast.

The study area and SDPP boundaries considered in this SDPP are shown in Figure 1-1 below. Refer to Figure 1-2 and 1-3 for axonometrics of the current proposed scheme for each site.

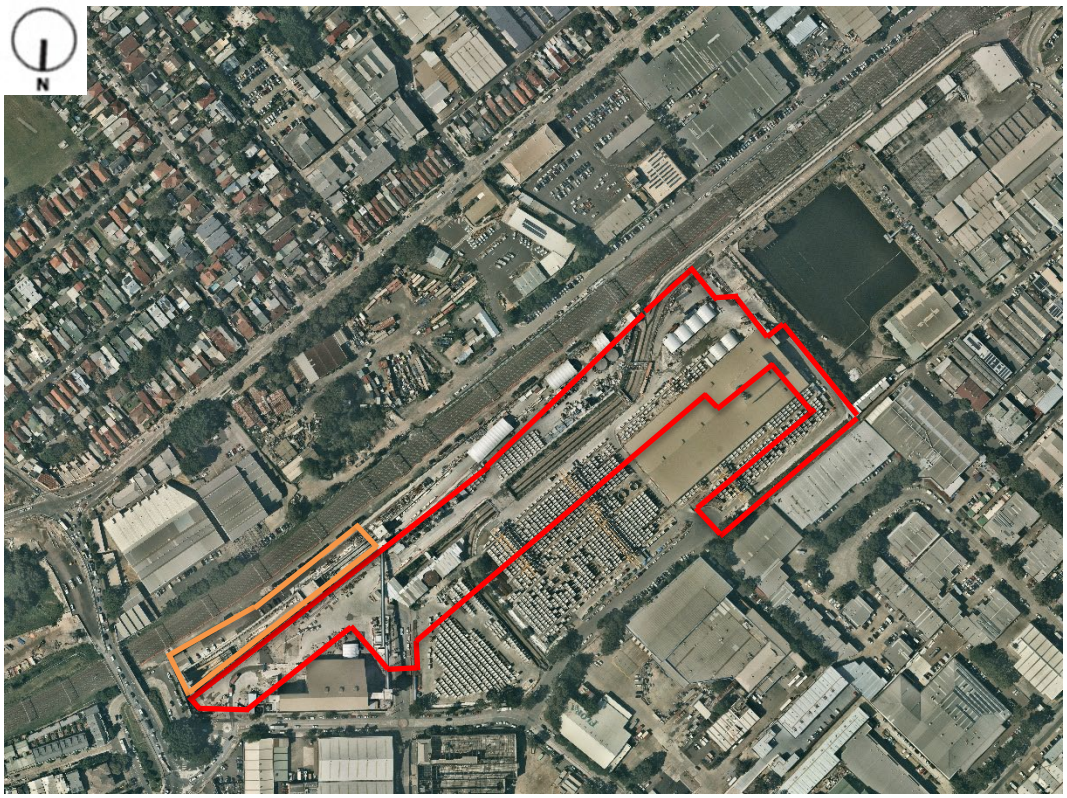


Figure 1-1 SMTFS and Marrickville Dive Sites. The Marrickville Dive site is highlighted in orange and the SMTFS site is highlighted in red. Aerial Photo extracted from Near Map 2019.

Sydney Metro Trains Facility South

The Sydney Metro Trains Facility South will primarily be used for the stabling of trains while also being used to carry out light corrective maintenance to trains and related equipment also providing a secondary storage area. The facility will include the following key elements:

- A new stabling yard
- A new depot security centre and fire pump building
- A new maintenance workshop
- A new logistics shed, associated external storage and bin store
- A new administration and depot control centre building
- A new ground water treatment plant
- New hi-rail, employee and visitor parking
- Associated landscaping architecture works.

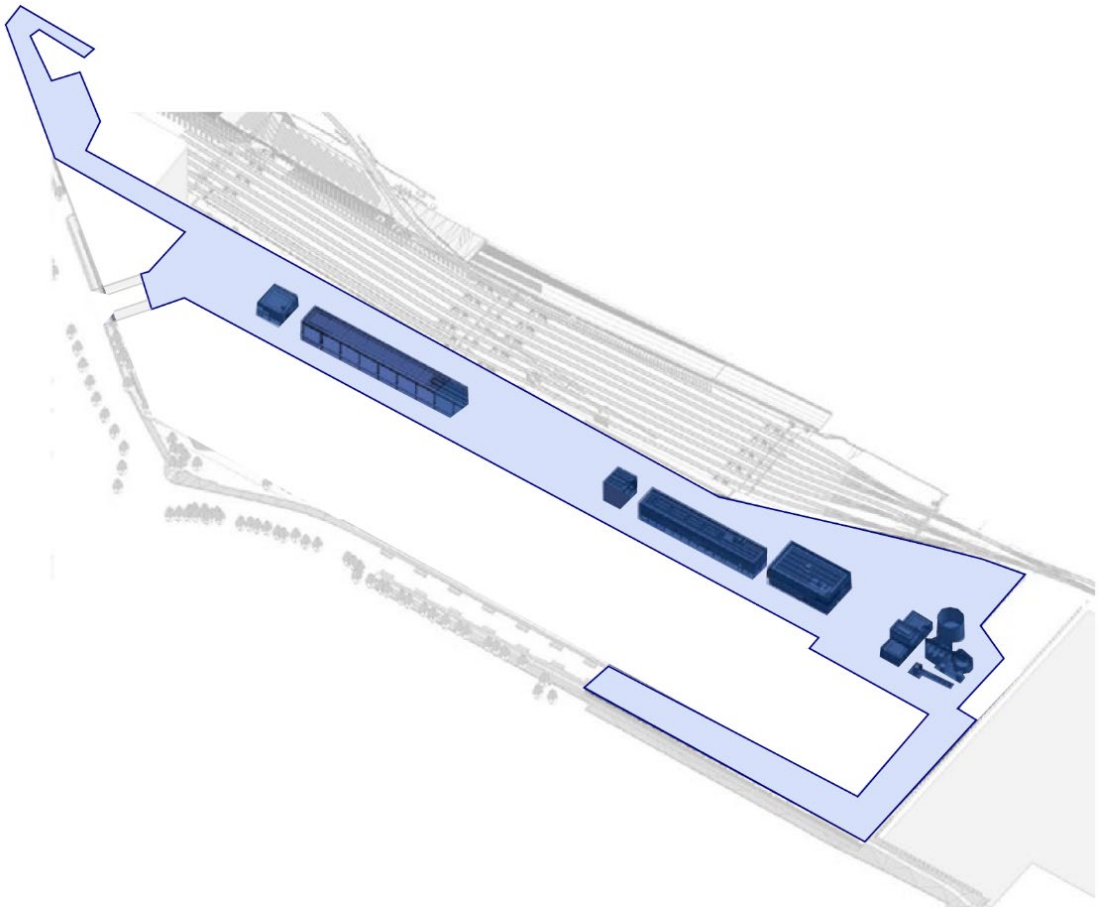


Figure 1-2 SMTFS Site. Axonometric of the proposed Sydney Metro Trains Facility South site.

Marrickville Dive

This Marrickville Dive facility will primarily be used to house new tunnel ventilation fans, associated plant and services and provide emergency and maintenance access to rail level. The facility will include the following key elements:

- A new ground level high voltage service yard
- A new ground level low voltage service building
- A new 5 level underground service building incorporating:
  - Tunnel ventilation rooms and equipment
  - Tunnel switch rooms, plant and associated services
  - Track level access
  - Cable basement
  - Rainwater and groundwater sumps.
- A new ground level solar array
- Associated landscape architecture works.

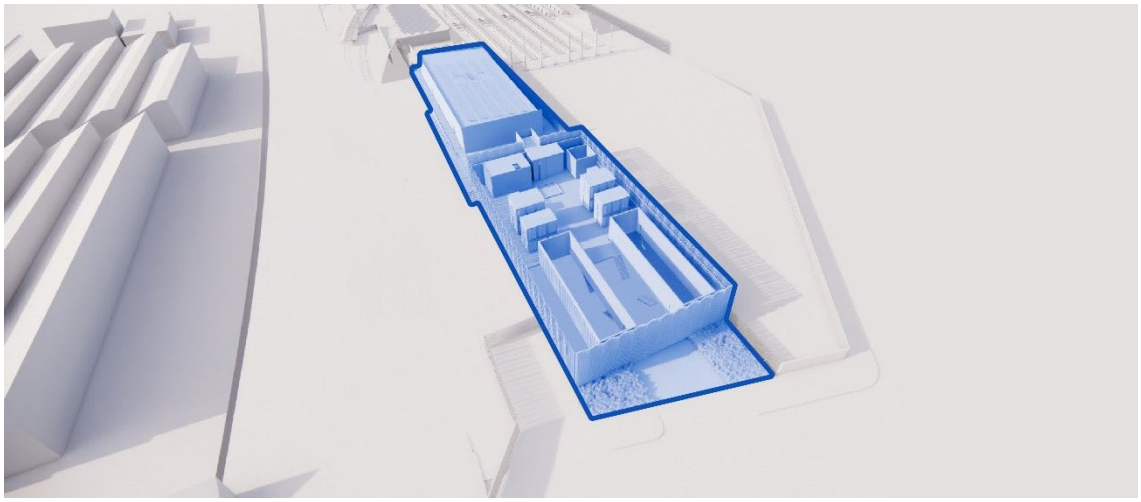


Figure 1-3 Marrickville Dive Site. Axonometric of the proposed Marrickville Dive site.

The study areas have been identified to determine the key design drivers and influences of the broader urban context on the project. The SDPP boundary is the area within which works identified in this SDPP will be delivered as part of the project.

1.4. Status of this Station Design and Precinct Plan

The information contained in this report is the latest available at the time of writing. The nature of the design process on a project of this scale is one that requires continuous development and refinement until the project is constructed. Notwithstanding this, the material herein provides a clear appreciation of the scale, nature and treatment of the facilities proposed and their interactions with the environment.

Where substantial changes to the design are made following the endorsement of this SDPP, an updated SDPP would be prepared for the approval by the Secretary.

1.5. Structure of the Station Design and Precinct Plan

The SDPP has been structured as follows:

- Section 2: provides an overview of the design development process that has occurred for the project to date
- Section 3: outlines the consultation that has been undertaken during the preparation and review of this plan and how the feedback received has been addressed
- Section 4: identifies the design objectives, principles and standards specific to the relevant scope element of the plan
- Section 5: identifies design opportunities, including in regards to public art, heritage interpretation and use of salvaged elements (if applicable to the package)
- Section 6: details the key features of the station/element design and the precinct/public realm plan

- Section 7: outlines the implementation phase including timing for delivery of access, landscaping and public realm initiatives and the monitoring and maintenance procedures for landscaping
- Section 8: provides an assessment of the visual impact for the relevant design elements and identifies if a 'minor benefit' rating (or at a minimum a 'negligible' rating) has been achieved.

1.6. Compliance with the conditions of approval

The following table identifies the requirements of the relevant conditions of approval of SSI 15_7400 and where these have been addressed in this SDPP.

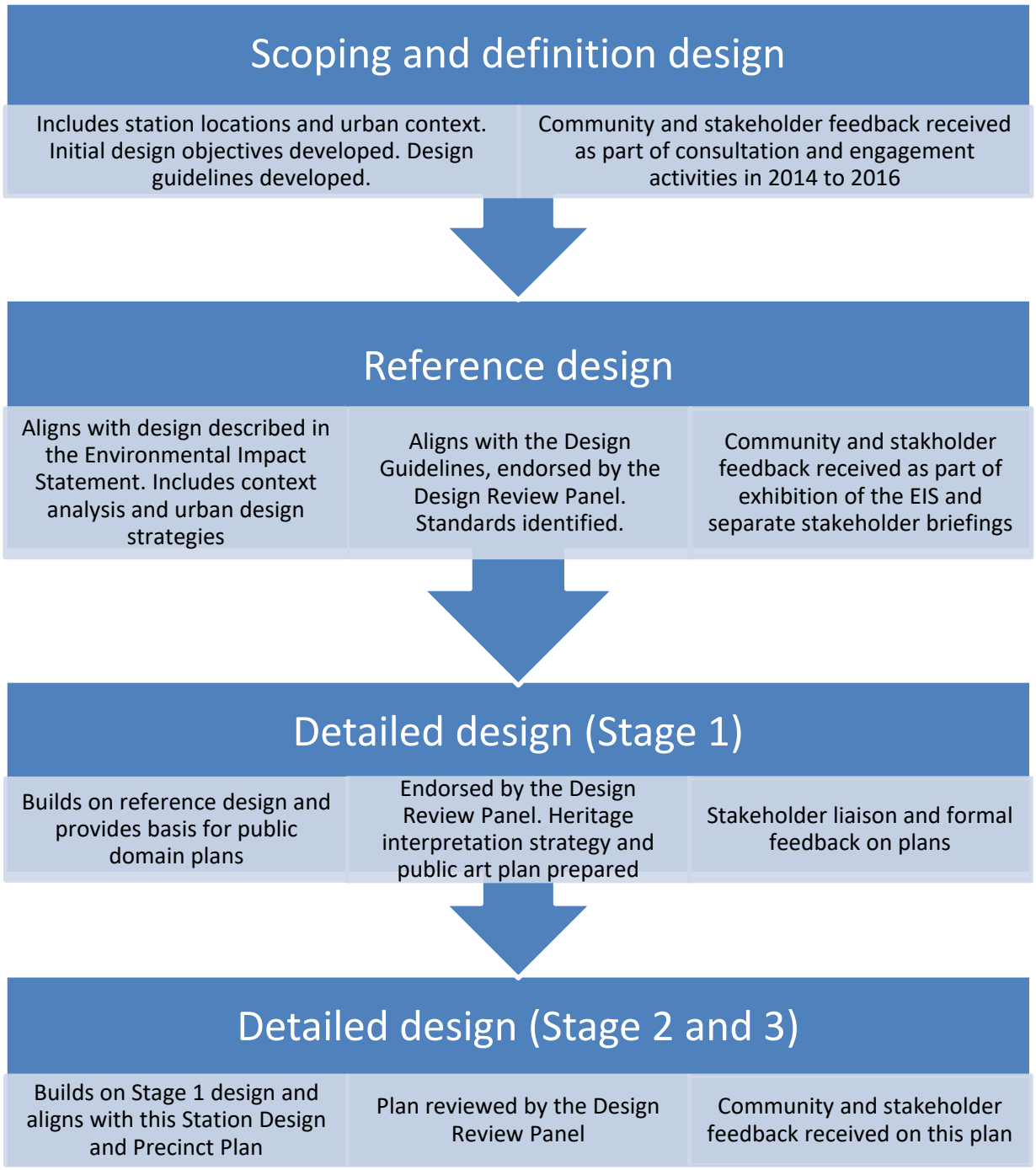
Requirement of the conditions of approval	Where addressed in the plan
Condition E21:	
… The Heritage Interpretation Plan must inform the Station Design and Precinct Plan referred to in Condition E101…	Opportunities identified in the Heritage Interpretation Plan considered in the SDPP have been identified in Section 5.3.
Condition E101:	
Before commencement of permanent built surface works and/or landscaping, the Proponent must prepare Station Design and Precinct Plans (SDPP) for each station.	This plan.
The SDPP must be prepared by a suitably qualified and experienced person(s), in collaboration and consultation with relevant stakeholders including but not limited to relevant council(s), Urban Growth NSW, the Department, Chambers of Commerce and the local community.	Section 1.1 details the qualifications and experience of the authors of the plan. This is supported by the Authors' CVs provided in Appendix D. Section 3 details the consultation that has occurred during preparation of the plan. This is supported by the consultation evidence provided in Appendix A.
The SDPP(s) must present an integrated urban and place making outcome for each station or end state element.	This plan, with a statement provided in Section 6.3.
The SDPP(s) must be approved by the Secretary following review by the Design Review Panel (DRP) and before commencement of permanent aboveground work.	The plan will be submitted to the Secretary for approval. Section 3.2 details the reviews undertaken by the DRP. This is supported by the copy of the DRP Meeting Minutes provided in Appendix C.

Requirement of the conditions of approval	Where addressed in the plan
Each SDPP must include, but not be limited to:	
a) identification of specific design objectives, principles and standards based on - i. the project design objectives as refined by the DRP; ii. maximising the amenity of public spaces and permeability around entrances to stations; iii. local environmental, heritage and place making values; iv. urban design context; v. sustainable design and maintenance; vi. community safety, amenity and privacy, including 'safer by design' principles where relevant; vii. relevant urban design and infrastructure standards and guidelines (including relevant council standards, policies and guidelines); viii. minimising the footprint of the project (including at operational facilities)	Section 4 identifies the Design Objectives, Principles and Standards.
b) opportunities for public art; c) landscaping and building design opportunities to mitigate the visual impacts of rail infrastructure and operational fixed facilities (including the Chatswood Dive, Marrickville Dive, Sydney Metro Trains Facility South, Artarmon Substation, station structures and services, noise walls etc.); d) the incorporation of salvaged historic and artistic elements onto the project design, including but not limited to the Tom Bass P&O fountain, the Douglas Annand glass screen (if present), the Douglas Annand wall frieze and heritage fabric from Martin Place Station, unless otherwise agreed by the Secretary;	Section 5 details the Design Opportunities. Condition d) is not applicable to the SMTFS and Marrickville Dive site as there are no salvaged historic or artistic elements within the site.
e) details on the location of existing vegetation and proposed landscaping (including use of endemic and advanced tree species where practicable). Details of species to be replanted/revegetated must be provided, including their appropriateness to the area and habitat for threatened species; f) a description of the CSSI design features, including graphics such as sections, perspective views and sketches for key elements of the CSSI; g) the location, design and impacts of operational lighting associated with the CSSI and measures proposed to minimise lighting impacts;	Section 6 outlines the Details of the Station Design and Precinct Plans. Section 6.1 details the key design features, including the external lighting strategy. The Precinct (Public Realm) Plan in Section 6.2 details the location of existing and proposed landscaping within the precinct/public realm plans.
h) details of where and how recommendations from the DRP have been considered in the plan;	Appendix C details the feedback from the DRP and how the recommendations have been considered.
i) the timing for implementation of access, landscaping and public realm initiatives; j) monitoring and maintenance procedures for vegetation and landscaping (including weed control), performance indicators, responsibilities, timing and duration and contingencies where rehabilitation of vegetation and landscaping measures fail; and	Section 7 outlines the implementation of the plan, including timing and monitoring and maintenance.

Requirement of the conditions of approval	Where addressed in the plan
k) evidence of consultation with the community, local councils and agencies in the preparation of on the SDPP(s) and how feedback has been addressed before seeking endorsement by the DRP.	Section 3 details the consultation that has occurred during preparation of the plan and how this feedback has been addressed. This is supported by the consultation evidence provided in Appendix A.
Elements covered by SDPP(s) must be complete no later than the commencement of operation of the Sydney Metro to paid services, unless otherwise agreed with the Secretary.	Refer to Section 7 which details implementation of the plan.
Note: The SDPP may be submitted in stages to address the built elements of the CSSI and landscaping aspects of the CSSI.	Refer to Section 1.3 for the scope elements considered as part of this SDPP. The SDPPs for other scope elements have been/would be considered as part of other SDPPs.
Condition E102:	
The SDPP must achieve a minimum visual impact rating of at least “Minor Benefit” as defined in the EIS, as amended by the documents listed in A1, for all design elements of the project, where feasible and reasonable. Where it can be demonstrated, to the DRP’s satisfaction, that a “Minor Benefit” is not achievable, then a “Negligible” visual impact rating must be achieved as a minimum.	Section 8 provides the visual impact assessment and identifies the ratings achieved. Appendix C details the feedback from the DRP on the visual impact assessment ratings achieved.

2. Design development process

The design for the Sydney Metro City & Southwest Chatswood to Sydenham project has developed from an initial scoping design through to the detailed design (refer to flow chart below). At each stage a range of consultation and stakeholder engagement activities have occurred. This has also been supported by the development of design objectives, the Chatswood to Sydenham Design Guidelines and now this Station Design and Precinct Plan, all of which has been refined in consultation with the Sydney Metro Design Review Panel.



This Station Design and Precinct Plan draws upon the design work that occurred prior to obtaining planning approval (i.e. during the scoping, definition and reference design) for context, and then details the design work and associated consultation activities that have occurred since planning approval was obtained (i.e. during the detailed design stage).

It is noted that this SDPP relates to the SMTFS and Marrickville Dive design and surrounding precinct subject to the SSI project approval SSI 15_7400.

3. Collaboration and consultation

The stakeholder and community consultation process for Sydney Metro City & Southwest has played an integral role in informing and scoping the design of the project since 2014. The consultation and engagement activities that occurred to inform the reference design was documented in the Chatswood to Sydenham Environmental Impact Statement – Sydenham Station and Sydney Metro Trains Facility South Modification Report (EIS) and the Chatswood to Sydenham Submissions and Preferred Infrastructure Report (SPIR).

Key issues raised during consultation on the EIS in the Sydenham and Sydney Metro Trains Facility South Modification report that relate to SMTFS and Marrickville Dive include:

- Desire to keep the 'grunge' vibe in Sydenham (e.g. street art)
- Is there going to be a station at the dive site?

The following responses to the above issues raised during consultation on the reference design were provided in the EIS in the Sydenham and Sydney Metro Trains Facility South Modification report:

- The presence of existing street art in the area around Sydenham Station is acknowledged in the landscape character and visual amenity assessment. Mitigation measure LV17 (as part of the approved project) commits to investigating opportunities to provide a permanent wall for street art near the Marrickville dive site in consultation with the local council.
- The future use of the Marrickville dive site would be as a stabling facility for metro trains (the Sydney Metro Trains Facility South). Sydenham Station in close proximity to the dive site would be upgraded to include metro services.

Consultation, with government agencies, councils, business groups and the community has continued throughout the development of the Stage 3 detailed design and preparation of this SDPP. The SDPP has been reviewed by the Sydney Metro Design Review Panel.

3.1. Consultation during preparation of the Station Design and Precinct Plan

This SDPP has been prepared in collaboration and consultation with the following relevant stakeholders:

- Inner West Council
- the local community

Collaboration and consultation activities undertaken during development of the detailed design and preparation of this SDPP include:

- Consultation on the SDPP which was carried out during September and October 2021.
- Consultation with Inner West Council which was held on 22 October 2021.

Evidence of the above collaboration and consultation is provided in Appendix A. Appendix B identifies how the feedback received during this consultation has been addressed in the SDPP.

3.2. Review by the Design Review Panel

Sydney Metro has a Design Review Panel (DRP) that aims for design excellence across all Sydney Metro projects. The Sydney Metro DRP is chaired by the Government Architect and members include eminent architects, designers and heritage specialists. The Sydney Metro DRP has been involved in reviewing the City & Southwest Metro project since its inception. This SDPP was reviewed by the Sydney Metro DRP before submission to DPIE. Evidence of review and endorsement of the SDPP by the DRP is provided in Appendix C.

4. Design objectives, principles and standards

The development of the design and SDPP has been guided by a range of design objectives, principles and standards.

The Sydney Metro City & Southwest Chatswood to Sydenham Design Guidelines (June 2017), as included in the planning approval documents for SSI 15_7400, provide guidelines for the spatial and functional design of the urban and public domain in each station precinct as well as the urban form of associated project elements.

The Design Guidelines identifies the five project design objectives to help meet the transformational vision and world class aspirations of the project. These are supported by design principles which describe the intent of the objectives for the design of the stations, station precincts and the wider metro corridor. The project design objectives and supporting principles, as reviewed and refined by the Design Review Panel, are detailed in Section 4.1.

Sections 4.2 to 4.6 details the design principles relevant to the aspects identified in Condition E101(a) and scope of this SDPP. These have been captured from the Design Guidelines, relevant design reports that support the detailed design and other standards and guidelines listed in Section 4.8.

4.1. Project design objectives

The following design objectives identified in the Sydney Metro City & Southwest Chatswood to Sydenham Design Guidelines are applicable to the design approach for SMTFS and Marrickville Dive.

Objective 4: Being responsive to distinct contexts and communities

Principle – Sydney Metro's identity is stronger for the unique conditions of centres and communities through which it passes. This local character is to be embraced through distinctive station architecture and public domain that is well integrated with the inherited urban fabric of existing places.

It is intended that the trains facility and dive structure respond to their immediate context in a sympathetic way. The urban/community impact to streetscape and neighbourhood is a primary consideration.

Objective 5: Delivering an enduring and sustainable legacy for Sydney

Principle – Sydney Metro is a positive legacy for future generations. A high standard of design across the corridor, stations and station precincts, that sets a new benchmark, is vital to ensuring the longevity of the Metro system, its enduring contribution to civic life and an ability to adapt to a changing city over time.

New built elements are to reflect the Sydney Metro identity, being modern, sophisticated and of its place and time. Screening and planting has been included where possible to minimise visual impact.

The materials and construction used will have the necessary qualities to be serviceable, and endurable enough to meet the required "Design Life". Care in the detailing and finishing will ensure the buildings continue to be safe, clean and present well with minimal maintenance. Service facilities by nature are required to be robust. Material choice will reflect the need to be 'fit for purpose'.

4.2. Maximising amenity of public spaces and permeability around station entrances

Design principles and guidelines were identified in the Chatswood to Sydenham Design Guidelines to ensure that the amenity of public spaces is maximised. Those relevant to the scope of this SDPP are listed below:

- Location, scale and articulation of external walls and fences are important elements of the public realm. Their design is to be an integral part of the urban design of the site to minimise excessively long unarticulated lengths, inactive, bland and unappealing frontages
- The treatment of the public spaces is to reflect local character and context, integrate with their settings and provide attractive space and streetscapes.

The following site-specific design principles and guidelines have also been identified to inform the development of the detailed design for SMTFS and Marrickville Dive:

- Wall and fencing systems and details are to respond to their location, function and acoustic environment
- Ease of access, maintenance and replacement of walls and fencing sections is to be considered
- Robust cladding materials and finishes are to be selected in response to the local environment and conditions, and sustainability objectives including dematerialisation and embodied energy
- Plant species are to be appropriate to local conditions and relate to the character of the urban context - both current and/or planned future context
- Proposed plants are to be low maintenance and based on minimal water requirements beyond the establishment phase
- All planting must maintain clear setbacks and sight lines at road intersections and be offset from other transport infrastructure elements at suitable distances for the selected species.

4.3. Local environmental, heritage and place making values

The design must be developed with reference to the local environmental, heritage and place making values of the locality.

4.3.1. Non-Indigenous Heritage

An assessment of the historical context was previously prepared as part of the EIS for the approved project. The following historical context assessment, extracted from the EIS, focuses on the SMTFS and Marrickville Dive study area.

The majority of Sydenham, including the Marrickville Dive and SMTFS site study area, is located within the site of Douglas Farm, which was granted to Thomas Moore in 1799. The farm grew maize and wheat and also had valuable stands of timber that were logged (some were used for boat building).

During the Great Depression in the 1930s, a large brick-lined drainage pit (a State heritage listed item known as 'Sydenham Pit and Drainage Pumping Station 1') was constructed in Garden Street as a relief work scheme. Sydenham Railway Station, located to the southwest, was built on the duplicated line from Illawarra Junction to Hurstville and opened in 1884.

Analysis of early plans does not provide evidence of structures being present in the Marrickville dive site study area earlier than the mid-19th century. Thomas Moore owned large amounts of land in the vicinity, and it is unlikely that he had a residence in this location or used the land for more than the grazing of stock during the early 19th century. There is a possibility that the study area contains archaeology dating to the mid-19th century or later.

Industrial areas within Sydney and the inner suburbs tended to develop quickly, and were subject to rapid modification as the development of technologies required different infrastructure. Aerial photography from 1943 indicates that numerous potential clay pits were located in the area. It can be assumed, due to substantial ground disturbance, that if a late 19th or early 20th century brick-making pit is located within the study area, any archaeological remains associated with earlier phases of development are likely to have been impacted or removed.

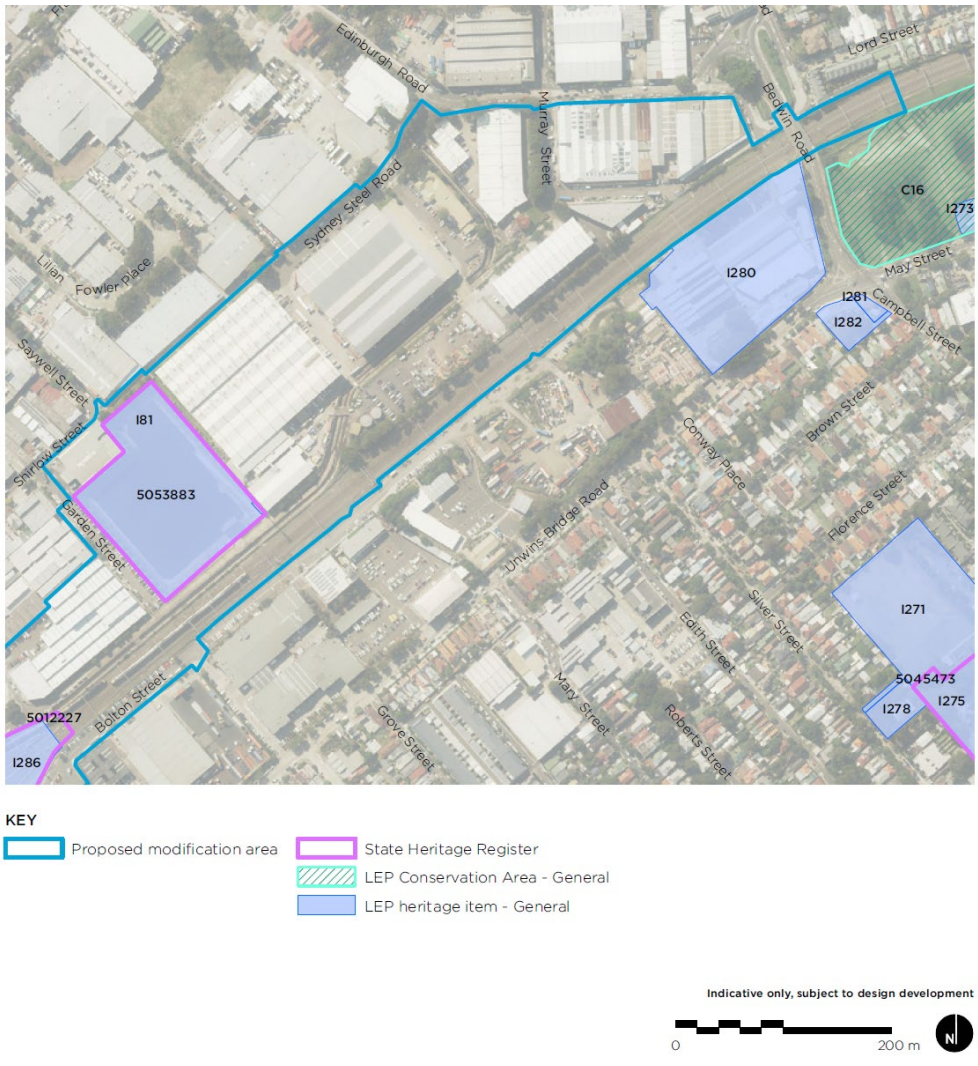


Figure 4-1 SMTFS and Marrickville Dive - Location of heritage listed items. Source: Sydney Metro Chatswood to Sydenham, Sydenham Station and Sydney Metro Trains Facility South Modification Report

In the immediate vicinity of the SMTFS and Marrickville Dive site are located the following heritage items and their respective statement of heritage significance, extracted from the NSW State Heritage Inventory.

Sydenham Pit and Drainage Pumping Station 1

Sydenham Pit and Drainage Pumping Station 1 is an item of state heritage significance (identified as 5053883 in Figure 4-1 above). The following is the statement of significance extracted from the State Heritage Inventory:

> *The Sydenham Pit and Pumping Station is of historic, aesthetic and technical significance. Historically, it is the first such infrastructure built in the SWC system and is an intact and major component of the Marrickville low level stormwater drainage infrastructure that was built in response to increasing urban expansion since the 1870s in an area prone to flooding. Its large scale and labour intensive construction method of excavating the pit reflects the abundance of labour during the Great Depression and the type of public works undertaken to provide relief work for the unemployed. Aesthetically, the use of pitched dry packed ashlar sandstone walls to line the sides of the pit provides a pleasantly textured and coloured finish to the pit. It is a major landmark and dramatic component of the industrial landscape of Sydenham particularly as viewed from the railway. The pumping station is a very good example of a utilitarian building displaying Inter-War Mediterranean style architectural details. Technically, the pumping plant contains good working examples of 1930s pumps, particularly three Metropolitan Vickers pumps, and its original electrical mains equipment has been preserved insitu during upgrading in c1992.*

Figure 4-2 Sydenham Pit and Pumping Station – View of pit with pump house in background. Image by James Stephany. Image copyright owner Sydney Water Corporation.

Waugh and Josephson Industrial Buildings (Former)

Waugh and Josephson industrial buildings are an item of local heritage significance (identified as 1280 in Figure 4-1 above) and the following is the statement of significance extracted from the State Heritage Inventory:

> *Waugh & Josephson industrial buildings former - Inter-war Functionalist Showroom and offices and workshop, including interiors.*
>
> *The Inter-war Functionalist style administration and showroom building is of aesthetic significance as an architect-designed exemplar of the style, rare in the Marrickville LGA, and for contributing to an important industrial streetscape on a major intersection. The site is of historical significance for its association with Waugh & Josephson. The workshop is of technical/research significance for its innovative architectural design: "The multi-bay, rigid frame, all steel workshop which is the latest type of design. Designed for full use of the interior due to the absence of any trusses, also excellent lighting, and an excellent appearance both internally and externally."*

Figure 4-3 Waugh and Josephson Industrial Buildings (Former) Image by C Kemp, Paul Davies Pty Ltd. Image copyright owner Marrickville Council.

4.3.2. Indigenous Heritage

The existing Indigenous heritage environment and potential impact was described in the assessment of the approved project and is summarised below.

The assessment of the approved project included the area of the proposed Sydney Metro Trains Facility South. The assessment found that this area has a moderate to high potential for Indigenous archaeology and the significance of any deposits in this area would be potentially high. This is based on the likelihood of deep soils remaining intact beneath large areas of surface disturbance in the area. The preliminary assessment of archaeological potential indicates the possible survival of Indigenous objects in sub-surface contexts. Intact Indigenous archaeological deposits in this area would be extremely rare and would be of high research significance. No Indigenous sites have been identified within the SMTFS and Marrickville Dive sites. Construction would therefore not directly (i.e. damaged as a direct result of construction) or indirectly (i.e. damaged due to construction vibration) impact any previously recorded Indigenous heritage sites.

The Heritage Interpretation Plan (HIP), which is required to inform the SDPP under condition E21 outlines how heritage interpretation for the site will take place.

Design principles and guidelines were identified in the Chatswood to Sydenham Design Guidelines to ensure that the design responds to the local environmental, heritage and place making values. The design principle relevant to the scope of this SDPP is that Sydney Metro is to be fully integrated within, and sensitive to, its heritage context.

4.4. Urban design context

The urban and public domain design must be developed with reference to the existing urban context and infrastructure as well as planned initiatives in the locality. The proposed Sydney Metro Trains Facility South and Marrickville Dive is located about 750 metres north-east of Sydenham Station in Marrickville. To the north of the proposed site is a general industrial area. To the east is generally a low-density residential area interspersed with high density residential. To the south and west of the site is a general and light industrial area followed by a low-density residential area.

In summary, the sites are located on flat and low-lying industrial land in Marrickville to the northeast of Sydenham Station. The character of this area is strongly influenced by its industrial history and the transport network, including rail, busy mains roads and Sydney Airport.

The locality comprises a mix of residential and industrial buildings reflective of its historical development. Building heights are predominately single and double storey industrial buildings, intermixed with some three to four storey commercial and industrial buildings. The narrowness of the surrounding streets and the high proportion of built development generally contribute to a lack of street trees within the area.

Graffiti and commissioned street art are found on nearby industrial buildings, along concrete drainage channels and on Sydenham Pit and Drainage Pumping Station.

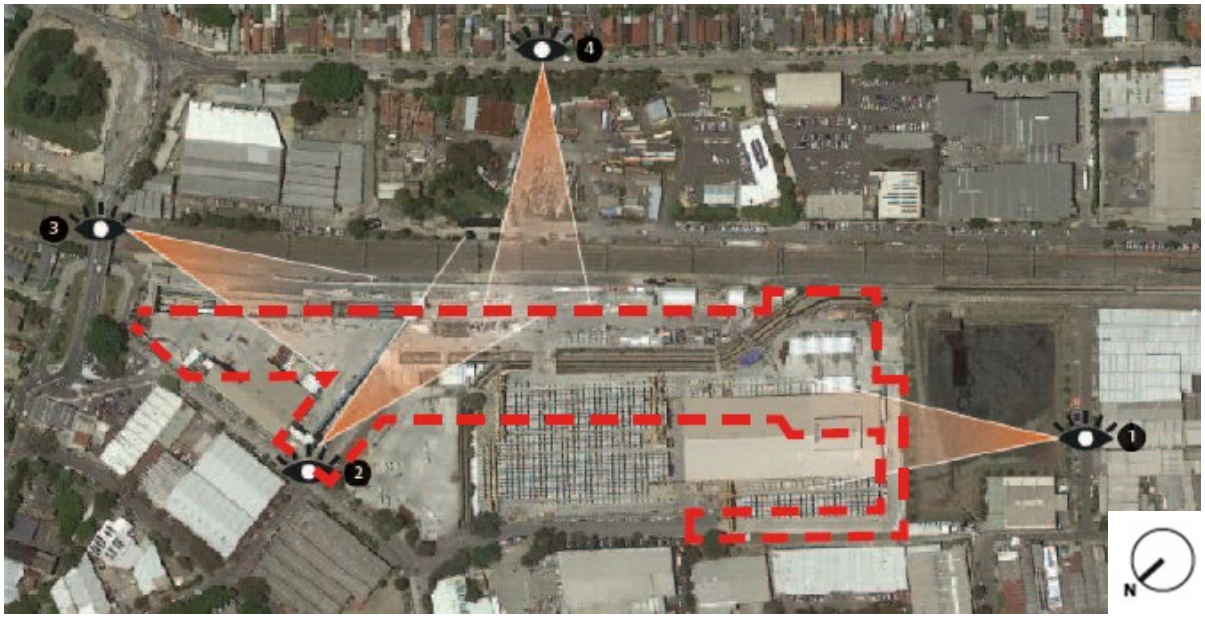
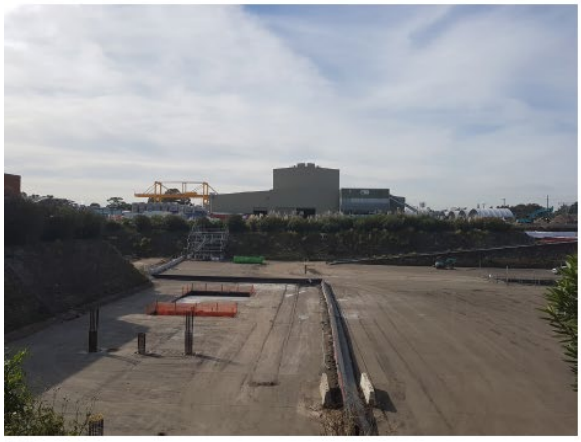


Figure 4-4 SMTFS – Context photos location key plan



1
Garden Street

2
Intersection of Murray Street and Edingburgh Road

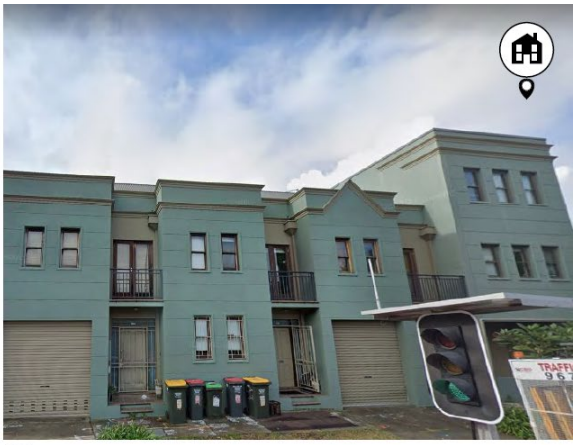
3
Bedwin Road

4
Unwins Bridge Road

Figure 4-5 SMTFS - Context photos

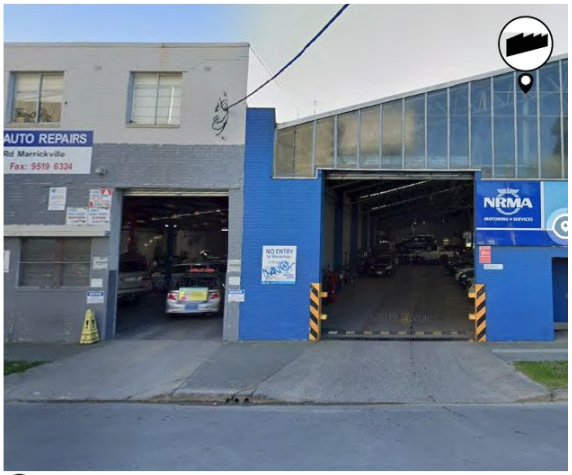
Figure 4-6 Marrickville Dive – Context photos location key plan

1 Bedwin Bridge Road - Industrial Context



2 Edgeware Road - Residential Context

3 215 Edgeware Road - Industrial Context



4 11 Edinburgh Road - Industrial Context

Figure 4-7 Marrickville Dive - Context photos

The Marrickville Dive and SMTFS sites were previously used for industrial purposes and contained several large warehouses, at-grade parking, and limited vegetation, generally consisting of street trees. A road (Murray Street) and a drainage channel area are also located on the site.

The Marrickville Local Environmental Plan 2011 (Marrickville Council LEP 2011) defines the land use zoning surrounding the proposed Sydney Metro Trains Facility South site as a mix of the following zones: SP2 Infrastructure, IN1 General Industrial, IN2 Light Industrial, RE1 Public Recreation, R1 General Residential, R2 Low Density Residential and R4 High Density Residential.

The SMTFS and Marrickville Dive sites and immediate surrounds is zoned IN1 General Industrial. The aims of this zone are to provide a wide range of industrial and warehouse land uses, encourage employment opportunities, and minimise any adverse effect of industry on other land uses. Land use, derived from land zoning, surrounding the site is shown in Figure 4-8.

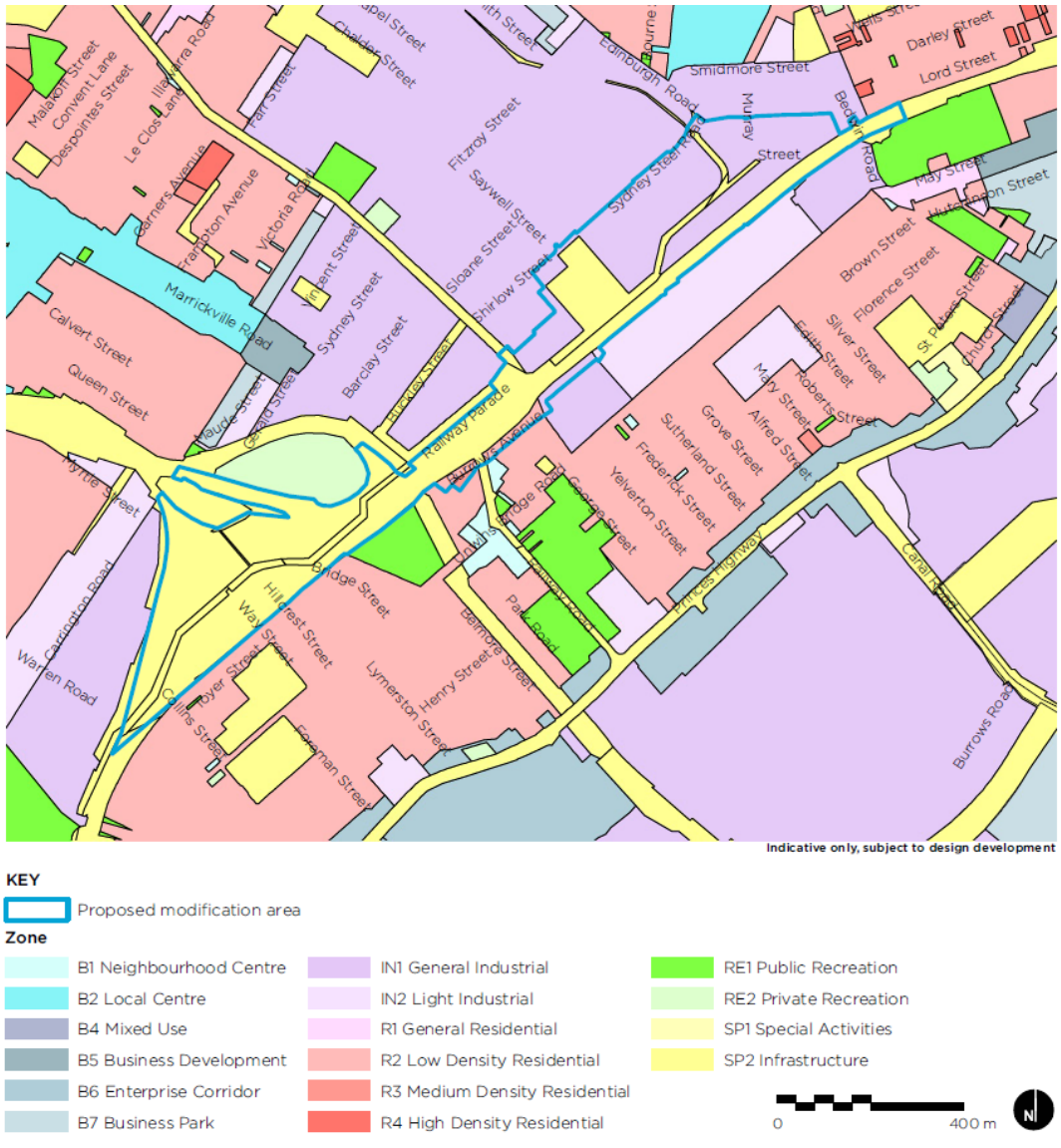


Figure 4-8 SMTFS and Marrickville Dive – existing land use. Source: Sydney Metro Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report

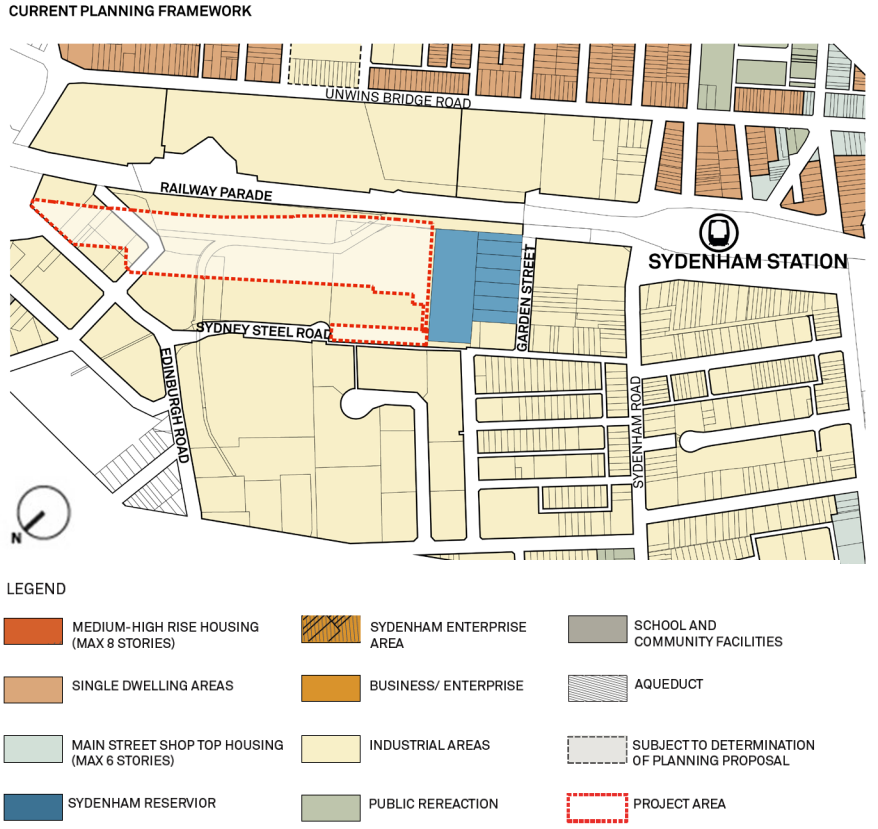


Figure 4-9 SMTFS and Marrickville Dive Sites – Sydenham Station Precinct – Current Planning Framework.
Source: Draft Sydenham to Bankstown Urban Renewal Corridor Strategy 2017

The post-industrial Sydenham today is emerging as a creative precinct in Sydney. The availability of affordable warehouse spaces allows emerging artists, artisan breweries, independent businesses and small-scale craft industries to flourish. Independent live music venues and bars such as the Camelot Lounge on Lower Railway Parade and the Red Rattlers Theatre on Faversham Street create an active night-time economy. The vibrant wall murals, boutique economy and independent entertainment venues contribute to a bohemian character that defines today's Sydenham. Figures 4-10 and 4-11 illustrates the current and future developments located near the sites at the time of preparing this SDPP, including the Sydenham Station works (under construction) and the SMTFS residual land.

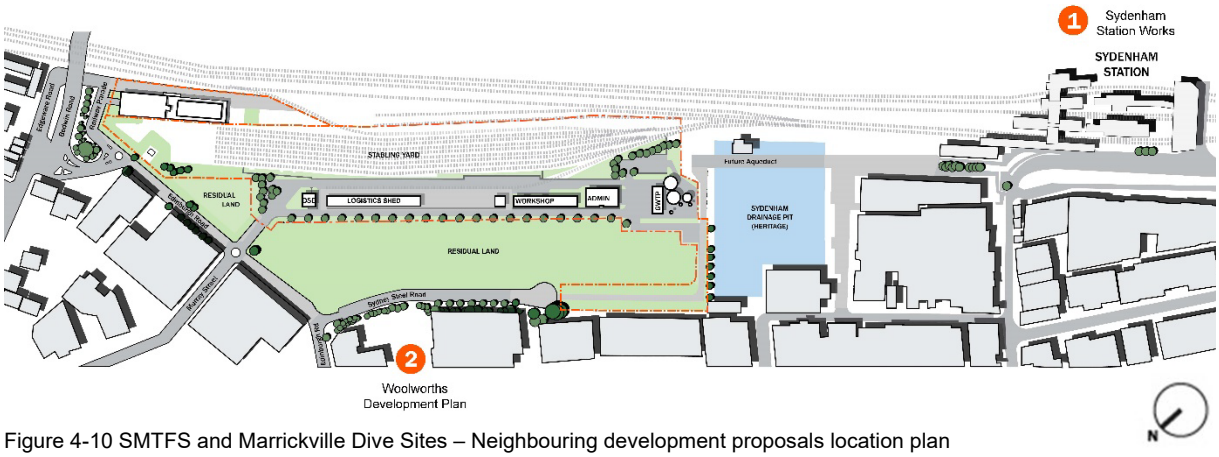


Figure 4-10 SMTFS and Marrickville Dive Sites – Neighbouring development proposals location plan

1 Sydenham Station Works

Figure 4-11 SMTFS and Marrickville Dive Sites – Neighbouring Sydenham Station visualisation

Design principles were identified in the Chatswood to Sydenham Design Guidelines to ensure that the design responds to the urban design context. Those relevant to the scope of this SDPP are listed below:

- A positive precinct image is to be developed around the particular heritage values or a place or by the quality of the existing urban context
- The design of station buildings, service facilities and public domain elements must respond to be the local context and environment.

The following site-specific design principles and guidelines have also been identified to inform the development of the detailed design for SMTFS and Marrickville Dive:

- The landscape design is an important component of a positive, high quality and appealing urban realm identity for Metro structures
- Hard and soft landscaping design, species selection and material palettes are to relate and reflect the existing urban fabric of the city.

4.5. Community safety, amenity and privacy

Safety has been and will continue to be considered at all stages of design of the project, with the commitment to safety outlined in Section 1.6 of the Chatswood to Sydenham Design Guidelines.

Design principles were identified in the Chatswood to Sydenham Design Guidelines to ensure that the design provides community safety, amenity and privacy. Those relevant to the scope of this SDPP are listed below:

- The design must ensure the precinct provides a safe and secure environment and contributes to the overall public safety of urban places throughout the day and night
- Safety issues are to be embedded in the design development process and optimised through the application of relevant Crime Prevention through Environmental Design (CPTED) principles and guidelines.

The following site-specific design principles and guidelines have also been identified to inform the development of the detailed design for SMTFS and Marrickville Dive:

- Building and site design will identify and reflect current architectural and engineering best practice with respect to safety
- The safe movement of staff and contractors into and out of the site needs to be facilitated through many aspects of physical design, including the provision of adequate circulation space, clear routes, adequate lighting and minimising obstructions
- All planting must maintain clear setbacks and sight lines at road intersections and be offset from other transport infrastructure elements at suitable distances for the selected species.

4.6. Sustainable design and maintenance

Section 1.7 of the Chatswood to Sydenham Design Guidelines outlines the commitment to sustainability and acknowledges that Sydney Metro would achieve new benchmarks in sustainability infrastructure delivery. The design must ensure best practice sustainable design solutions are adopted for the public domain, stations and buildings to minimise environmental impacts and benefit customers and local communities.

As required by the project brief, the administration building has been designed to achieve either:

- an ‘excellent’ rating using the Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability (IS) rating tool, or
- a 5-star rating using the Green Building Council of Australia (GBCA) Green Star Sydney Metro rating tool.

In addition the Sydney Metro City & Southwest Sustainability Strategy 2017-2024 identifies examples of sustainable design initiatives being considered for the project.

Sustainability initiatives to be considered in the design include:

- Ongoing energy running costs, low maintenance and end of life recyclability initiatives including insulation to buildings, shading to glazing, PV cells to roof areas, skylights in workshop areas and appropriate selection of materials to ensure a balance of low embodied energy, low energy consumption, low VOC, recyclability, etc.
- Plant low water use and drought tolerant species where possible
- On site detention tank is provided for use of rainwater for irrigation
- Plant in groups to take advantage of the automatic irrigation system
- Fall hard surfaces to planted areas to provide passive irrigation where possible
- Minimise hardstand areas to maximise permeable surfaces.

4.7. Minimising the project footprint

Design principles were identified in the Chatswood to Sydenham Design Guidelines to ensure that the design minimises the project footprint. Those relevant to the scope of this SDPP are listed below:

- The design must ensure that earthworks and engineered structures such as noise walls, retaining walls and portals are visually integrated into their urban or landscape setting as much as possible, keeping engineered structures to a minimum
- Provide integrated public art, lighting, signage and heritage interpretation to minimise the footprint.

4.8. Relevant standards and guidelines

The following urban design and infrastructure standards and guidelines have been considered in developing the above design principles and the SDPP:

- Sydney Metro Chatswood to Sydenham Design guidelines
- Sydney Metro City & Southwest Sustainability Strategy
- Crime Prevention through Environmental Design
- National Construction Code (NCC)/Building Code Australia (BCA) 2016 Amendment 1
- Australian Standards
- Marrickville Development Control Plan 2011.

5. Design opportunities

5.1. Opportunities for landscaping and building design to mitigate visual impacts

The visual impact of the project has been mitigated by implementing the following building design and landscape initiatives:

- Retain existing street trees and plantings where possible to reduce the impact of the proposed development
- Integrate the facilities with the landscape and topography to minimise the impact of the built form on the public domain
- Integrate screening with the fencing strategy and setting fencing back from the property boundary to minimise the impact on the adjacent public pathways
- Provide new screen planting to further reduce visual impact of the development for both the community and the rail user.

5.2. Opportunities for public art

The Sydney Metro City & Southwest Public Art Master Plan identifies the need for a distinctive, readily communicable and memorable identity public art program, through the creation of the cohesive program brand ‘Metro Culture’.

The program provides six categories of art, including 2D works, suspended works, sculptural works, lighting installations, functional artworks and digital works, which will:

- Respond to themes
- Respond to place
- Use form, material and colour effectively
- Provide an uplifting experience for the customer
- Develop the Storylines theme
- Consider day and night time activation.

At SMTFS the public facing boundary fence along Railway Parade and Edinburgh Road has been identified as the location for the implementation of a public art/heritage interpretation element, to the extent shown in yellow in Figure 5-1 (Item 1). Refer Section 5.3 for further information on the heritage interpretation aspects of this element.

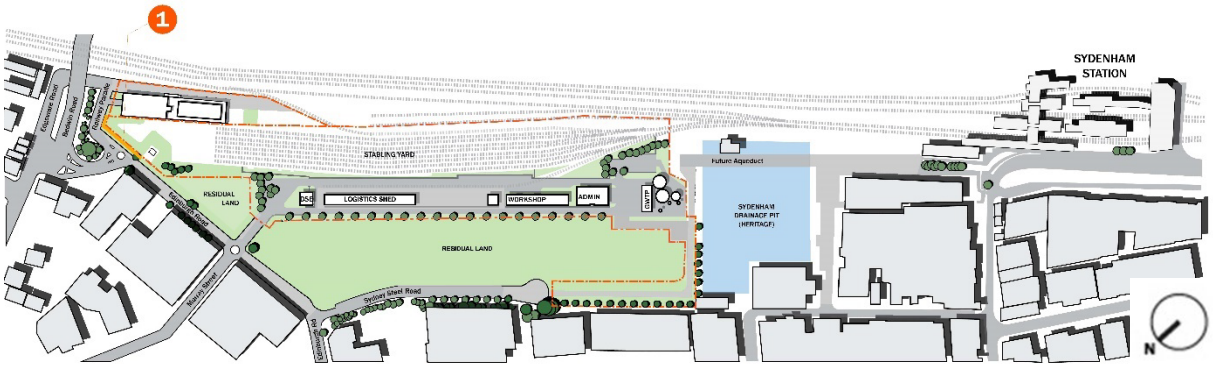


Figure 5-1 SMTFS and Marrickville Dive – Location of public art/heritage interpretation element.

5.3. Opportunities identified in the Heritage Interpretation Plan

The Sydney Metro Marrickville Dive Site and Sydney Metro Trains Facility South Heritage Interpretation Plan (HIP) identified historic themes and recommended locations for heritage interpretation media at the site.

Due to the location and nature of this Sydney Metro facility, the HIP recommended an art approach to heritage interpretation. The location and heritage interpretation themes recommendation by the HIP will be incorporated into the SDPP design and will take the form of an applied heritage interpretive treatment to the boundary fence on Railway Parade and Edinburgh Road, focusing on indigenous heritage themes. Refer to Item 1 in Figure 5-1 for the extent (in yellow) of the applied heritage interpretive treatment. The interpretive concept design will be developed and implemented in accordance with Section 2.5.5, 2.5.6 and 5.5 of the Sydney Metro Public Art Masterplan, the SMTFS/Marrickville Dive HIP, as well as the Sydney Metro Indigenous Interpretation Program.

The interpretive fence element location is on a public facing boundary so that it will enable engagement with the heritage of the site and its surrounds by the local community and passers-by.

5.4. Opportunities for incorporating salvaged historic and artistic elements

There are no salvaged historic or artist elements at the SMTFS and Marrickville Dive site.

6. Details of the Station Design and Precinct Plan

6.1. Architectural design features

6.1.1. Design drivers

The service building and fire enclosure present as a family of discrete forms within the site, wrapped in draped forms and unifying the design, along with the complementary landscape response.

The following universal design drivers led the development of the SMTFS and Marrickville Dive buildings and structures.

- Contextual response
- Unified façade systems.

A more detailed description of each principle is outlined below.

Contextual response

The scale, form and relationships of the buildings will respond to the contextual drivers of the site. The adjacent future development has overarching views of the SMTFS and Marrickville Dive facility and site, as a result, the design response considers the visibility of the service facility and required screening of visible services.

Given the narrow nature of the site, all main buildings are aligned along the long 'east-west' axis. The site is largely isolated by surrounding development and the rail corridor itself. The north eastern boundary adjoins a proposed development site. The buildings are arranged in a linear fashion on resultant land that is available avoiding drainage culverts.

A looped perimeter vehicular and pedestrian circulation path around the main buildings will promote efficient operation and maximise visibility throughout the two east west boulevards created. Buildings are aligned to the northern boulevard, being the dominant and most visible side. Pedestrian movement will be encouraged on the northern boulevard.

Unified façade systems

A key driver for architectural simplicity and refinement was the conceptual development of the façade proportions and massing. The intent is for a clear system with universal structural detailing, streamlined installation process and consistency across the discrete buildings and forms, which provides a level of screening and privacy.

A single, consistent building language is kept throughout all buildings. The structural expression and material selection is complementary between all structures. The design intent is to complement the warehouse typology prevalent in the contextual character of Marrickville and Sydenham. The building construction and expression is based on a steel frame and cladding typology typical of industrial architecture. Materials and construction will be cost effective, readily available and fit for purpose.

Refer to Section 6.1.4 for further information on materials proposed.

6.1.2. SMTFS building arrangement and design

Construction of the SMTFS facility will primarily house new rail servicing facilities and associated plant together with maintenance access to the Stabling facilities to the immediate south. The facility will be primarily used for the stabling of trains while also being used to carry out light

corrective maintenance to trains and related equipment and will provide a secondary storage area. The facility is to include the following key elements:

- A new stabling yard
- A new depot security centre and fire pump building
- A new maintenance workshop
- A new logistics shed, associated external storage and bin store
- A new administration and depot control centre building
- A new ground water treatment plant
- New hi-rail, employee and visitor parking
- Associated landscaping architecture works.

The buildings are aligned on the northern facade to ensure consistency in streetscape. The southern setback façade line varies on the less visible side to accommodate the varying widths of the buildings.

The buildings are arranged in a linear form. The anchoring fire control/security room and admin buildings will bookend the long suite of structures. A minimum 6m fire separation spacing between the buildings is proposed. The ground water treatment plant will be separate from the main grouping.

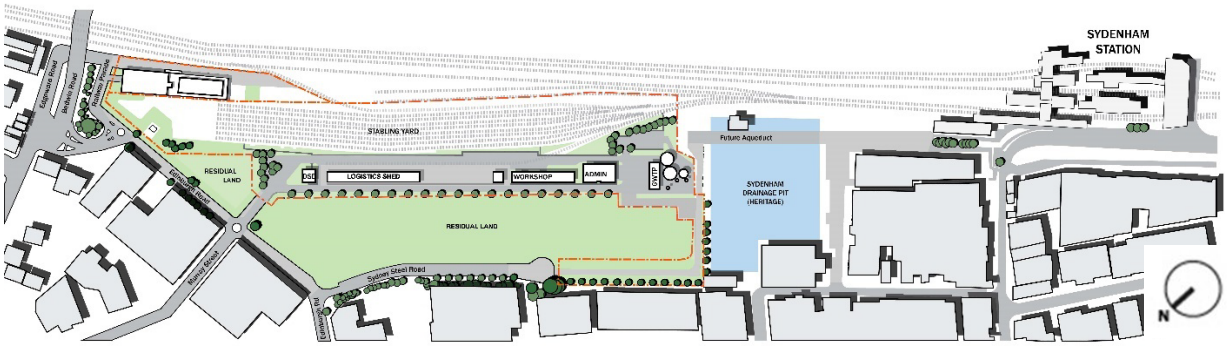


Figure 6-1 SMTFS – Overall site plan showing site boundary and proposed arrangement of buildings within the site

Figure 6-2 SMTFS – Aerial visualisation from western end

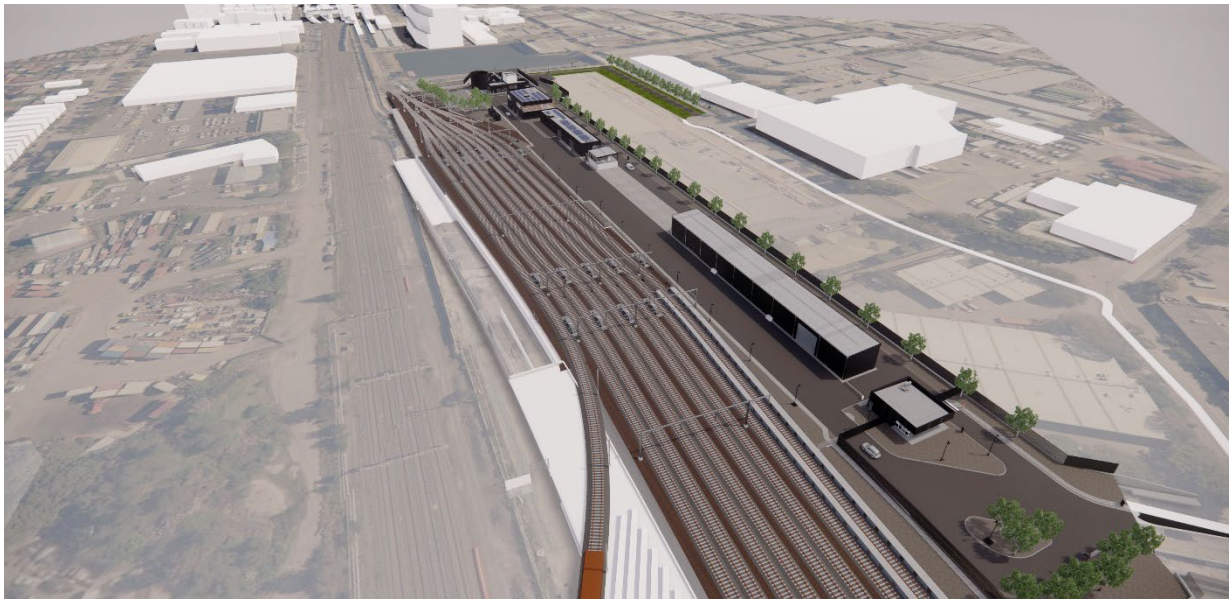


Figure 6-3 SMTFS – Aerial visualisation from eastern end

The buildings will be a combination of steel framed and masonry structures on a varying grid. Building structures will be concealed, with a non-uniform façade panelling system used throughout the site.

Cladding materials to be uniform in colour, but vary in texture/finish. The principles of durability, robustness and utility are to be the primary material selection drivers.

Roofs are generally set behind parapets and consistently fall to the south (with the exception of the depot security centre and fire pump building, and ground water treatment plant) at a minimum pitch of 3 degrees. The fall of all roofs to the south will enable the northern aligned façade to be more clearly expressed with the absence of down pipes and guttering.

The current design proposes a number of prefabricated modules, including:

- Steel framing
- Infill panelling, lightweight insulated panels
- Tanks.

Administration Building

The administration building is a two storey building with the ground level in blockwork supporting a first floor concrete slab and steel frame. The building has a similar steel frame and cladding to the maintenance workshop. Refer to Figures 6-4 to 6-6 for administration building visualisation, elevation and section, including shading to north and east facing glazing.

Refer to Section 6.1.4 for further detail on building materials and finishes.

Figure 6-4 SMTFS – Administration building viewed from the internal circulation road looking south east

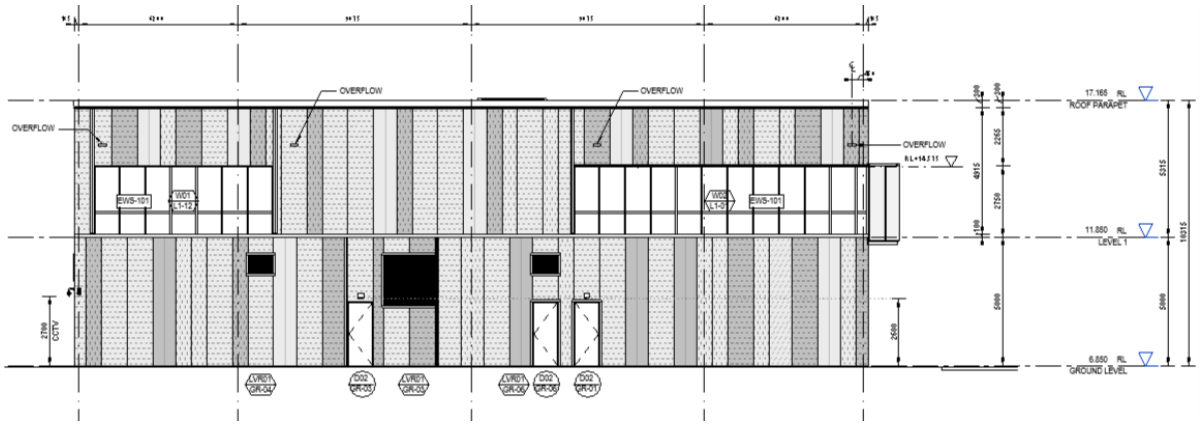


Figure 6-5 SMTFS - Administration building elevation

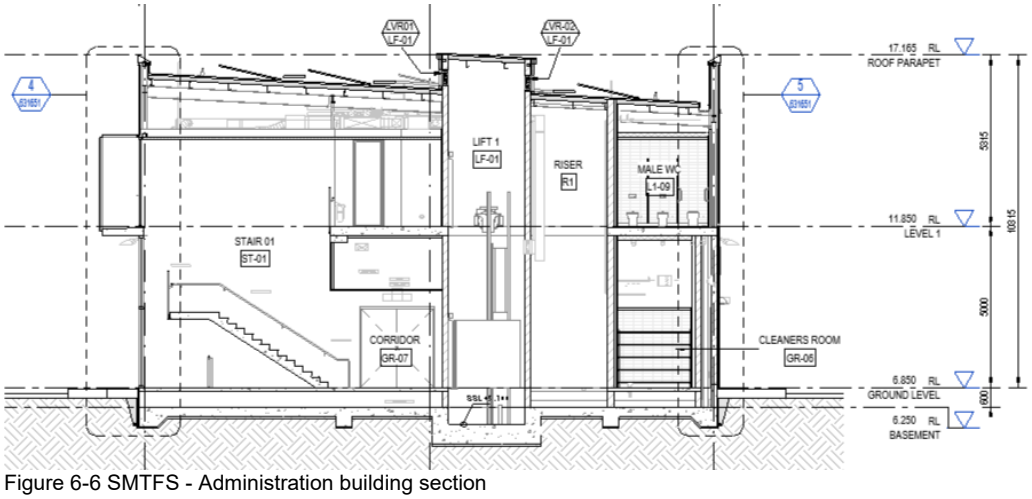


Figure 6-6 SMTFS - Administration building section

Maintenance Workshop and Logistics Shed

The maintenance workshop and logistics shed are located in turn to the city side of the administration building and between the two internal circulation roads. They are located end to end in an aligned linear arrangement. Refer Figures 6-1, 6-2 and 6-3.

The maintenance workshop is set on a steel frame regular grid with an overall dimension of 61m x 10m by 7m tall. Refer to Figures 6-7 to 6-9 for maintenance workshop visualisation, elevation and section.

The covered store is comprised of a 90 x 10 m logistics shed, and 80 x 10 m open storage area and a 10 x 10 m bin store surmounting an in ground rainwater storage tank. The logistics shed has a similar steel frame and cladding to the maintenance workshop and is also on a 10m x 10m grid. The bin store component has a 3m high split face block wall on three sides with a 7m clear height roof over.

The majority of the solar panels for the facility are located on the roofs of the maintenance and administration buildings.

Refer to Section 6.1.4 for further detail on building materials and finishes.

Figure 6-7 SMTFS – Maintenance workshop building viewed from the internal circulation road looking south east

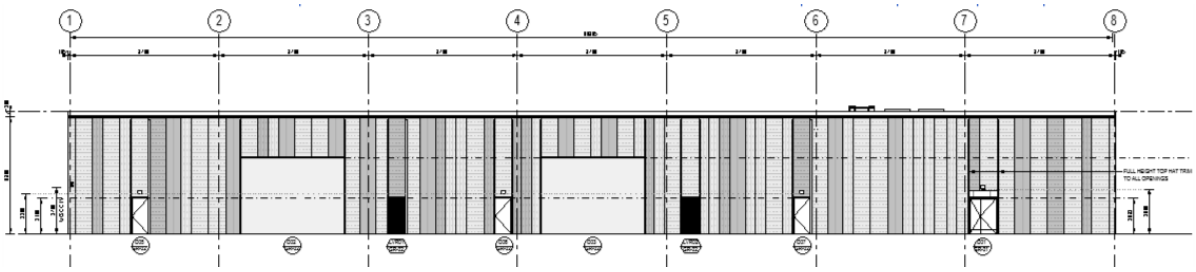


Figure 6-8 SMTFS - Maintenance workshop north elevation

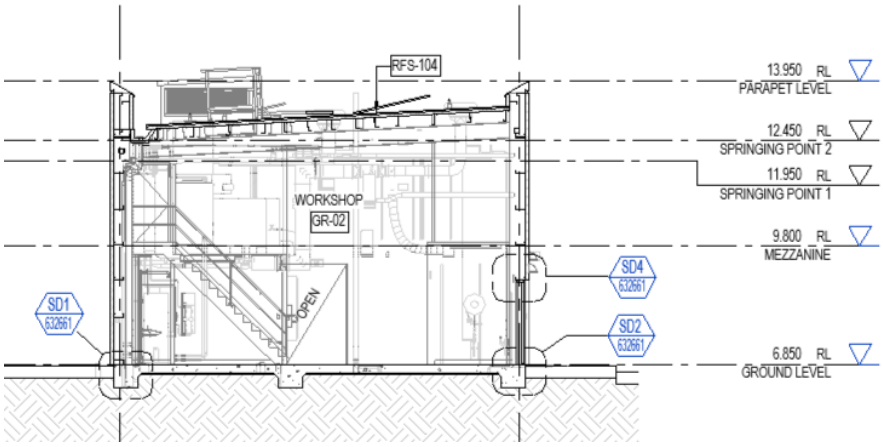


Figure 6-9 SMTFS - Maintenance workshop section

Fire Control Room Building

The security and fire control room facilities are combined into one building. The building will be the public face to the complex. Again, a 'lantern' element has been introduced using polycarbonate semi translucent material between the two glazed elements of the depot security centre. The polycarbonate to be illuminated from within to provide a soft watery illusion at night. Security will be managed by attending staff. Refer to Figures 6-14 to 6-16 for fire control room building visualisation, elevation and section, including shading to the glazing provided by the roof overhang.

Refer to Section 6.1.4 for further detail on building materials and finishes.

Figure 6-14 SMTFS – Security and fire control room building viewed from the internal circulation road looking south west

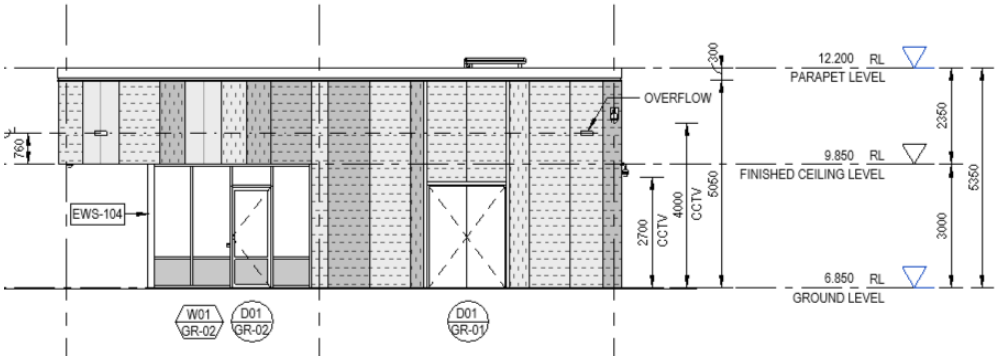


Figure 6-15 SMTFS – Fire control room building elevation

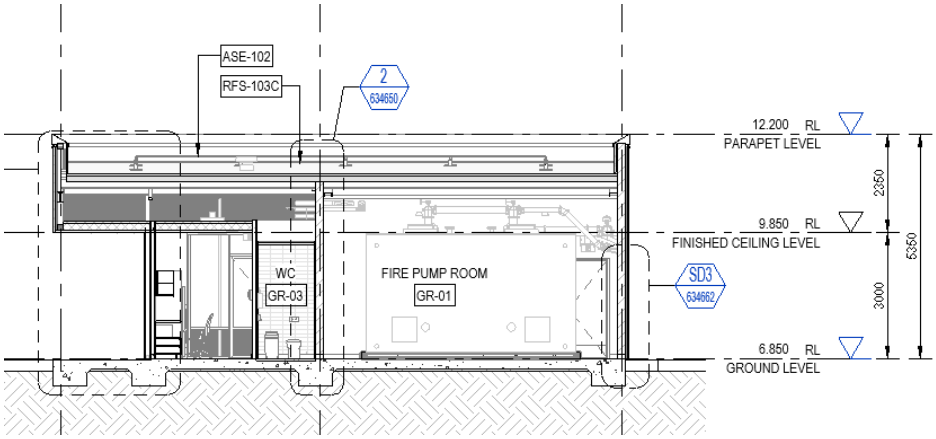


Figure 6-16 SMTFS – Fire control room building section

Water treatment plant

The water treatment plant contains a number of components that create an unusual built form. To accommodate the stepped profile a 'lantern' element has been introduced using polycarbonate semi translucent material. The polycarbonate will be illuminated from within to provide a soft watery illusion at night. Refer to Figures 6-17 to 6-19 for water treatment plant visualisation, elevation and section.

Refer to Section 6.1.4 for further detail on building materials and finishes.

Figure 6-17 SMTFS – Ground water treatment plant viewed from the internal circulation road looking North West

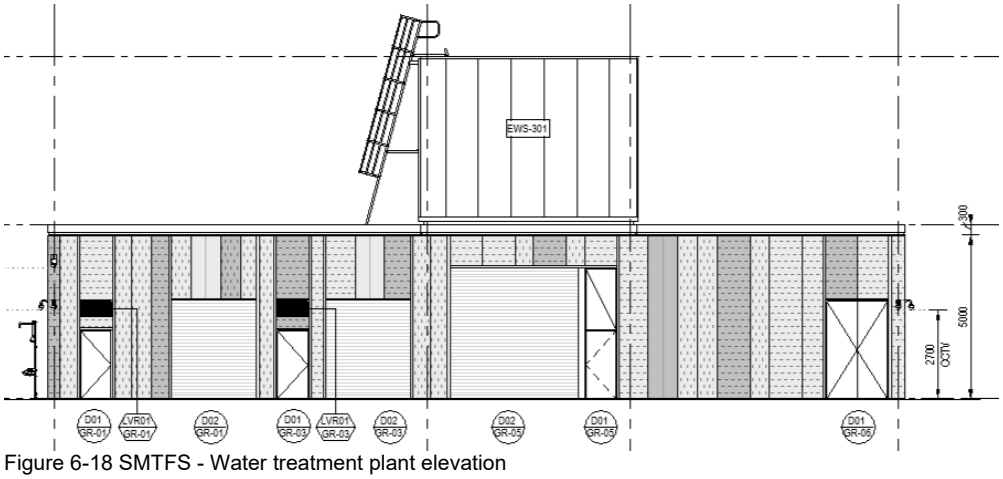


Figure 6-18 SMTFS - Water treatment plant elevation

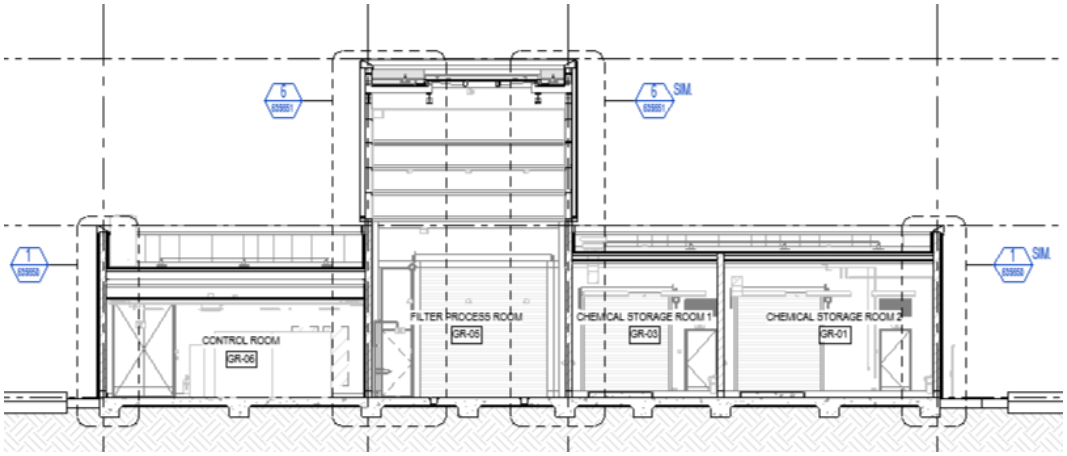


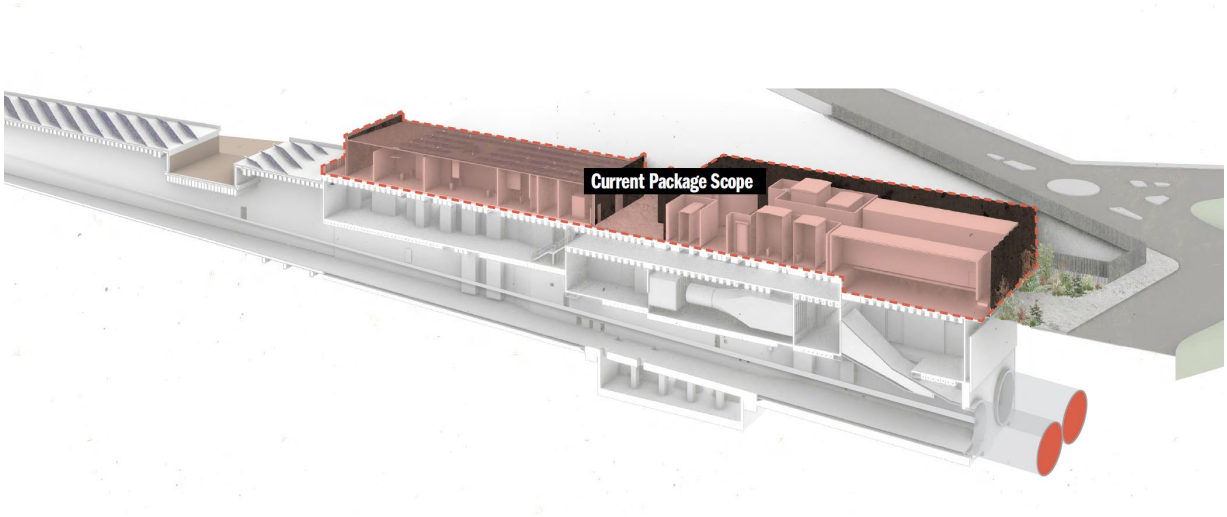
Figure 6-19 SMTFS - Water treatment plant – long section

6.1.3. Marrickville Dive building arrangement and design

The Marrickville Dive facility will be primarily used to house new tunnel ventilation fans, associated plant and services and provide emergency and maintenance access to rail level. The facility is to include the following key elements:

- A new ground level high voltage services yard
- A new ground level low voltage services building
- A new 5 level underground service building incorporating
- Tunnel ventilation rooms and equipment
- Tunnel switch rooms, plant and associated services
- Track level access
- Cable basement
- Rainwater and groundwater sumps
- A new ground level solar array
- Associated landscape and architectural works.

The above ground component of the site has been split into two functionally distinct areas. Towards the front of the site sits the screened HV yard which houses a number of heavy modular buildings. The rear of the site houses the rest of the service and plant rooms within a dedicated building.



As a result, two distinct building typologies are required to allow the two areas to function efficiently. Despite this, the structural expression and material selection is complementary between all structures. The design intent is to complement the warehouse typology prevalent to the contextual character of Sydenham.

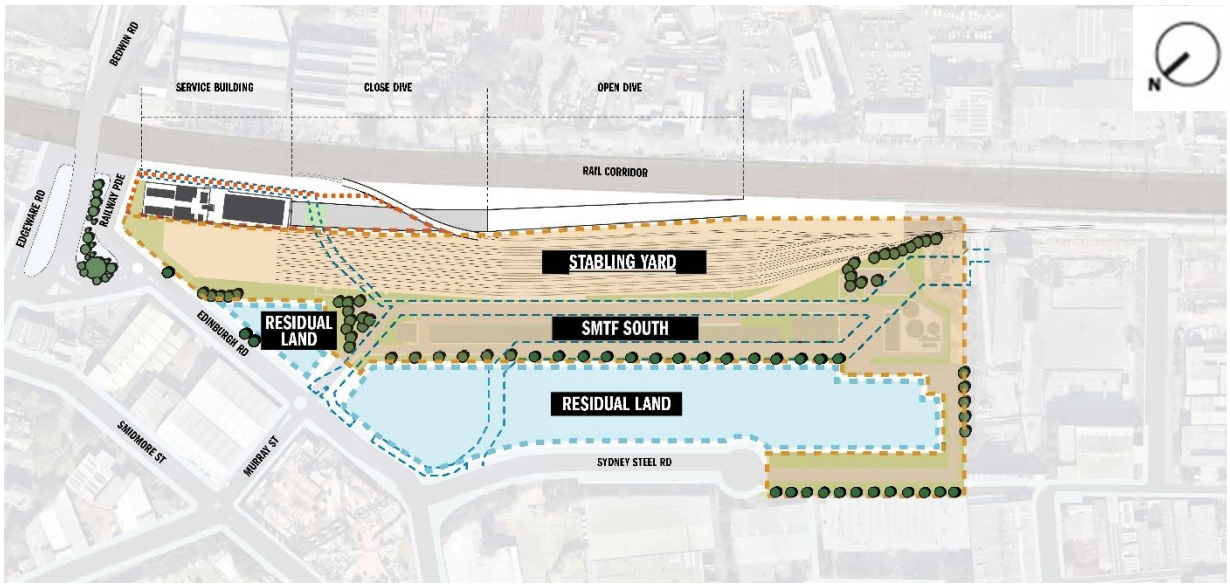


Figure 6-20 Marrickville Dive – Overall site plan showing proposed arrangement of buildings with the site

Figure 6-21 Marrickville Dive - Overall building arrangement aerial visualisation

Given the scale of the services required to be accommodated in the buildings, the resulting structures are monumental in nature. The monumentality has been embraced, but also softened through the use of texture, craftsmanship and considered detailing which elicit interest from the observer. The use of randomised matt and gloss finishes has been used throughout the SMTFS precinct and provides a subtle articulation of the façade. The building construction and expression is based on a steel frame and cladding typology typical of industrial architecture as illustrated in Figures 6-22 to 6-24.

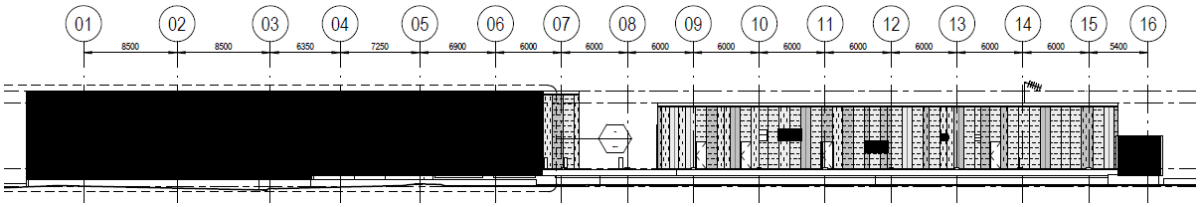


Figure 6-22 Marrickville Dive – Services buildings north elevation

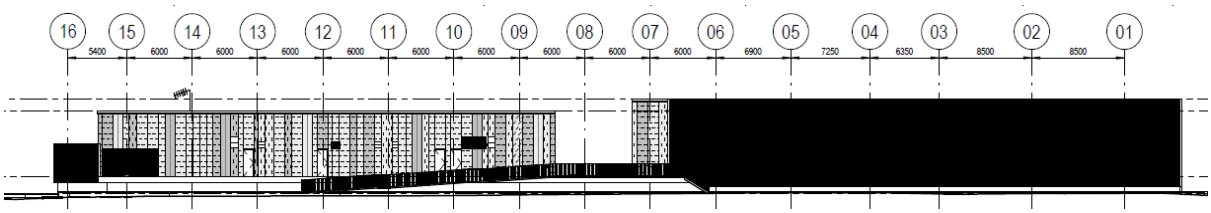


Figure 6-23 Marrickville Dive – Services buildings south elevation

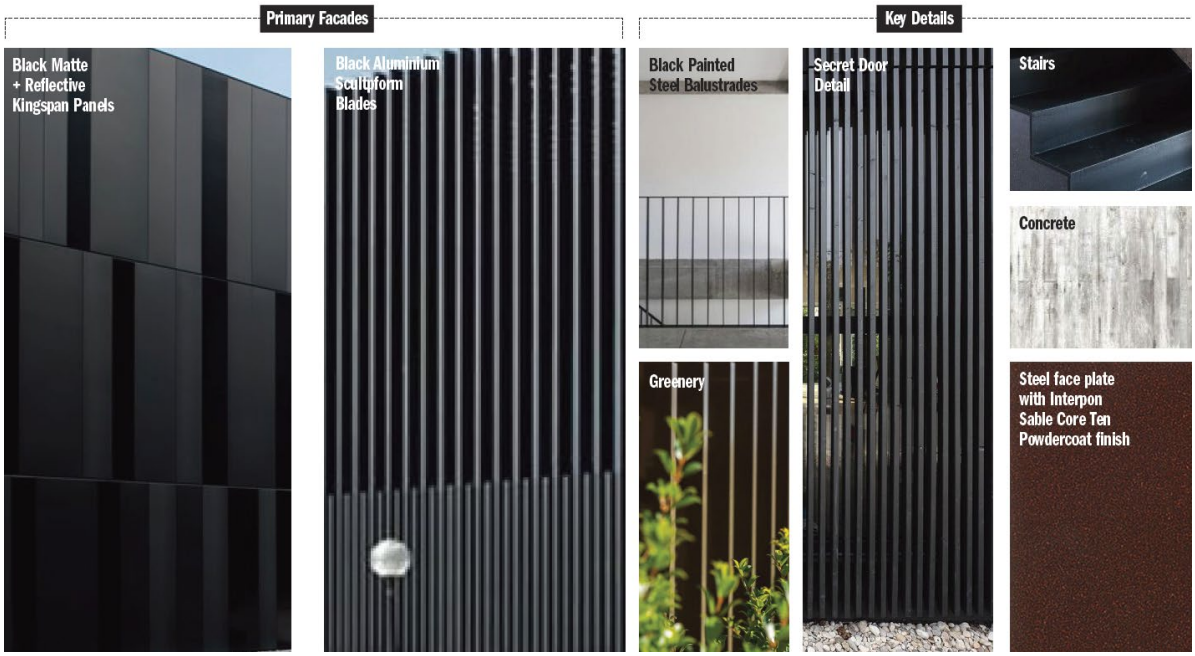


Figure 6-24 Marrickville Dive – Materials palette

Eastern HV yard

The eastern HV yard is an external yard situated to the east of the site at ground level and contains the majority of the high voltage equipment. An eight metre high batten screen which runs along the perimeter of the yard provides visual separation from the surrounding areas and also provides a secure barrier to protect from unauthorised entry.

As the yard is located at the entry of the site, it features a large concealed tilt up door panel which provides access to a loading area. Equipment can be unloaded from vehicles in this area and ultimately lowered into the dive structure through the large access hatch located within the yard.

Refer to Section 6.1.4 for further detail on building materials and finishes.

Figure 6-25 Marrickville Dive Eastern HV yard façade viewed from Railway Parade looking North West

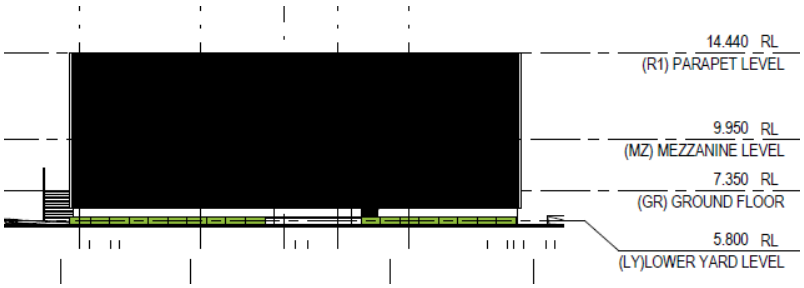


Figure 6-26 Marrickville Dive – Eastern HV yard street elevation

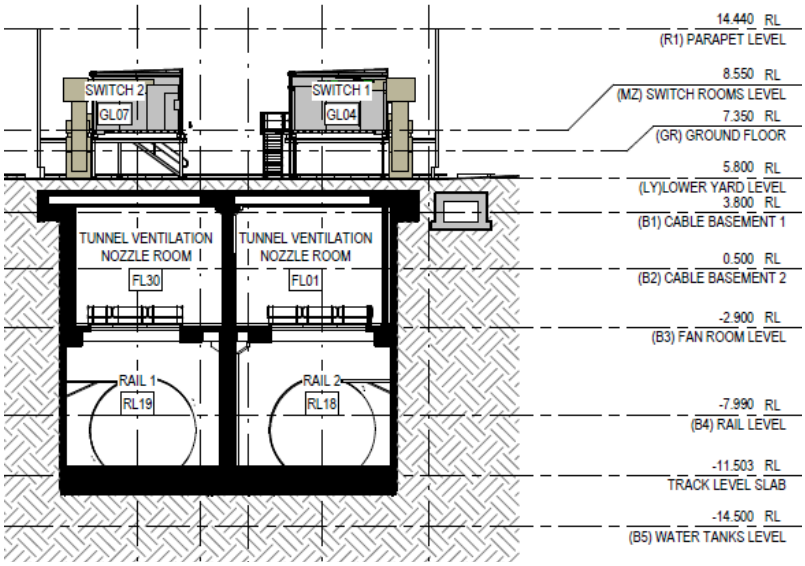


Figure 6-27 Marrickville Dive – Eastern HV yard section

Western services building

The western services building is a single storey structure situated to the west of the site at ground level. This building contains the majority of the low voltage electrical, communications, plant and tunnel services facilities for the site.

Figure 6-28 Marrickville Dive western services building viewed from western end looking north east

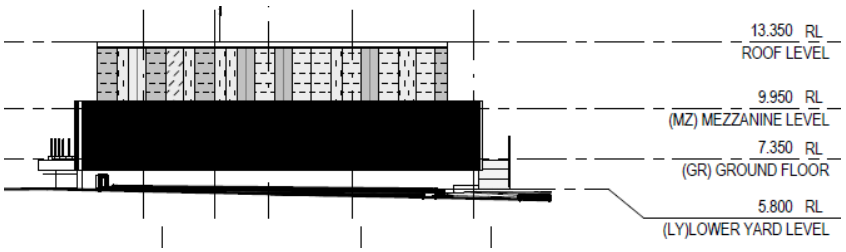


Figure 6-29 Marrickville Dive – Western services end elevation

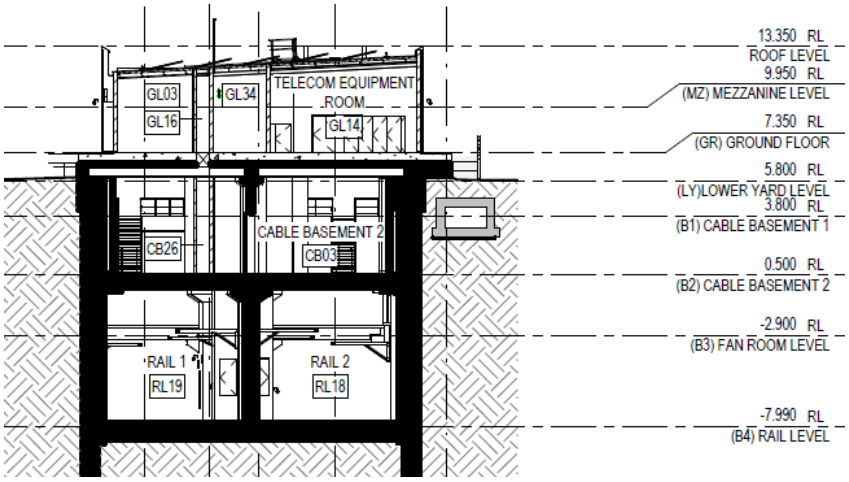


Figure 6-30 Marrickville Dive – Western services building section

Underground dive structure

The Marrickville Dive underground services building is located in the centre of the site directly underneath the eastern services yard and western services building. The building floor plate is spread over five levels, extending from ground level down to track level with the provision of groundwater and stormwater sumps below.

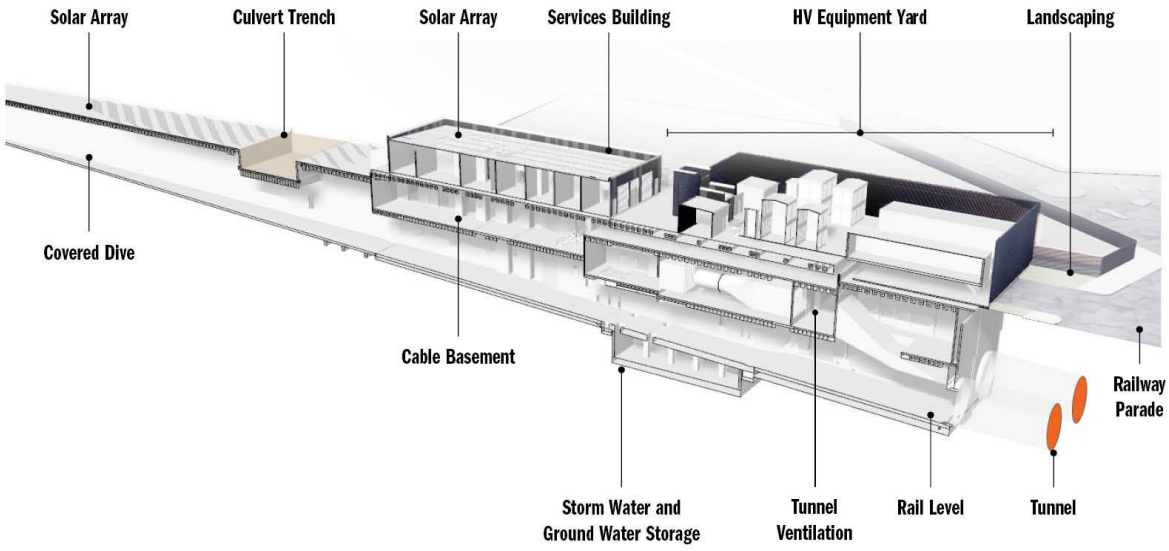


Figure 6-31 Marrickville Dive – Underground dive structure sectional perspective

The ground floor contains the main egress stair which extends down to track level. Provision for a vertical access shaft extends down to track level through an access hatch located on ground level. The cable basement levels below allow for the reticulation of services. The fan level is the primary tunnel fan ventilation rooms, including the two fan nozzles, plenums and attenuators extending across the full floor plate. The track level provides access to the central stair, track, below sump/tanks and the service ramp.

6.1.4. Materials and finishes

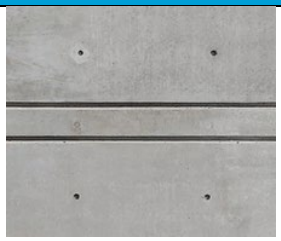
The materials and finishes selected are chosen to meet line wide objectives for:

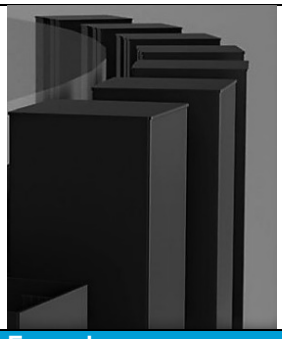
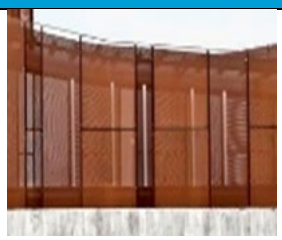
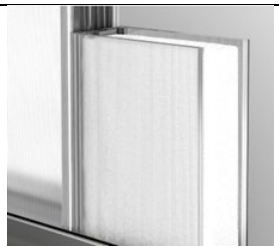
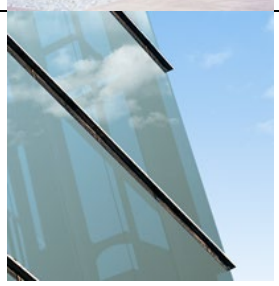
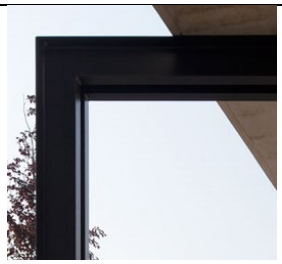
- Sustainable design
- Certainty of delivery
- Response to user needs
- Durability
- Value for money
- Safety and security
- Ease of cleaning
- Simple Maintenance and replacement.

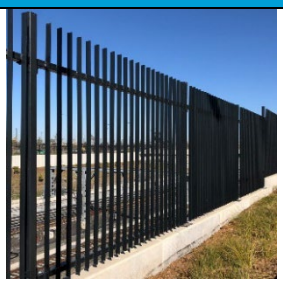
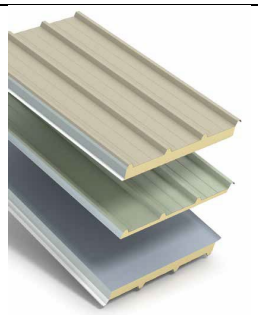
The buildings and enclosures are designed as a uniform and simple suite of structures. Discrete and robust cladding materials are proposed, appropriate to their building functions and maintenance requirements. The selection of materials, such as Kingspan insulated panels, primarily ensures low ongoing energy consumption as well as considering low embodied energy, low VOC, recyclability, etc. The palette of materials is indicated in the imagery incorporated in section 6.1.2 and 6.1.3. All metal components are to be coated with durable finishes (Colorbond, powder coated, anodized, galvanised or similar). Concrete and masonry elements are to be finished in anti-graffiti sealer.

Current key materials and finishes options are included in the Table below:

Table 6-1 SMTFS and Marrickville Dive - Key external materials and finishes

Code	External Finish	Application	Example
CON	Masonry – off form concrete	Marrickville Dive – Perimeter edging of Dive structure	

CLD-1	Aluminium powder coated batten screen	Marrickville Dive – HV yard and rainwater tank screens	
Code	**External Finish**	**Application**	**Example**
CLD-2	Sun Screening – Perforated aluminium	SMTFS – Administration Building	
EWS-1	Polycarbonate translucent material- Danpalon	SMTFS - Depot Security Centre and Fire Pump Room Building, Ground Water Treatment Plant	
EWS-2	Insulated panels – profiled and non-profiled Kingspan	SMTFS - Administration Building, Maintenance Workshop Building, Depot Security Centre and Fire Pump Room Building, Ground Water Treatment Plant Marrickville Dive – Services building and fire stair façade cladding	
EWS-3	Performance/Low E Glass	SMTFS - Administration Building Security room, Depot Security Centre and Fire Pump Room Building	
PNT	Structural steel wet sprayed to match Colorbond 'Monument'	Marrickville Dive – Above ground external structural steel elements	

CON	Concrete paving	SMTFS – Site Wide Marrickville Dive – Site Wide	
Code	**External Finish**	**Application**	**Example**
FEN	Fencing – powder coated black	SMTFS - Overall Site Marrickville Dive – Overall Site	
CWT	Permastore Glass Fused Tanks	SMTFS – Water Tanks Marrickville Dive – Rainwater Tanks	
RFS	Profiled roofing system	SMTFS - All buildings Marrickville Dive – All buildings	

6.1.5. Acoustic strategy

Any acoustic treatment of the facilities will be provided in accordance with industry standards and to meet specified criteria.

The design intent is to ensure neighbouring residences/ property are adequately screened against equipment noise.

The following measures are proposed for the buildings:

- solid core doors to air handling unit rooms and tunnel ventilation rooms with acoustic seals
- acoustic louvres provided to plant areas of the maintenance workshop buildings

- cored filled blockwork walls provided to separate the plant room from adjacent areas in the administration building
- a combination of mineral fibre tile and flush plasterboard ceilings have been added throughout the administration building
- core filled block walls and acoustic soffit lining provided to the tunnel ventilation rooms
- noise walls, concealed by the batten screening, have been provided around external HV equipment.

6.1.6. Signage strategy

The current signage and wayfinding suite of sign types includes:

- Identification door signage
- Statutory signage
- Building identification blade signs
- Directional road signage.

The current signage suite does not follow the Sydney Metro Wayfinding Guide as there are no customer interfacing elements in the facility.

6.2. Precinct landscape plan

The landscape architectural scope of works includes soft landscape works throughout the SMTF and Marrickville Dive sites and along the internal access road off Sydney Steel Road. The landscape principles established includes:

- Retaining existing street trees and plantings where possible to reduce the impact of the proposed development
- New screen planting to further reduce visual impact of the development for both the community and rail user.

6.2.1. Site constraints

Sydney Metro Trains Facility South

Large box culverts that transverse the site will be constructed to run the length of the site, predominantly along the northern side. Facilities and trees are to be located a minimum of 3m away from any subterranean culvert. This together with the stabling yard to the south constrains an available zone for buildings to a linear strip as shown in Figure 6-32 and 6-33 below.

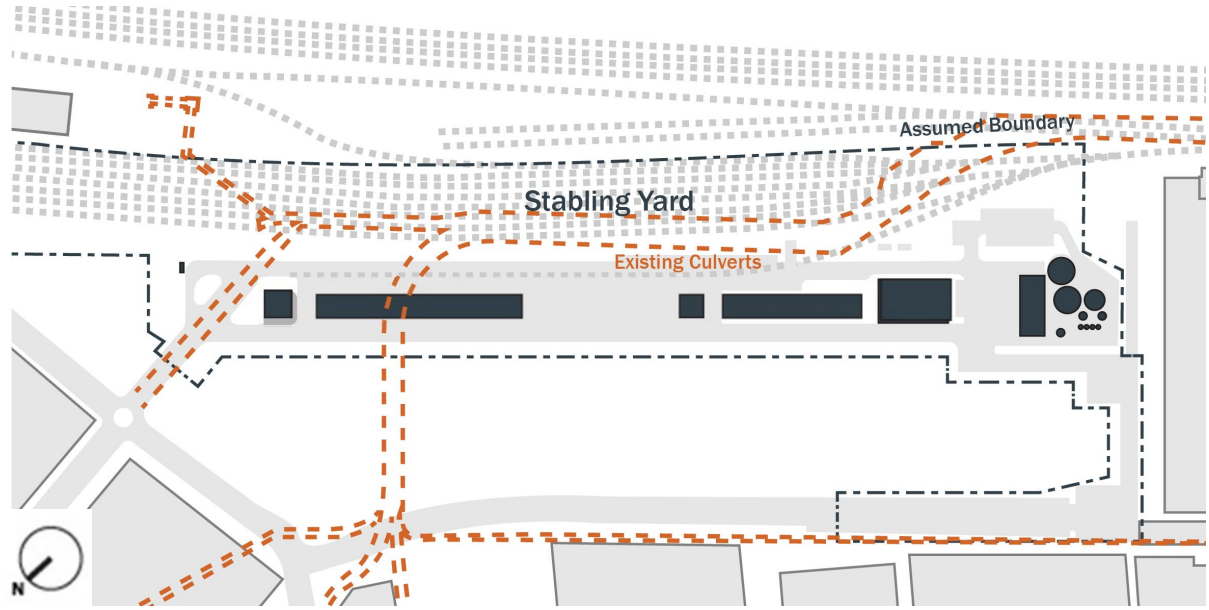


Figure 6-32 SMTFS and Marrickville Dive – Existing culverts

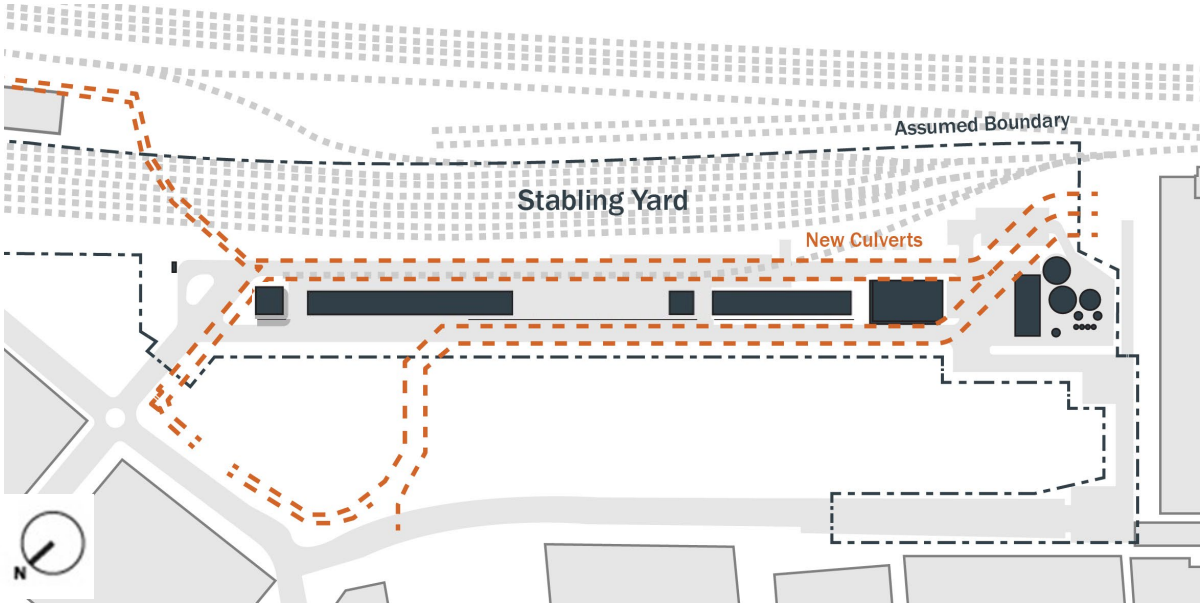


Figure 6-33 SMTFS and Marrickville Dive – Proposed culverts

As shown in Figure 6-34, the site to the north is residual land to the Sydney Metro project. The future land use and opportunity of this land will be dealt with separately and sits outside of the scope of this SDPP. The stabling yard will have unmanned trains arriving. A manned maintenance siding is adjacent to the proposed storage area. South beyond the stabling yard is the proposed Southern Dive Site. Further south is the rail corridor.

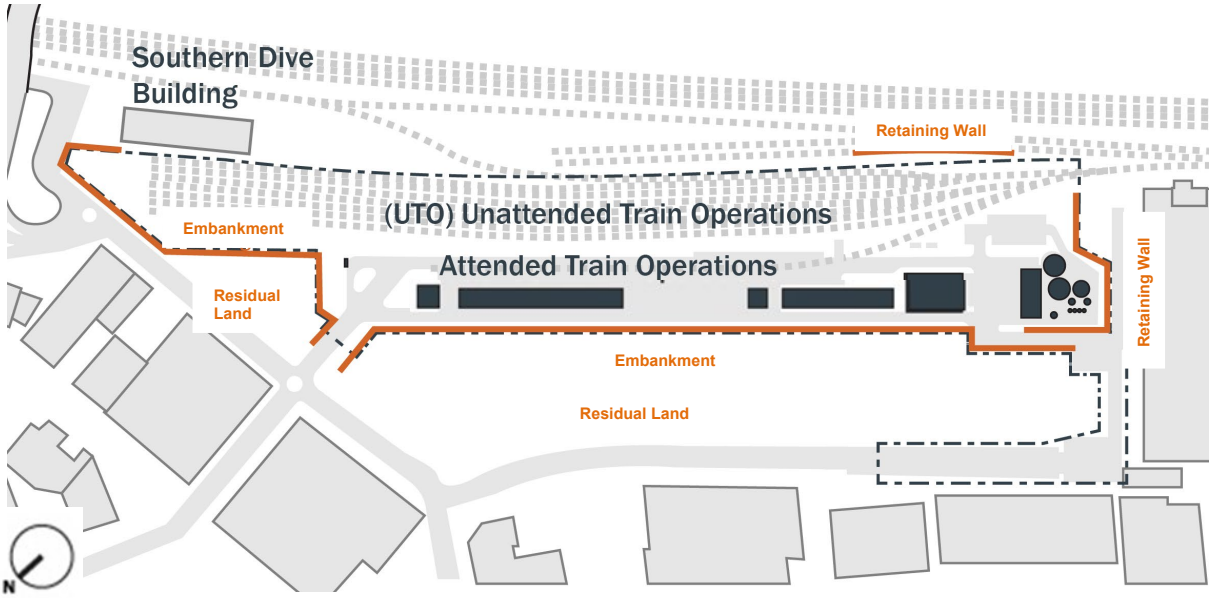


Figure 6-34 SMTFS and Marrickville Dive – Site adjacencies and locations of retaining walls/embankments

Figure 6-35 illustrates the elevated nature of the site. At about 3.5 m above adjacent land the site is situated out of the flood zone, through either embankments or retaining walls.

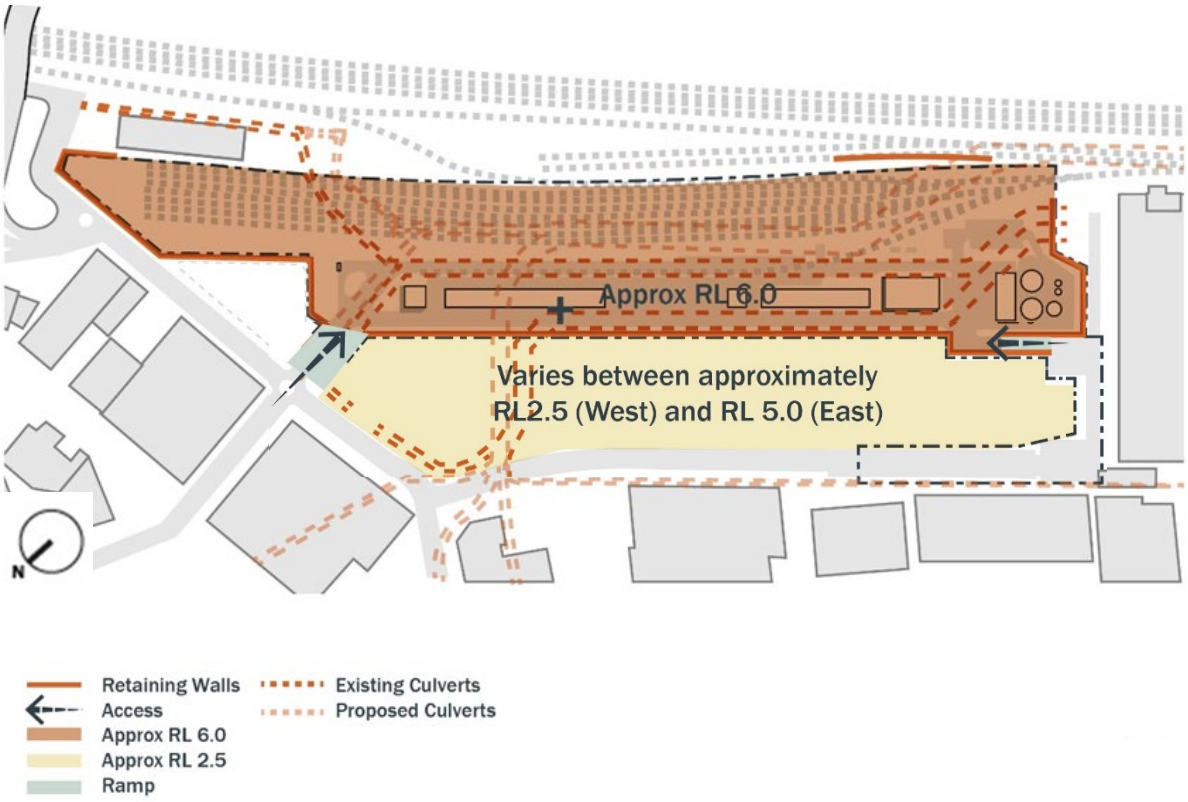


Figure 6-35 SMTFS and Marrickville Dive – Site topography

Marrickville Dive

Large box culverts that traverse the site will be constructed to run the length of the southern side of the dive structure before crossing a dedicated trench to the west and continuing north into the SMTF South stabling yard. Built elements are designed to either reduce the amount of overhang on this culvert or be designed in such a way that they can be removed if required. The locations of the culverts restrict the areas where trees can be planted on the site. Refer to Figure 6-36 below.

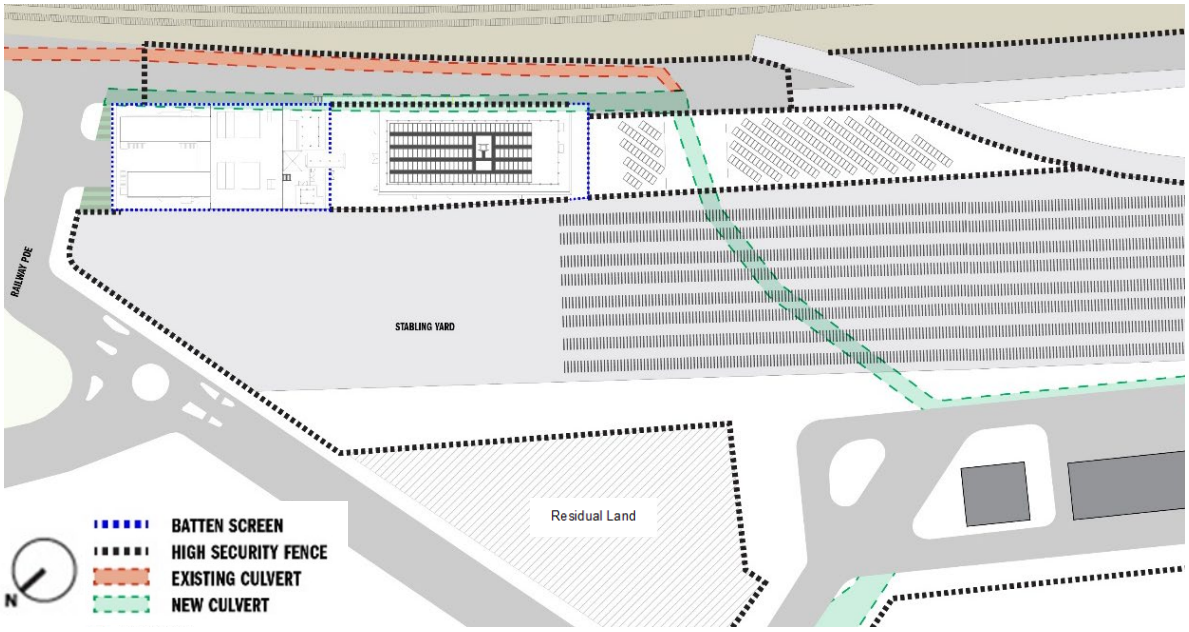


Figure 6-36 Marrickville Dive – Existing and proposed culverts

The Marrickville Dive site is adjacent to the SMTFS stabling yard to the west and north, Railway Parade to the east and the rail corridor to the south.

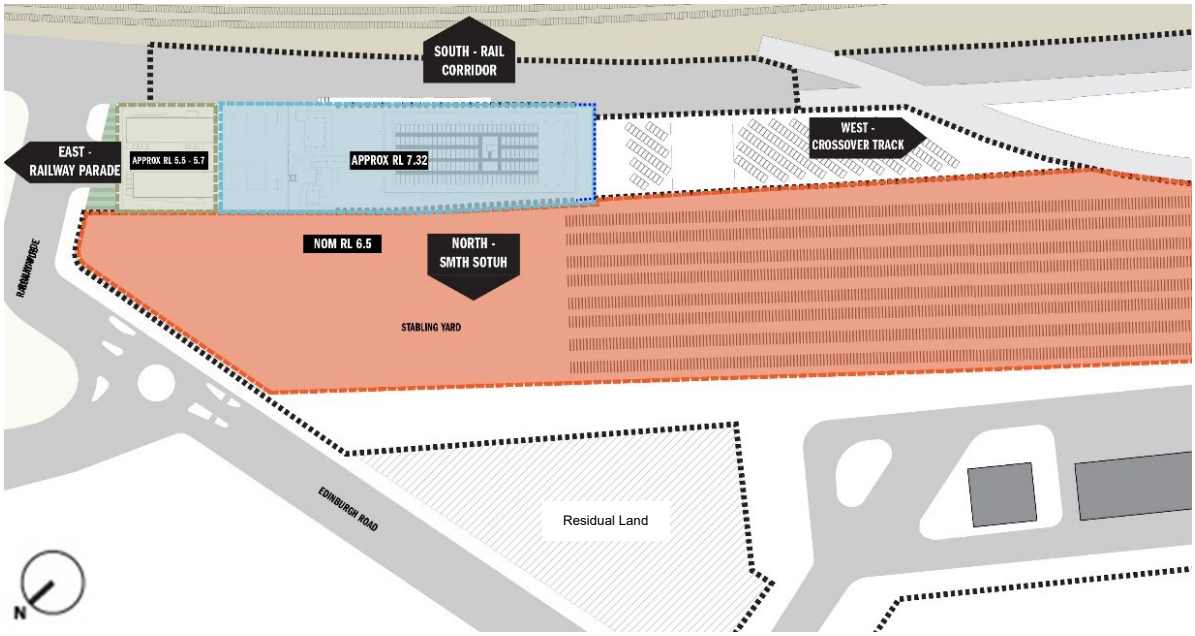


Figure 6-37 Marrickville Dive – Site adjacencies

6.2.2. Building visibility from public areas

Sydney Metro trains facility south

The SMTFS site will be largely screened by the adjacent future development as demonstrated in Figure 6-38. The two ends of the site fronting Edinburgh Road and Sydney Streel Road will offer a glimpse to the facilities and stabling yard from the street entries. The potential overlooking and views across the tracks is mostly from the north side. Distant views from the south across the tracks and Stabling Yard to the buildings will be evident.

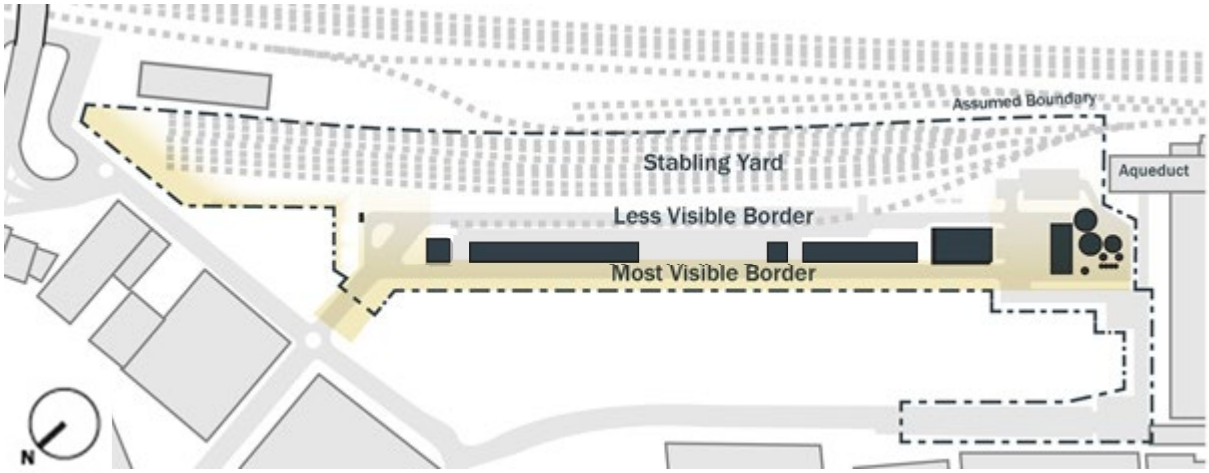


Figure 6-38 SMTFS – Building visibility from public areas

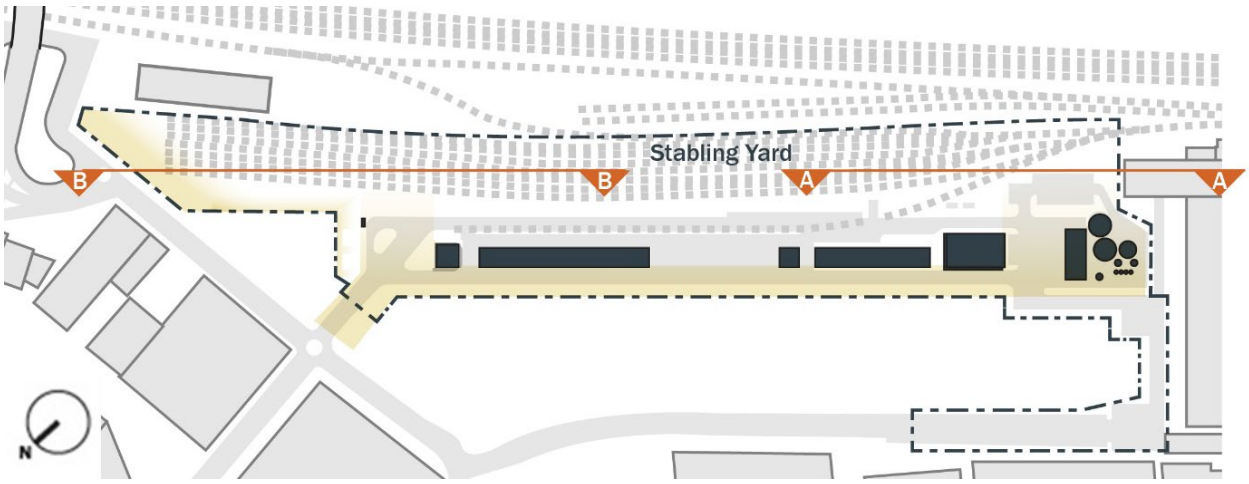


Figure 6-39 SMTFS – Building visibility Sections plan

The intent is for a building that will be highly visible from public areas will be detailed with appropriate architectural treatments. Visible surfaces of these buildings will receive an appropriate lining material. The linings will also minimize bird roosting opportunities. The tank towers which will be elevated and therefore more visible are to be considered as architectural industrial elements and treated accordingly. These will be recessively coloured and detailed to minimise clutter and streamline any additional services as much as possible. Taller tanks will be about 10 metres high. Low-level plant to be screened by fencing and planting where possible.

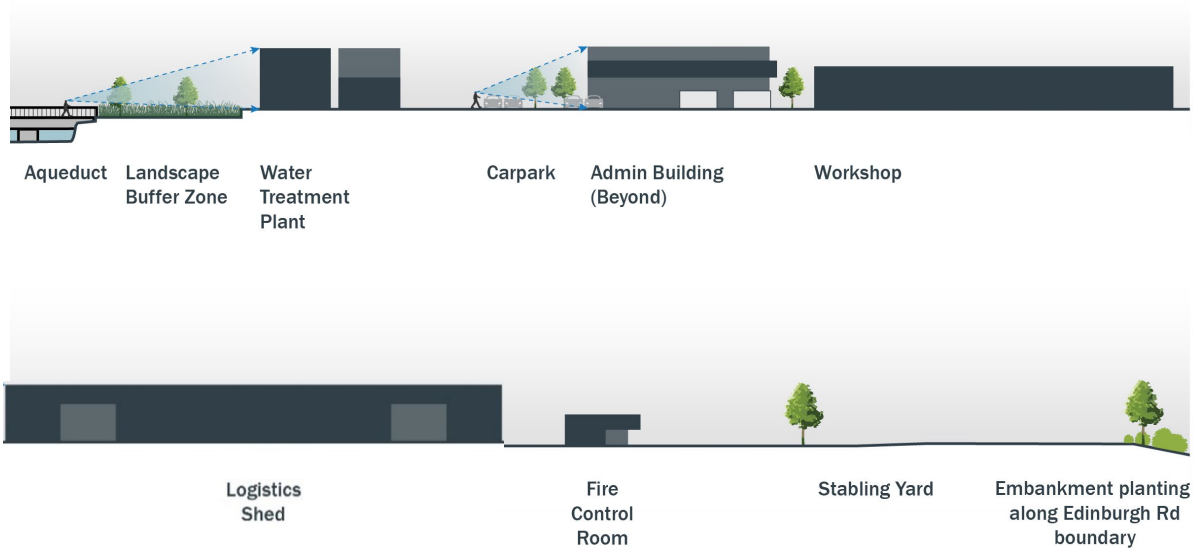


Figure 6-40 SMTFS – Building Visibility Section

The stabling yard has the SMTF buildings providing a buffer from the north, the water treatment plant providing a buffer from the west, is elevated above the road with a planted embankment to the east and is adjacent the rail corridor to the south.

Marrickville Dive

The Marrickville Dive building will be visible from the south (rail corridor), east (railway parade and Bedwin Road Bridge) and north as demonstrated in Figures 6-41 through to Figure 6-42.

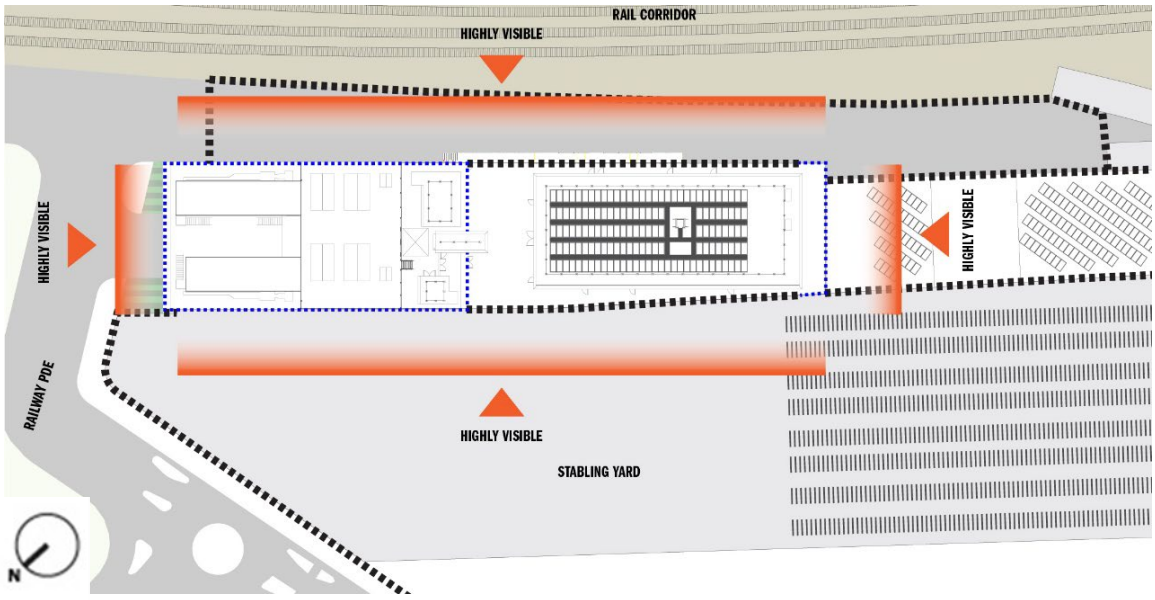


Figure 6-41 Marrickville Dive site - Building visibility from public areas

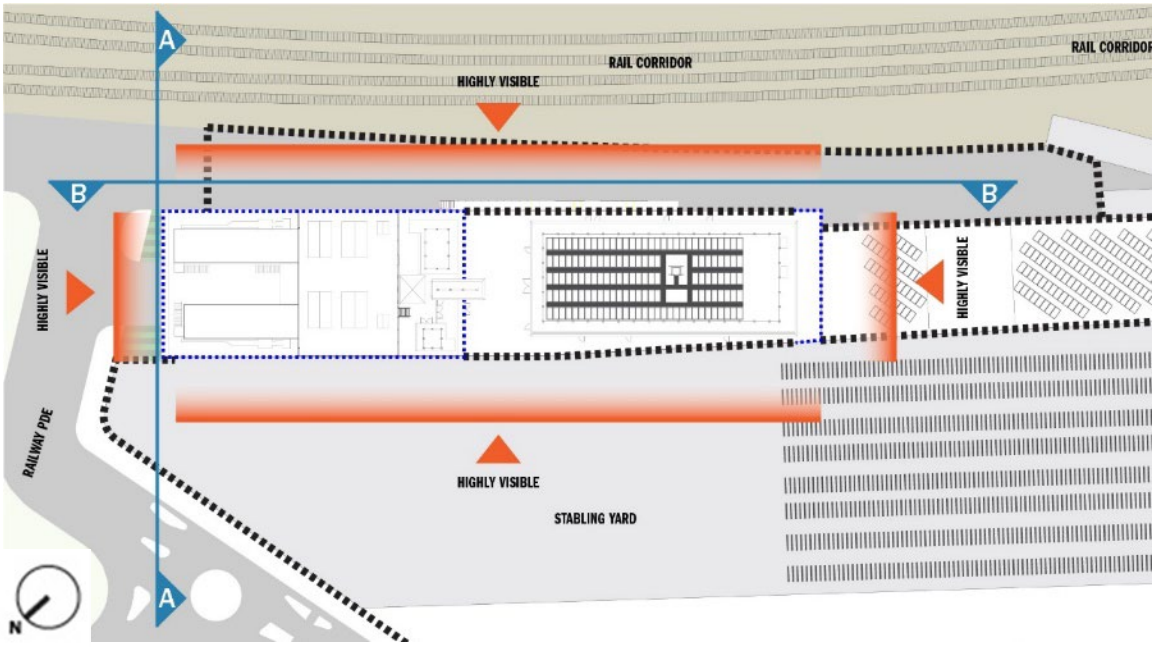


Figure 6-42 Marrickville Dive site - Building visibility sections plan

6.2.3. Cycle, pedestrian and vehicular movement strategies

Sydney Metro Trains Facility South

The principal vehicle access and entry to the SMTFS site is proposed via Edinburgh Road (Murray Street extension). Refer Figure 6-43. Internal circulation will allow direct access to a parking area on the southwest. Access to the site would require entry through secure line gates off the Murray Street Extension. An internal road circumnavigates the buildings in an east west direction allowing vehicles to fully access both sides of any building. An additional emergency only secondary access is proposed via Sydney Steel Road.

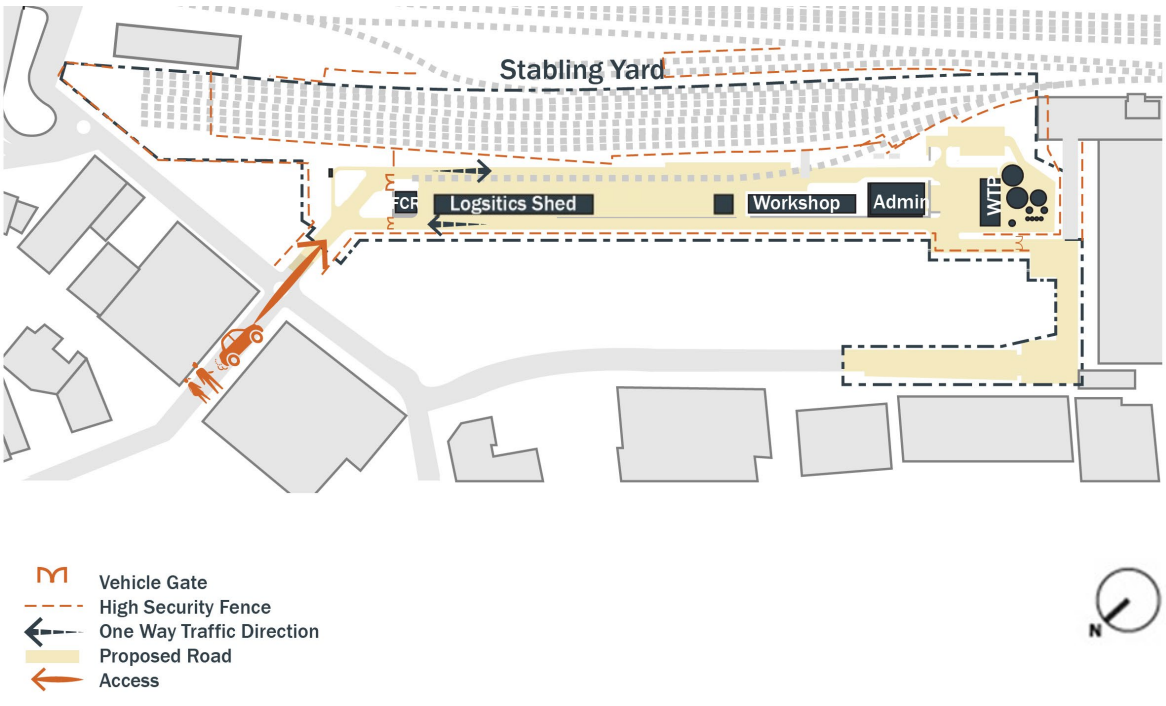


Figure 6-43 SMTFS site – Vehicular and pedestrian circulation

Marrickville Dive

The Marrickville Dive facility is a secure site which is separated from Railway Parade, SMTFS and the rail corridor by high security fencing/screening.

Two site entry points will be provided. One involves a vehicle entry gate leading to a maintenance road running along the south of the site. This road will provide access to the rear services building and solar array. A second entry gate is integrated into the eastern face of the batten screen façade allowing for maintenance/delivery access into the yard and ultimately the dive structure via the large access hatch located within the yard. No designated car parking is provided.

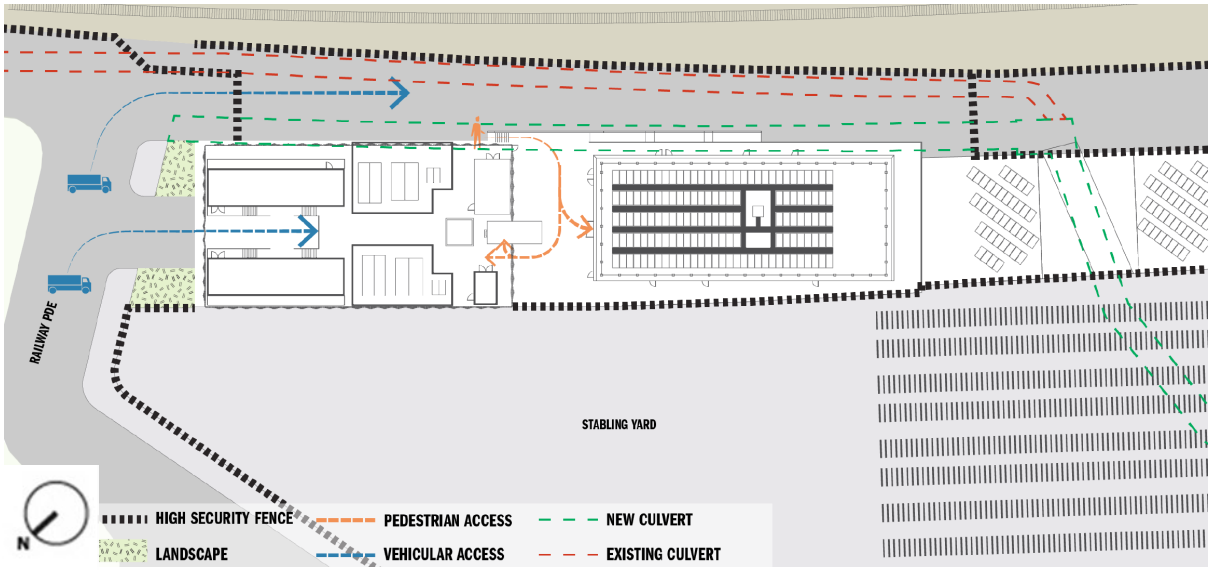


Figure 6-44 Marrickville Dive site - Vehicular and pedestrian circulation

6.2.4. Pavement strategy

New footpath paving, vehicular driveway and paths within and surrounding the site will be insitu concrete finish to match the adjacent existing footpaths. Paving will achieve required slip resistance and colour contrast required by the relevant standards.

6.2.5. Planting strategies

Sydney Metro Train Facility South

The soft landscaping design within SMTF South is an essential component in creating pleasant and contemporary workspace environments and well as mediating between the differing widths of the main buildings as viewed from occupants of neighbouring developments.

The landscape design provides new landscape screening to the boundaries and along the streets, with endemic low mass planting around the buildings. Refer Figure 6-45.

Tree species are selected so that they respond to and are consistent with adjacent established landscapes. Endemic species are used where possible to encourage biodiversity and have minimal additional water requirements beyond the establishment phase. Plants selected are low maintenance and drought tolerant following establishment.

Along the rail corridor, tree planting does not have a mature height over 4m within 6m of any rail line and also maintain a clearance, when further than 6m from any rail line or overhead utility, equal or greater than the plant's mature height.

Refer Figure 6-45 for location of areas to be planted.

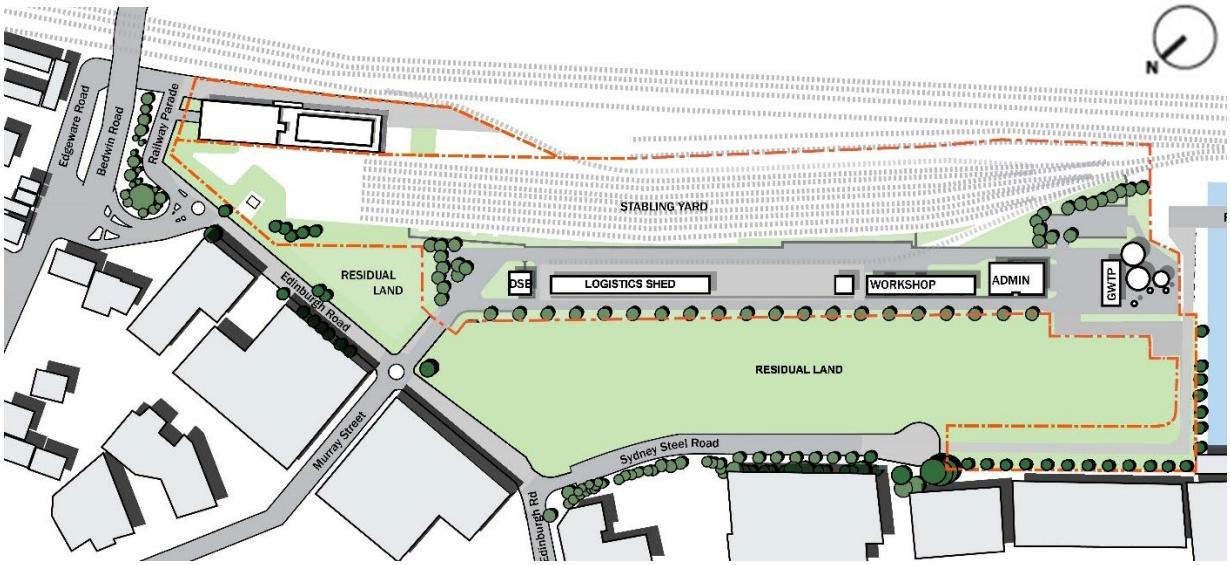


Figure 6-45 SMTFS– Landscape plan

In public areas, all new understorey plantings has been selected to have a maximum height lower than 1m in areas that require clear sightlines to meet CPTED guidelines. Trees and understorey planting will be located to ensure that sight lines of pedestrians and cyclists in the adjacent streets are maintained and signage is not obstructed by planting. Understorey plants will be planted in either single species mass planting arrangements or structured groupings of plant species that are consistent in height and character. Plants will be selected so that they do not include fruits, spikes or seeds that will cause a hazard to the public. No planting will have a mature height above 4m when located directly underneath overhead utilities. Setbacks will be provided from planting to adjacent structure and pathways to enable clear access for maintenance and visual inspections when landscape matures.

Tree, shrub, grass, ground cover and climber species have been selected from the plant list provided in the SWTC, and respond to the existing landscape planting around the site, and is as per table 6-2.

Table 6-2 SMTFS - Proposed planting species

Botanic Name – Trees and Tall Shrubs	Common Name
Melaleuca thymifolia 'White Lace'	Thyme Honey-Myrtle
Callistemon salignus	Willow Bottlebrush
Corymbia maculata	Spotted Gum
Elaeocarpus reticulatus	Blueberry Ash
Eucalyptus microcorys	Tallowwood
Eucalyptus moluccana	Grey Box
Melaleuca decora	White Feather Honey-Myrtle
Melaleuca stypheloides	Prickly-leaved Paperbark
Helichrysum pilularis	Santolina
Botanic Name – Shrubs	**Common Name**
Banksia spinulosa 'Dwarf'	Hairpin Banksia
Callistemon citrinus 'White Anzac'	White Bottle Brush
Melaleuca thymifolia 'White Lace'	Thyme Honey-Myrtle

Botanic Name – Grasses and Groundcovers	Common Name
Grevillea obtusifolia	Grevillea
Helichrysum pilularis	Santolina
Lomandra hystrix	Green Matrush
Lomandra 'Verday'	Lomandra
Botanic Name – Vegetated Swales	**Common Name**
Carex appressa	Tall Sedge
Dianella caerulea	Flax Lily
Ficinia nodosa	Knobby Club-rush
Juncus usitatus	Tussock Grass
Lomandra longifolia	Spiny Mat Rush
Botanic Name – Climbers	**Common Name**
Ficus pumila	Climbing Fig

Marrickville Dive

The landscape design provides a landscape setting to the new buildings along Railway Parade, responding to the building façade. New indigenous low mass plantings in bands create mounds to reflect the façade character of the building as illustrated in Figure 6-46.

Endemic species will be used to encourage biodiversity and have minimal additional water requirements beyond the establishment phase. Plants selected will be low maintenance and drought tolerant following establishment. Irrigation will be also provided to soft landscaping areas.

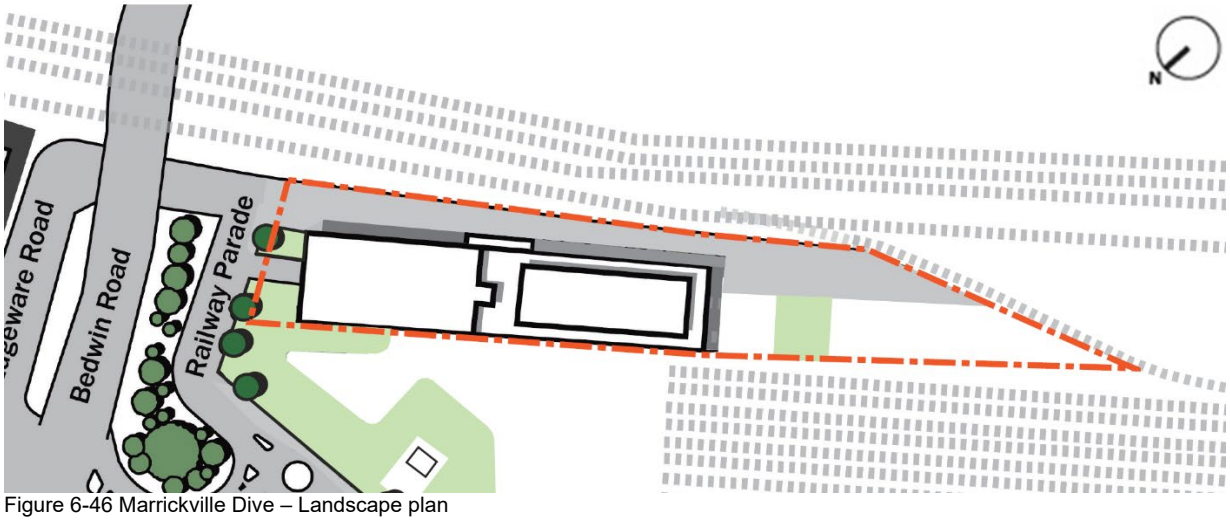


Figure 6-46 Marrickville Dive – Landscape plan

In publicly accessible areas, all new understorey plantings have been selected to have a maximum height lower than 1m in areas that require clear sightlines to meet CPTED guidelines. Plantings will be located to ensure that sight lines of pedestrians and cyclists in the adjacent streets are maintained and signage is not obstructed by planting. Understorey plants will be planted in single species mass planting arrangements. Plants have been selected so that they do not include fruits, spikes or seeds that will cause a hazard to the public. No planting will have a mature height above 4m when located directly underneath overhead utilities.

Setbacks will be provided from planting to adjacent structure and pathways to enable clear access for maintenance and visual inspections when landscape matures.

Plants have been selected from the plant list provided in the SWTC, and respond to the existing landscape planting around the site, and is as per Table 6-3.

Table 6-3 Marrickville Dive - Proposed planting species

Botanic Name – Shrubs and Groundcovers	Common Name
Melaleuca thymifolia 'White Lace'	Thyme Honey-Myrtle
Helichrysum pilularis	Santolina

6.2.6. Fencing strategy

Visual and acoustic screening of equipment is proposed so that those elements will not to be visible from the public domain. Fencing and screens will be consistent in type and height.

Fencing elements are visually integrated into the rail corridor, precinct or landscape setting, as part of a coordinated whole of site design. Security fencing is set back from the street edge with a planting frontage where possible.

Security fences between the rail corridor and the SMTFS/Dive site form a continuous secure and safe rail corridor preventing unauthorised access to the tracks. The corridor security fence is generally a 3.0m high black powder coated fence.

6.2.7. External lighting strategy

The lighting design within the SMTFS and Marrickville Dive is to be functional, low maintenance, low energy, security style lighting sufficient to illuminate the yard and external working areas. The lighting will provide minimal light spill to adjoining areas.

The lighting is to be rated for external use, housed in weatherproof enclosures, and mounted to structure and/or poles. Point source and glare producing fittings are to be avoided.

No 'external' or outside the compound lighting is proposed. The only exception is where CPTED considerations require a particular area to be illuminated (e.g. car park).

In the SMTFS, lighting will be provided to the base of the façade cavities on the depot security centre and fire pump building, and ground water treatment plant. This will produce an illuminated "light box" effect at either end of the site at night.

Lighting will also be provided within the eastern services yard in the Marrickville Dive site. This will produce an illuminated "light box" effect at night.

6.2.8. CPTED principles in public streetscape areas

The important principles of CPTED are prioritised throughout the project site. These principals have been applied for the benefit of both public and staff.

- Natural surveillance is achieved by arranging physical elements, activities and users in such a way as to maximise visibility
- Landscaping will use clear stemmed trees and low-level planting, to allow uninterrupted eye level views and maximise safety
- CCTV incorporated throughout the site will complement these natural surveillance measures
- Security fencing of the site is to be provided
- Maintain existing street lighting and provide additional lighting to the site, buildings and access paths.

6.2.9. Solar strategy

A number of areas/elements within the SMTF and Marrickville Dive site have been identified as potential locations for solar panels. These areas/elements include (Refer Figure 6-47 for locations):

1. on the covered external store roof
2. on the workshop building roof
3. on the administration building roof
4. a ground level solar array adjacent to the dive portal
5. on the dive services building roof.

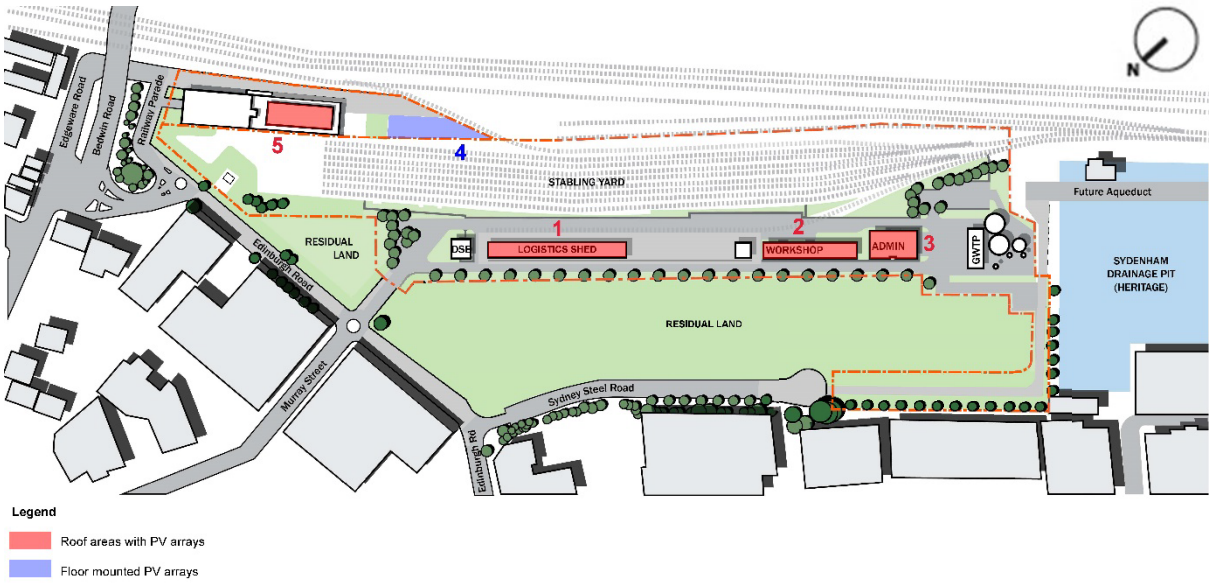


Figure 6-47 SMTFS and Marrickville Dive – Solar strategy

6.3. Statement of integrated urban design and place making outcome

The design of the SMTFS and Marrickville Dive responds to its immediate context in a sympathetic way. The urban/community impact to streetscape and neighbourhood has been a primary consideration in the design of the materiality, height and setbacks of the buildings. The site, although fronting has a prominent corner condition visible from Mowbray Road and the Mowbray Road bridge. The building design reflects the Sydney Metro identity, being modern, sophisticated and of its place and time. Screening and planting work together to minimise the visual impact of the new buildings.

The following design principles have guided the project design in order to create an integrated urban design and place making outcome:

- All services concealed from direct view
- Consistent palette of materials and details to all buildings
- Consideration of microclimate in detailing
- Detailing to reduce vandalism
- Consideration of context for building form and alignment.

7. Implementation

7.1. Timing

Condition E101 states that the:

> …Elements covered by the SDPP(s) must be complete no later than the commencement of operation of the Sydney Metro to paid services, unless otherwise agreed with the Secretary.

The timing of the implementation of works is planned for completion in late 2022.

7.2. Monitoring and maintenance of landscaping

The landscaping has been designed to optimise long-term maintenance. Landscape maintenance will be continuous throughout operation of the project. The operator would be responsible for maintaining the landscaping in their licenced maintenance area to a high standard of health and appearance.

The following horticultural practices shall be carried out to ensure plants are maintained in a vigorous condition.

- Watering: generally ensure that all planting is receiving sufficient water to ensure vigorous growth and maintained in a healthy condition
- Weed and pest control: eradicate all grass, weeds and pests from within planted area manually or with approved weedicides and insecticides and remove from site and use measures to prevent reinfestation
- Monitoring all plants and trees for pest and disease on a monthly basis
- Fertilising as appropriate to the species
- Replacement of plants: treat or replace damaged plants and replace unhealthy or stolen plants to ensure minimum planting densities maintained
- Re-mulch as necessary to maintain mulched areas to the specified depths
- Litter and debris: ensure that the site is kept clean, free of litter, and general debris at all times
- Pruning of vegetation for safety with regards to operations of rail line, safety of public domain and CPTED surveillance.

8. Visual impact assessment

A visual impact assessment was undertaken for the Chatswood to Sydenham project as part of the Environmental Impact Statement (EIS) and associated modification reports. This assessment was based on the concept design for the project.

Condition E102 requires the SDPP to achieve a minimum visual impact rating of at least 'minor beneficial, as defined in the EIS, for all design elements of the project where feasible and reasonable. Where it can be demonstrated, to the DRP's satisfaction, that a 'minor beneficial' rating is not achievable, then a 'negligible' visual impact rating must be achieved as a minimum.

The EIS identified a minimum visual impact rating of Negligible from all viewpoints for the scope elements of the design considered in this SDPP.

Using the methodology for visual impact assessment used for the EIS, refer Figures 8-1 to 8-3 below, the visual impact assessment has been updated considering the visual sensitivity and visual modifications from all viewpoints identified in the EIS. Note that the visual sensitivity is consistent with the EIS unless substantial change to this sensitivity has occurred since the EIS. All viewpoints identified in the EIS have been assessed.

Visual sensitivity	Description
National	Heavily experienced view to a national icon, for example view to Sydney Opera House from Circular Quay or Lady Macquarie's Chair, or a view to Parliament House Canberra along Anzac Parade.
State	Heavily experienced view to a feature or landscape that is iconic to the State, for example view along the main avenue in Hyde Park, or a view to Sydney Harbour from Observatory Hill.
Regional	Heavily experienced view to a feature or landscape that is iconic to a major portion of a city or a non-metropolitan region, or an important view from an area of regional open space, for example views to the Sydney Town Hall from George Street, a Sydney CBD skyline view from Centennial Park, or views from Blues Point Reserve to Sydney Harbour.
Local	High quality view experienced by concentrations of residents and / or local recreational users, local commercial areas, and / or large numbers of road or rail users, for example view from Chatswood Park or Chifley Square.
Neighbourhood	Views where visual amenity is not particularly valued by the wider community such as views from local streets, pocket parks and small groups of residences.

Figure 8-1 Visual sensitivity levels. Source: Table 16-5 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity

Visual modification	Description
Considerable reduction or improvement	Substantial part of the view is altered. The project contrasts substantially with surrounding landscape.
Noticeable reduction or improvement	Alteration to the view is clearly visible. The project contrasts with surrounding landscape.
No perceived reduction or improvement	Either the view is unchanged or if it is, the change in the view is generally unlikely to be perceived by viewers. The project does not contrast with the surrounding landscape.

Figure 8-2 Visual modification levels. Source: Table 16-6 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity

		Daytime visual sensitivity				
Visual modification		National	State	Regional	Local	Neighbourhood
	Considerable reduction	Very high adverse	Very high adverse	High adverse	Moderate adverse	Minor adverse
	Noticeable reduction	Very high adverse	High adverse	Moderate adverse	Minor adverse	Negligible
	No perceived change	Negligible	Negligible	Negligible	Negligible	Negligible
	Noticeable improvement	Very high beneficial	High beneficial	Moderate beneficial	Minor beneficial	Negligible
	Considerable improvement	Very high beneficial	Very high beneficial	High beneficial	Moderate beneficial	Minor beneficial

Figure 8-3 Daytime Visual Impact Matrix. Source: Table 16-7 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity

A further visual impact assessment of the design provided in this SDPP has been undertaken in accordance with the methodology identified in the EIS. This assessment concludes that the SDPP achieves a minimum visual impact rating of **Negligible** for the SMTFS and Marrickville Dive site from all viewpoints, except for Viewpoints 10 and 11, which achieve a rating of **Minor Adverse which** aligns with the assessments made in the EIS.

8.1. Updated visual impact assessment

The visual assessments in the EIS identified that during operation there would be negligible and moderate adverse daytime visual impacts on viewpoints.

Refer Figure 8-4 below for a summary of the daytime visual impact assessments that were determined in the EIS modification report from each of the viewpoints identified in Figure 8-5.

Location	Sensitivity rating	Approved project		Proposed modification	
		Visual change	Visual impact	Visual change	Visual impact
Viewpoint 1 View west from Edgeware Road	Neighbour-hood	No perceived change	Negligible	No perceived change	Negligible
Viewpoint 2 View west from the Bedwin Road Bridge	Neighbour-hood	No perceived change	Negligible	No perceived change	Negligible
Viewpoint 3 View west from Camdenville Park	Local	No perceived change	Negligible	No perceived change	Negligible

Location	Sensitivity rating	Approved project		Proposed modification	
		Visual change	Visual impact	Visual change	Visual impact
Viewpoint 4 View north-west from Unwins Bridge Road	Neighbour-hood	No perceived change	Negligible	No perceived change	Negligible
Viewpoint 5 View north from Bolton Street	Neighbour-hood	No perceived change	Negligible	No perceived change	Negligible
Viewpoint 6 View north-east along Railway Parade	Neighbour-hood	No perceived change	Negligible	No perceived change	Negligible
Viewpoint 7 View southeast from Sydney Steel Road to footpath connection with Shirlow Street	Neighbour-hood	No perceived change	Negligible	No perceived change	Negligible
Viewpoint 8 View south-west from Sydney Steel Road	Neighbour-hood	No perceived change	Negligible	No perceived change	Negligible
Viewpoint 9 View south-east from the corner of Murray Street and Edinburgh Road	Neighbour-hood	Noticeable reduction	Negligible	Noticeable reduction	Negligible
Viewpoint 10 Views from the rail corridor.	Local	No perceived change	Negligible	Considerable reduction	Moderate adverse
Viewpoint 11 View from path between Shirlow Street to Sydney Steel Road	Local	N/A	N/A	Considerable reduction	Moderate adverse
Viewpoint 12 View south-east along Edinburgh Road.	Neighbour-hood	N/A	N/A	No perceived change	Negligible

Figure 8-4 Daytime visual impacts. Source: Table 16-13 Sydenham Station and Sydney Metro Trains Facility South Modification Report

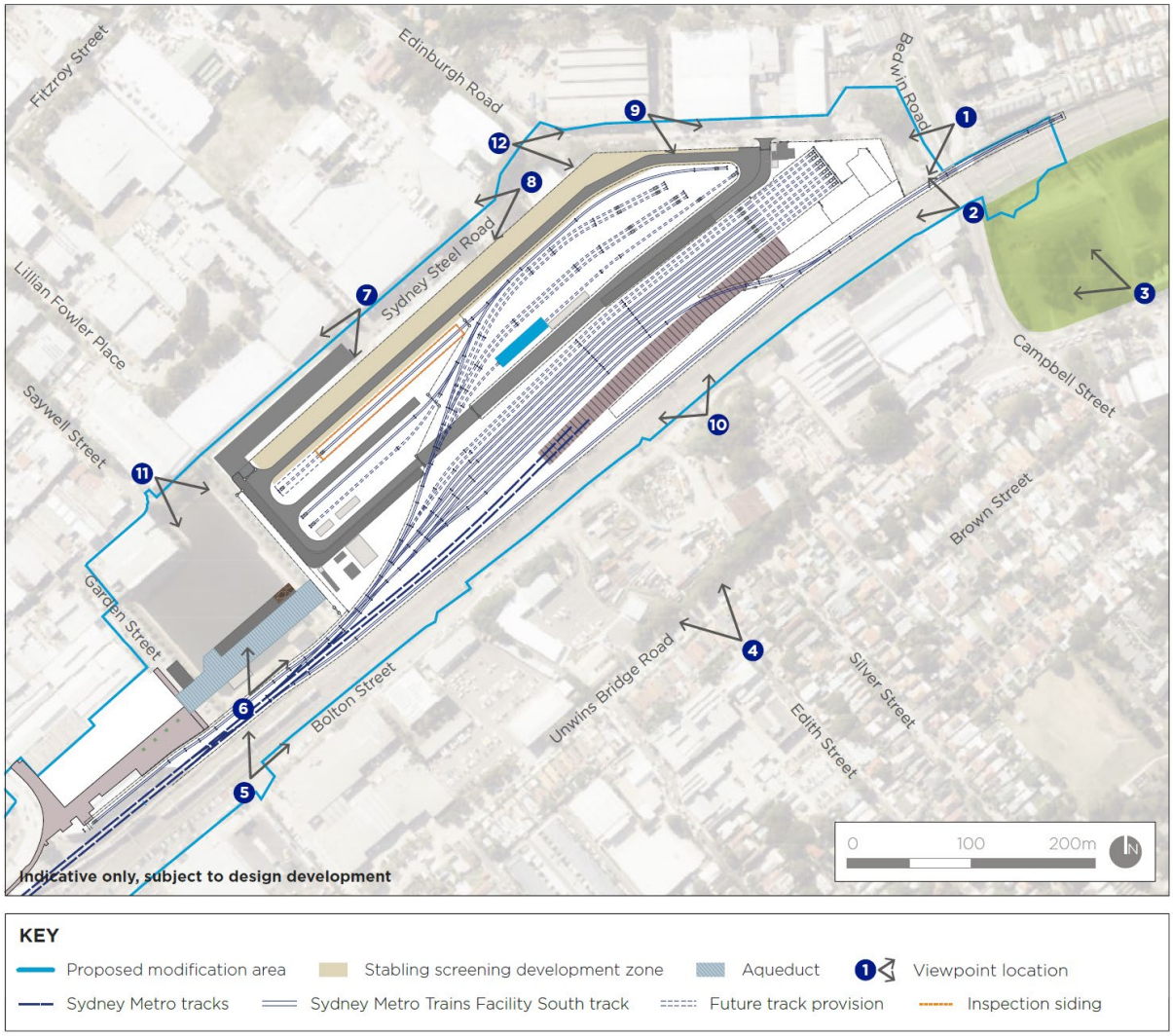


Figure 8-5 Representative viewpoints location plan. Source: Figure 16-12 Sydenham Station and Sydney Metro Trains Facility South Modification Report

Viewpoint 1 – View west from Edgeware Road

Location	Sensitivity rating	Approved project		Proposed modification	
		Visual change	Visual impact	Visual change	Visual impact
Viewpoint 1 View west from Edgeware Road	Neighbour-hood	No perceived change	Negligible	No perceived change	Negligible

Figure 8-6 Viewpoint 1 - Daytime visual impacts. Source: Table 16-13 Sydenham Station and Sydney Metro Trains Facility South Modification Report

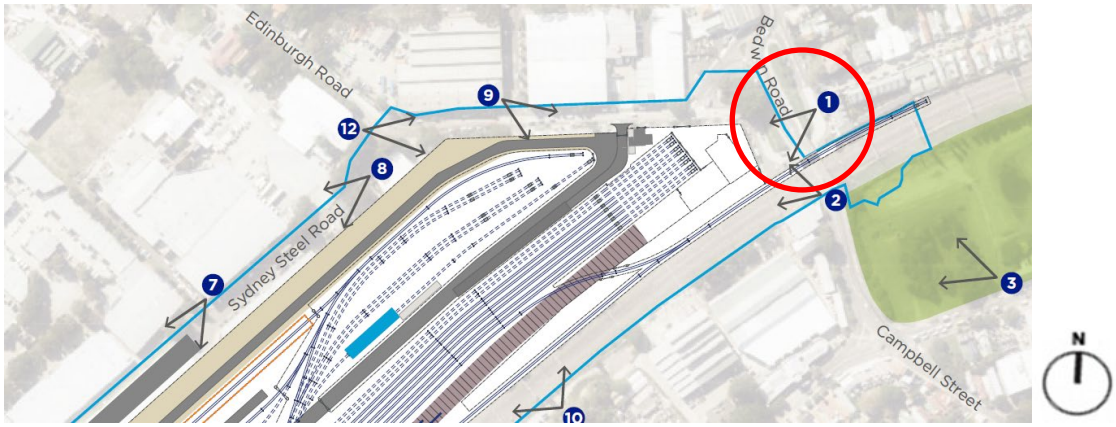


Figure 8-7 Viewpoint 1 – View location

Figure 8-8 Viewpoint 1 - Existing view west from Edgeware Road

In the EIS, Viewpoint 1 was assessed as **'Neighbourhood'** in terms of visual sensitivity. As described in the Sydenham Modification Report this view represents views from the ground floor level of adjacent 2-3 storey residential properties. The site is visible in the background of the view, seen across Edgeware Road and framed through the bridge underpass. The site is characterised by large warehouse buildings and includes graffiti on the warehouses and bridge abutments in the middle ground of the view. In the foreground is the two lane Edgeware Road and an informal area of parking. Some vegetation filters the edge of this view between the rail corridor and viewer. The existing view from Viewpoint 1 is shown in Figure 8-8 above.

Figure 8-9 Viewpoint 1 – SDPP design view west from Edgeware Road

The SDPP SMTFS and Marrickville Dive design, as shown in Figure 8-9 above, from this viewpoint would not alter the visual impact and there would continue to be a **'negligible'** visual impact compared to the existing condition due to:

- the containment of works within the project site
- the reduction in the height of the approved HV yard screen from 15m in the EIS down to 8m in the SDPP design
- new plantings along the street frontage of the new HV yard screen.

This impact is therefore unchanged from the approved project. Refer Figure 8-6 above.

Viewpoint 2 – View west from Bedwin Road Bridge

Location	Sensitivity rating	Approved project		Proposed modification	
		Visual change	Visual impact	Visual change	Visual impact
Viewpoint 2 View west from the Bedwin Road Bridge	Neighbour-hood	No perceived change	Negligible	No perceived change	Negligible

Figure 8-10 Viewpoint 2 - Daytime visual impacts. Source: Table 16-13 Sydenham Station and Sydney Metro Trains Facility South Modification Report

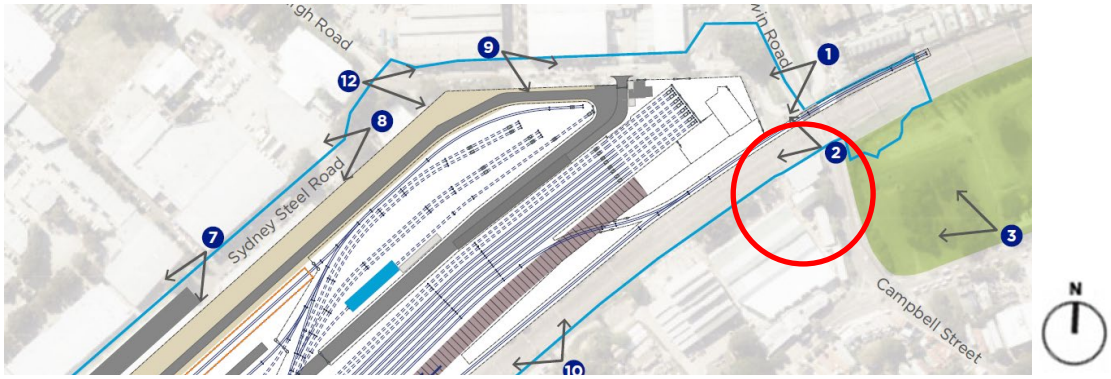


Figure 8-11 Viewpoint 2 – View location

Figure 8-12 Viewpoint 2 - Existing view west from Bedwin Road Bridge

In the EIS, Viewpoint 2 was assessed as **'Neighbourhood'** in terms of visual sensitivity. As described in the Sydenham Modification Report this view includes a predominantly industrial landscape with large warehouse buildings adjacent to a wide rail corridor. This view includes graffiti covered walls and some vegetation which softens the boundary between the rail and warehousing.

The existing view from Viewpoint 2 is shown in Figure 8-12 above.

Figure 8-13 Viewpoint 2 – SDPP design view west from Bedwin Road Bridge (Note: Future development site building envelopes shown in white in the background)

The SDPP SMTFS and Marrickville Dive design, as shown in Figure 8-13 above, from this viewpoint would not alter the visual impact and there would continue to be a **'negligible'** visual impact compared to the existing condition due to:

- the containment of works within the project site
- the SMTFS and Marrickville Dive works would be absorbed into the character of the surrounding industrial and railway corridor landscape and not create a perceived change in the amenity of this view.

This impact is therefore unchanged from the approved project. Refer Figure 8-10 above.

Viewpoint 11 – View from path between Shirlow Street to Sydney Steel Road

Location	Sensitivity rating	Approved project		Proposed modification	
		Visual change	Visual impact	Visual change	Visual impact
Viewpoint 11 View from path between Shirlow Street to Sydney Steel Road	Local	N/A	N/A	Considerable reduction	Moderate adverse

Figure 8-14 Viewpoint 11 - Daytime visual impacts. Source: Table 16-13 Sydenham Station and Sydney Metro Trains Facility South Modification Report

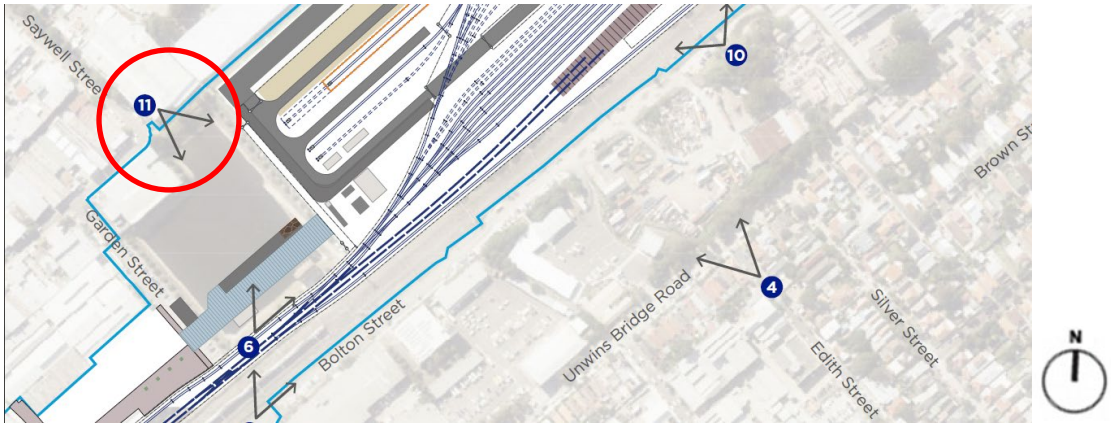


Figure 8-15 Viewpoint 11 – View location

Figure 8-16 Viewpoint 11 - Existing view from path between Shirlow Street to Sydney Steel Road

In the EIS, Viewpoint 11 was assessed as **'Local'** in terms of visual sensitivity.

This view from a well-used local route between the station and industrial areas to the northwest, offers views through perimeter security fencing to the Sydenham Pit and Drainage Pumping Station. The pit walls, open water and pumping station building can all be seen from this location. Street art on the pumping station building is oriented towards the rail corridor and cannot be seen.

The existing view from Viewpoint 11 is shown in Figure 8-16 above.

Figure 8-17 Viewpoint 11 – SDPP design view from path between Shirlow Street to Sydney Steel Road

The SDPP SMTFS and Marrickville Dive design, as shown in Figure 8-17 above, from this viewpoint would alter the visual impact and achieve a **'minor beneficial'** visual impact compared to the existing condition due to:

- the proposed buildings being clearly visible from the heritage listed Sydenham Pit
- the proposed buildings being setback further from the site boundary with the pit compared with the existing industrial building
- the SMTFS and Marrickville Dive works would be absorbed into the character of the surrounding industrial and railway corridor landscape and not create a perceived change in the amenity of this view.

This impact is therefore improved compared to the approved project. Refer Figure 8-14 above.

EIS Viewpoints not assessed within this SDPP

There are seven Viewpoints within the EIS where the SMTFS site will not be visible at all, therefore the SMFTS development will result in 'no change' to the Viewpoint. This being the case, no assessment is warranted for these Viewpoints within this SDPP. (While the SMFTS will not be seen from these Viewpoints, there may be other Sydney Metro works around the Marrickville Precinct which change these Viewpoints, however that is outside the scope of this SDPP).

A further two Viewpoints will have a peripheral/background view of the SMFTS only, with the main feature within these Viewpoints not being the SMFTS development itself, but rather changes to the main lines of the rail corridor. On this basis, no assessment has been made for these Viewpoints within this SDPP either.

Below is a summary of these nine Viewpoints stating the reason why each of these Viewpoints have been not assessed within this SDPP.

Table 8-1 EIS Viewpoints not assessed within this SDPP

Viewpoint Number	Location	Reason for not being assessed within SDPP
Viewpoint 3	View west from Camdenville Park	SMTFS site cannot be seen from this Viewpoint
Viewpoint 4	View northwest from Unwins Bridge Road	SMTFS site cannot be seen from this Viewpoint
Viewpoint 5	View north from Bolton Street	SMTFS site cannot be seen from this Viewpoint
Viewpoint 6	View northeast along Railway Parade	The foreground of this Viewpoint will be the new Sydney Metro rail corridor. The SMFTS will be visible in the background only.
Viewpoint 7	View southwest from Sydney Steel Road	SMTFS site cannot be seen from this Viewpoint
Viewpoint 8	View southwest from Sydney Steel Road	SMTFS site cannot be seen from this Viewpoint
Viewpoint 9	View southeast from the Corner of Murray Street and Edinburgh Road	SMTFS site cannot be seen from this Viewpoint
Viewpoint 10	Views from rail corridor	The foreground of this Viewpoint will be the changed Sydney Trains rail corridor, along with the new Sydney Metro rail corridor. The SMFTS will be visible in the background only.
Viewpoint 12	View southeast along Edinburgh Road	SMTFS site cannot be seen from this Viewpoint

A copy of all original Viewpoints included within the EIS have been included below, along with a corresponding image indicating extent of change to the Viewpoint as a result of the Sydney Metro works (or advising ‘no change’ as applicable). Note: Photographs for Viewpoints 10 & 12 were not provided within the EIS, and therefore were not able to be included below.

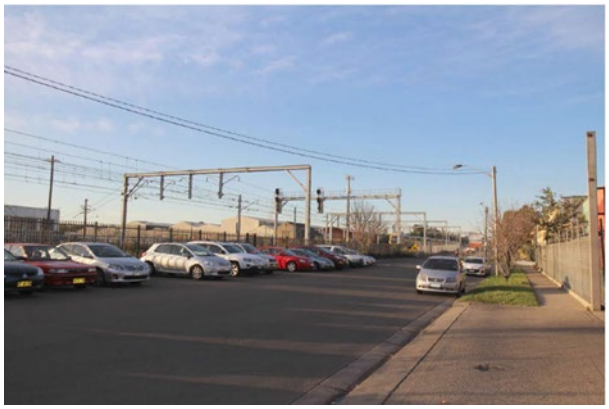
Existing View

No Change to View as a result of SDPP Scope

Figure 8-18 EIS Viewpoint 3 - View west from Camdenville Park

Existing View *No Change to View as a result of SDPP Scope*

Figure 8-19 EIS Viewpoint 4 – View northwest from Unwins Bridge Road



Existing View *Indicative Extent of Demolition*

Figure 8-20 EIS Viewpoint 5 – View north from Bolton Street. *Note: The warehousing and vegetation seen in the background of this view will be removed and will be replaced in the future with the development on the residual land (Outside the scope of this SDPP).*

Existing View *Indicative Extent of Demolition*

Figure 8-21 EIS Viewpoint 7 –View southwest from Sydney Steel Road – *Note: The warehousing and vegetation seen in this view has been removed and will be replaced in the future with the development on the residual land (Outside the scope of this SDPP).*

Existing View *No Change as a result of SDPP Scope*

Figure 8-22 EIS Viewpoint 8 – View southwest from Sydney Steel Road

Existing View *Indicative Extent of Demolition*

Figure 8-23 EIS Viewpoint 9 – View southeast from the Corner of Murray Street and Edinburgh Road *Note: The building on the corner of Murray Street and Edinburgh Road in this view has been removed and will be replaced in the future with the development on the residual land (Outside the scope of this SDPP).*

Viewpoints not considered suitable for SMFT(S) SDPP Assessment (Viewpoints 6 & 10)

For Viewpoints 6 and 10, the foreground contains an area of the rail corridor which is being changed as part of Sydney Metro works but will not form part of the SMFTS and Marrickville Dive site. Therefore, the major change in these viewpoints will not be the SMFTS and Marrickville Dive, as this will form background to this viewpoint only. Therefore, these viewpoints are not considered suitable for assessment as part of this SDPP, however an image of viewpoint 6 has been included below for reference. An image for viewpoint 10 was not included in the EIS Technical Paper 6: Landscape and Visual Impact Assessment.

Existing View

Indicative Extent of Demolition

Figure 8-24 EIS Viewpoint 6 – View northeast along Railway Parade – *Note: This is no longer a public viewpoint as the concrete pavement in the foreground of this view is now part of the secured rail corridor. The warehousing and vegetation seen in the background of this view will be removed and will be replaced in the future with the residential development on the residual land (Outside the scope of this SDPP).*

Appendix A Evidence of collaboration and consultation

The following pages contain the consultation meeting minutes, letters and email correspondences provided by the community and stakeholders on the SDPP, along with the project update from Sydney Metro for September and October 2021.

From: Systems Connect Community Team [mailto:linewidemetro@transport.nsw.gov.au]
Sent: Monday, 6 September 2021 12:22 PM
Subject: Have your say on the Draft Marrickville Station Design and Precinct Plan

Dear resident,

Sydney Metro is Australia's biggest public transport project.

Systems Connect, a joint venture between CPB Contractors and UGL Limited, is the contractor appointed by Sydney Metro to turn the excavated metro tunnels into a working railway and provide the permanent systems, services and buildings required for Sydney Metro operations between Chatswood and Bankstown.

Construction is underway at Marrickville, where Systems Connect is delivering the stabling yard, the dive building and the new Sydney Metro Trains Facility (SMTF) South, which will be used for storage and maintenance of metro trains. The Marrickville site is located off Edinburgh Road and Sydney Steel Road.

Sydney Metro has developed a draft Station Design and Precinct Plan (SDPP) for the Marrickville facility and the dive site.

We are inviting community feedback on the proposed plans for the site, as outlined below.

About the Station Design and Precinct Plan (SDPP)

The SDPP includes plans for the dive building, infrastructure maintenance facilities, storage facilities and parking. It outlines the urban, landscaping and architectural design for the Marrickville facility and dive site and shows how it will integrate with the surrounding precinct.

We encourage you to comment on the SDPP.

The SDPP document and the enclosed fact sheet summarising the proposal, are available on the project web page. To view the document, visit CPB Contractors - Sydney Metro City & Southwest Line-wide Works.

Have your say

The SDPP will be exhibited for public comment between 6 September and 27 September 2021.

While COVID-19 restrictions prevent us from talking to you in person, we would be pleased to arrange an online meeting. Please email linewidemetro@transport.nsw.gov.au or phone **1800 171 386** if you would like to meet with us online to discuss the proposed plans for the site.

Alternatively, please **provide your feedback by 27 September 2021** via:

- **Phone**: 1800 171 386
- **Email** linewidemetro@transport.nsw.gov.au
- **Post:**

  Systems Connect Community Engagement team

  Level 1, 116 Miller Street

  North Sydney, NSW 2060

What happens next

Following the public exhibition period, all feedback will be considered and addressed in the SDPP submitted to the Department of Planning, Industry and Environment (DPIE).

We will notify the community once DPIE has approved the SDPP.

We will contact people who have submitted comments directly.

Thank you for taking the time to consider the SDPP. We look forward to receiving your feedback.

Stay safe and well,

Megha

Systems Connect Community Engagement Team

Click here to view the SDPP and Factsheet

Click here to view the Draft SDPP and Factsheet

City & Southwest

Draft Station Design and Precinct Plan – Sydney Metro Trains Facility South and Marrickville Dive

Figure one: Water treatment plant viewed from the internal road looking north west

Sydney Metro is Australia's biggest public transport project.

Services started in May 2019 in the city's north west with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. There will be new CBD metro railway stations underground at Martin Place, Pitt Street and Barangaroo and new metro platforms at Central Station.

In 2024, Sydney will have 31 metro railway stations and a 66 km standalone metro railway system – the biggest urban rail project in Australian history. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre.

Systems Connect (an unincorporated joint venture between CPB Contractors and UGL Limited) is delivering line-wide work including installing metro rail track, power systems, communications and infrastructure to turn the excavated tunnels into a working railway between Chatswood and Sydenham. Line-wide work also includes the permanent systems, services and buildings required for Sydney Metro operations between Chatswood and Bankstown.

A draft Station Design and Precinct Plan (SDPP) has been developed for the Sydney Metro Trains Facility South (SMTFS) and Marrickville Dive Site. The plan outlines the urban, landscaping and architectural design for the site, and how it will integrate with the surrounding precinct. **We are seeking your feedback on this plan.**

We can't talk to you in person due to COVID restrictions but we want your feedback.
Please call 1800 171 386 or email linewidemetro@transport.nsw.gov.au

City & Southwest

About the site

The final site will include two main elements:

The Sydney Metro Trains Facility which will be used for storage, to stable trains, and to complete minor maintenance to trains and equipment. The facility includes:

- Stabling yard
- Security centre and fire pump building
- Covered store
- Maintenance workshop building
- Administration building
- Water treatment plant
- Employee and visitor parking
- Some landscaping
- Some changes to access to Sydney Steel Road

The Marrickville Dive building will house tunnel ventilation fans, plant and services and will provide emergency and maintenance access to the metro.

Figure two: Administration building viewed from the internal road looking south east

Figure three: Security and fire control room building viewed from the internal road looking south west

sydneymetro.info

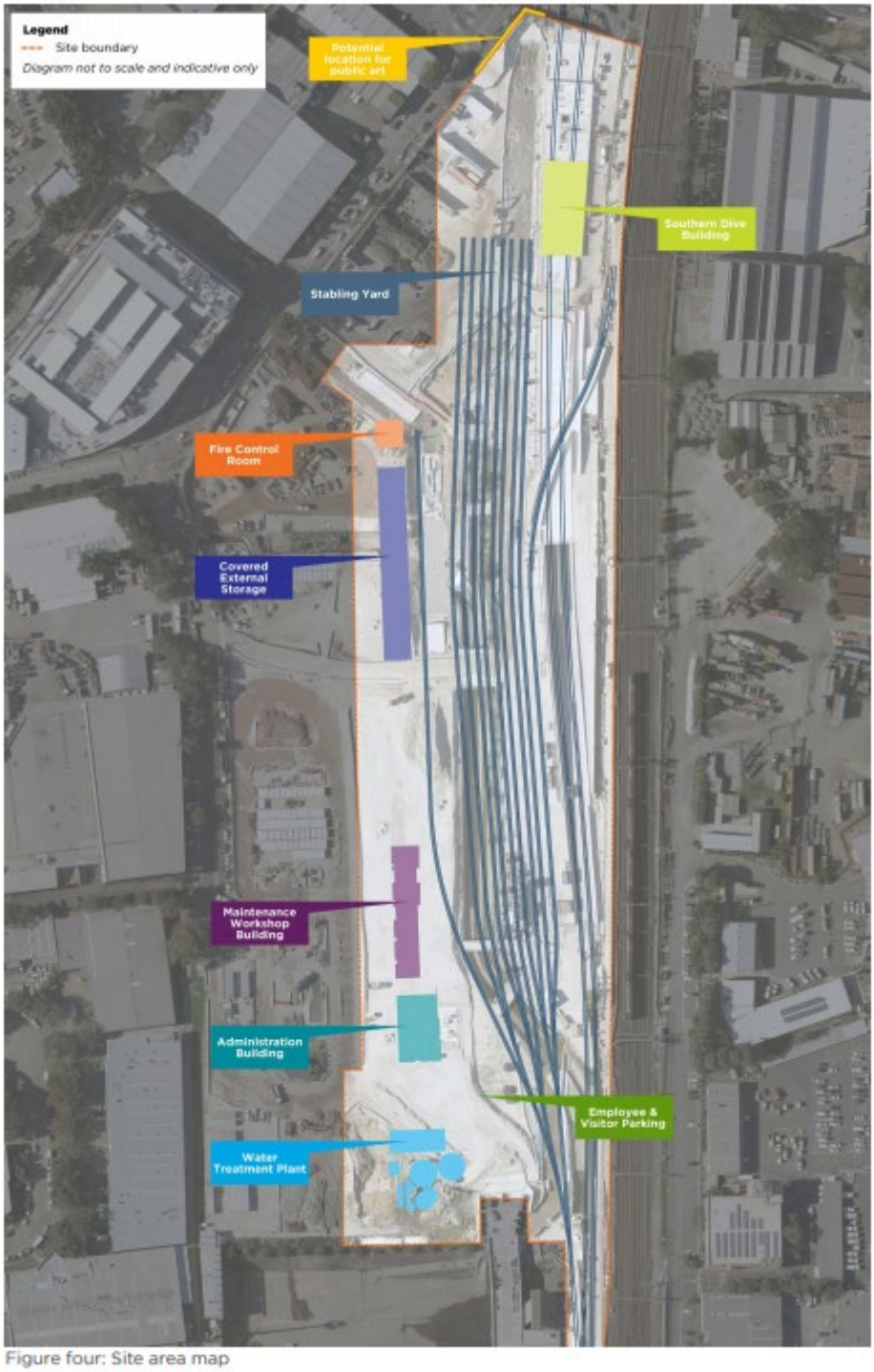


Figure four: Site area map

City & Southwest

Key statistics – operation of the site

- Up to 23 people will work at the site
- It will operate 24 hours a day, seven days a week.
- There will be eight electrified stabling roads at the site
- Up to two six-car trains will be housed on each road at the site
- There will be up to 6 trains entering and exiting the site each hour.

Noise

In designing the facility, we have incorporated a number of measures to help minimise noise during its operation including:

- acoustic doors and seals in windows, doors and walls
- noise walls around noisy equipment.

Landscaping and public art

Existing street trees and plantings will be retained as much as possible. We are also developing a vegetation plan which aims to improve visual amenity.

In developing the draft SDPP we have investigated options for public art, the potential locations are included in the map below. These options will continue to be investigated as we finalise the draft SDPP and design of the facility. If you would like to be kept up to date about public art at the site, please register your interest at **linewidemetro@transport.nsw.gov.au**

Get involved

Online
To view the document, please scan this QR code.

Have your say

You can provide feedback by **27 September 2021** via:

- Phone on **1800 171 386**
- Email **linewidemetro@transport.nsw.gov.au**
- Mail: Systems Connect Community Engagement team, Level 1, 116 Miller Street, North Sydney, NSW 2060
- If you would like to learn more about the proposal please contact the project team via **linewidemetro@transport.nsw.gov.au** to schedule a meeting

Next steps

Once the exhibition period is complete, all feedback received will be considered and addressed in the SDPP submitted to the Department of Planning, Industry and Environment. Community feedback will help further refine the design and finalise the SDPP.

The community will be notified once the SDPP has been finalised.

Keeping you informed

Sydney Metro is continuing to work in accordance with Government advice. As an alternative to face to face communication, we encourage you to provide your contact details so we can add you to our distribution list. To be included, or if you have any questions, please contact **1800 171 386** or email **linewidemetro@transport.nsw.gov.au**

আপনার, একজন দোভাষীর (ইন্টারপ্রেটার) সেবা সাহায্য আবশ্যক হলে, অনুগ্রহ করে 131 450 নং এ **ট্রান্সলেটিং এন্ড ইন্টারপ্রেটিং সার্ভিস** এর সাথে যোগাযোগ করুন, এবং 1800 171 386 নং এ **সিডনী মেট্রো** কে কল করতে তাদের বলুন। তখন অনুবাদ/ভাষান্তরে, দোভাষী আপনাকে সাহায্য করবে।

Nếu quý vị cần dịch vụ thông dịch viên, xin liên lạc **Dịch vụ Thông Phiên Dịch (Translating and Interpreting)** ở số **131 450** và yêu cầu gọi **Sydney Metro** ở số **1800 171 386**. Sẽ có thông dịch viên giúp cho quý vị việc thông dịch.

หากท่านจำเป็นต้องใช้บริการล่าม โปรดติดต่อบริการแปลและล่าม **Translating and Interpreting Service** ที่ **131 450** และขอให้หน่วยงานดังกล่าวโทรหา **Sydney Metro** ที่ **1800 171 386** หลังจากนั้นล่ามจะช่วยท่านเกี่ยวกับการแปล

Εάν χρειάζεστε της υπηρεσίες διερμηνέα, παρακαλείστε να επικοινωνήσετε με την **Υπηρεσία Μεταφραστών και Διερμηνέων** στο **131 450** και ζητήστε τους να καλέσουν το Sydney Metro στο 1800 171 386. Ο διερμηνέας θα σας βοηθήσει στη μετάφραση.

如果您需要口譯員的服務，請致電**131 450**聯絡翻譯和口譯服務，要求他們致電**1800 171 386**給悉尼地鐵 **(Sydney Metro)**，然後口譯員將會協助您翻譯。

통역서비스가 필요하시면, 번역 및 통역 서비스 **(Translating and Interpreting Service)** 전화 **131 450** 에 연락하시어 **Sydney Metro** 전화 **1800 171 386** 에 연결해달라고 요청하십시오. 통역관이 통역을 도와 드릴 것입니다.

Если Вам необходимо помощь переводчика, свяжитесь, пожалуйста, с переводческой службой ***Translating and Interpreting Service по телефону 131 450*** *и попросите их соединить Вас с* ***Сидней Метро (Sydney Metro) по номеру 1800 171 386*** *Затем переводчик поможет вам с переводом*

यदि आपको दुभाषिए की सेवाओं की जरूरत है, तो कृपया अनुवाद एवं दुभाषिया सेवा **(Translating and Interpreting Service)** से **131 450** पर संपर्क करें और उन्हें सिडनी मेट्रो **1800 171 386** पर को फोन करने का निवेदन करें। फिर दुभाषिया अनुवाद में आपकी मदद करेगा।

如果您需要翻译服务，请致电131 450 翻译和口译服务，让他们打 1800 171 386 给 悉尼地铁， 翻译员然后将帮助您进行翻译。

إذا كنتم بحاجة إلى خدمات مترجم، يرجى **الاتصال بخدمة الترجمة الكتابية والشفهية** على الرقم **131 450** وأطلبوا منهم **الاتصال بمترو سيدني على الرقم 1800 171 386**. وبعد ذلك سيقوم المترجم بمساعدتكم في الترجمة.

Notification distributed 24/09

City & Southwest

Project update – Marrickville Dive Site & Sydney Metro Trains Facility South

October 2021

Sydney Metro is Australia's biggest public transport project.

Services started in May 2019 in the city's north west with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. There will be new CBD metro railway stations underground at Martin Place, Pitt Street and Barangaroo and new metro platforms at Central Station.

In 2024, Sydney will have 31 metro railway stations and a 66 km standalone metro railway system – the biggest urban rail project in Australian history. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre.

Systems Connect (an unincorporated joint venture between CPB Contractors and UGL Limited) is delivering line-wide works including installing metro rail track, power systems, communications, and infrastructure, to turn the excavated tunnels into a working railway between Chatswood and Sydenham. Line-wide work also includes the permanent systems, services and buildings required for Sydney Metro operations between Chatswood and Bankstown.

At Marrickville, Systems Connect is responsible for the design and construction of Sydney Metro Trains Facility (SMTF) South, the dive buildings and service buildings.

Last month, we invited the community to provide feedback on the Draft Marrickville Dive and SMTF South Station Design & Precinct Plan (SDPP). All feedback received will be considered and addressed in the revised SDPP, before it is submitted to the Department of Planning, Industry and Environment (DPIE) for approval. We will notify the community once DPIE has approved the SDPP.

Extended weekend working hours at the Marrickville Dive Site and SMTF South

Following the NSW Government's decision to extend operating hours for construction sites to support the industry during the evolving COVID-19 situation, the site will continue to operate on weekends and public holidays. **Until 1 December 2021, the standard construction hours at our site are 7am - 6pm from Monday to Sunday**. There will be no change to high-impact noise and vibration activities, which are still only permitted to occur between Monday and Friday from 7am - 6pm and on Saturdays from 8am - 1pm.

From: Systems Connect Community Team <LinewideMetro@transport.nsw.gov.au>
Sent: Friday, 10 September 2021 3:17 PM
Subject: Marrickville Dive Site and Sydney Metro Trains Facility (SMTF) South- Construction update

Good afternoon,

I hope you are having a great week.

Earlier this week we exhibited the Draft Marrickville Dive and Sydney Metro Trains Facility (SMTF) South Station Design & Precinct Plan (SDPP) for comment. We encourage you to provide feedback on the SDPP. The SDPP document and the fact sheet summarising the proposal are available on the project web page. To view the document, please visit CPB Contractors-Sydney Metro City & Southwest Line-wide Works.

We are continuing work at the Marrickville Dive Site and SMTF South. Combined Service Route (CSR) and fire ring main works from the fire pump building to the shared access road have been completed.

Activities currently underway at SMTF South include:

- Construction of walls and scaffold between Ground floor- Level 1 of the administration building
- Piling for the overhead wire foundations
- Blinding and Formwork Reinforced Pour (FRP) works for the covered store building
- Combined Service Route (CSR) and in ground building services for the water treatment plant building

The work in the twin tunnels is continuing 24 hours a day, in line with the project planning approvals and includes:

- Fit out of the tunnels and cross passages
- Construction of track form slabs and rail installation inside the tunnels and portals

Current work hours at the Marrickville Dive Site and SMTF South are **7am to 6pm Monday to Sunday**.

High-impact noise and vibration activities are still only permitted to occur between Monday and Friday from 7am - 6pm and on Saturdays from 8am - 1pm. Mitigation measures such as noise barriers are in place to reduce noise impacts as much as possible.

Safety of the community and workers is Sydney Metro's top priority. All works will be carried out in accordance with Public Health Orders and with the implementation of appropriate Covid-19 safety measures including Rapid Antigen Test (RAT) screening, wearing of masks, separation of workforce, QR code log ins, hand sanitising stations, temperature checking, records of all people entering and leaving site and a COVID Marshall to check for compliance and to support workers.

If you have any questions about the project, please contact Megha on 1800 171 386 (24-hour community information line) or email linewidemetro@transport.nsw.gov.au

Thank you for your ongoing patience as we continue this work.

Stay safe and well,

Megha

Systems Connect Project Team

From: Systems Connect Community Team <LinewideMetro@transport.nsw.gov.au>
Sent: Friday, 24 September 2021 4:43 PM
Subject: Marrickville Dive Site and Sydney Metro Trains Facility (SMTF) South- Construction update

Good afternoon,

I hope you are enjoying the warmer weather.

Over the past three weeks, the Draft Marrickville Dive and Sydney Metro Trains Facility (SMTF) South Station Design & Precinct Plan (SDPP) has been on display. Thank you to those of you who have provided feedback. A reminder that the feedback period closes on Monday, 27 September 2021. For more information on the SDPP document and how to comment, please visit CPB Contractors- Sydney Metro City & Southwest Line-wide Works.
Works are progressing well at the Marrickville Dive Site and SMTF South. This week, we have commenced the Fire Ring Main, Hydraulic, Combined Service Route (CSR) and Overhead Wire (OHW) foundation installation for the Trains Facility and Formwork Reinforced Pour (FRP) works for the covered store building.
Current activities underway at SMTF South include:

- CSR, Hydraulics and Fire Ring Main in ground service installation at the ground water treatment building and maintenance workshop building
- Falsework for Level 1 slab at the Administration Building
- Piling for the overhead wire foundations
- Blinding and FRP works for the covered store building
- Detail excavation for ground beams and pile caps at the covered store building and ground water treatment building

Fit out work in the twin tunnels is continuing 24 hours a day, in line with the project planning approvals.

The October monthly notification was distributed this week to residents in the immediate vicinity of the Marrickville Dive Site and SMTF South. It contains important information on the project and what to expect in the coming month. Please click on the link below to view the October notification.

Until 1 December 2021, the standard construction hours for the Marrickville Dive Site and SMTF South are 7am to 6pm from Monday to Sunday.

There will be no change to high-impact noise and vibration activities, which are still only permitted to occur between Monday and Friday from 7am - 6pm and on Saturdays from 8am - 1pm. Mitigation measures such as noise barriers are in place to reduce noise impacts as much as possible.

If you have any questions about the project, please contact me on 1800 171 386 (24-hour community information line) or email linewidemetro@transport.nsw.gov.au

Thank you for your ongoing patience as we continue this work.

Have a good weekend and stay safe,
Megha
Systems Connect Project

From: **Systems Connect Community Team**

<LinewideMetro@transport.nsw.gov.au>

Date: Fri, Oct 8, 2021 at 4:47 PM

Subject: Marrickville Dive Site and Sydney Metro Trains Facility (SMTF) South-Construction update

Good afternoon

I hope you are staying safe and well.

Update – Consultation SDPP

Last month, we invited the community to provide feedback on the Draft Marrickville Dive and SMTF South Station Design & Precinct Plan (SDPP). All feedback received will be considered and addressed in the revised SDPP before it is submitted to the Department of Planning, Industry and Environment (DPIE) for approval. We will notify the community once DPIE has approved the SDPP.

Progress update

Systems Connect team continues to make solid progress at the Marrickville Dive Site and SMTF South, which includes:

- Completion of wall construction and scaffold between Ground floor- Level 1 for the Administration Building.
- Falsework completed for Level 1 slab at the Administration Building.
- In ground services and detail excavation for the Maintenance Workshop Building complete.
- Formwork Reinforced Pour (FRP) of the Ground floor slabs at the Covered Store Building completed.
- Fire Ring Main, Hydraulic and Combined Service Route (CSR) installation for the Covered Store Building and Ground Water Treatment Building completed.

Current activities underway include:

- Piling for the overhead wire foundations at Trains Facility.
- Detail excavation for ground beams and pile caps underway at the Covered Store Building and Ground Water Treatment Building.
- FRP for High Voltage (HV) pits and CSR for underground level crossing (ULX) install in the Trains Facility.
- Installation of hydraulic services at the Southern Dive building.
- Installation of dewatering lines from the Southern Dive to the Water Treatment Plant.

Fit out work in the twin tunnels is continuing 24 hours a day, in line with the project planning approvals.

SMTF South and on-street work

The week commencing 4 October, we have started the steel fixing and concrete pour for Level 1 slab at the Administration Building. Also, began FRP and blinding for the Water Treatment Plant Building and the Maintenance Workshop Building.

Future work

From **Monday 18 October until Monday 15 November**, there will be water main works performed on Edgeware Road and along Murray Street. These works will be carried out during standard construction hours.

During this time there will be footpath closure and temporary removal of car park from to facilitate utilities upgrade work. These changes are for the safety of both the public and workers, allowing essential changes to utility services in the area to progress.

Please follow the detour sign if you are walking around this area in the next few weeks. For further information on the work and location, please click on the link below to view the previously issued October notification.

If you have any questions about the project, please contact me on 1800 171 386 (24-hour community information line) or email linewidemetro@transport.nsw.gov.au

Thank you for your ongoing patience as we continue this work.

Have a good weekend and stay safe,

Megha

Systems Connect Project Team

Meeting Minutes

Time:	12:00 – 13:00
Venue:	Microsoft Teams
Attendees:	Systems Connect: Chris Pettett, Anita Govender, Svetlana Paunovic, Megha Sharma Sydney Metro: Ash Jarvis, Neil Gibbs HASSELL Studios: Andrew Ewington, Chris Carr, Julieanne Boustead Inner West Council (IWC): Daniel East, David Crosby, James Ogg, Jill Blunden, Ken Welsh, Manod Wickramasinghe, Roger Rankin, Stephanie Gracia, Terri Southwell

Item

SMTF South SDPP Presentation and discussion to Inner West Council

Start 12.02PM with introductions

- Anita Govender – program overview presented
- Julieanne Boustead – presented draft strategic design and precinct plan
  - Presented to community and stakeholders in relation to the compliance of the project
- Chris Carr – talks about landscape and architectural design of the site along with the engineering, including water drainage and ground water treatment
- Roger Rankin from IWC noted the Sydenham to Bankstown Urban Renewal project 2016 had been abandoned by NSW Government
- Andrew Ewington – talked about landscape of the site
- Ken Welsh question: heat island impact of the carpark. IWC is trying to put in selected planting.
  - Confirmed there was a culvert issue reducing the ability to plant trees on site.
- Roger Rankin question: taking pedestrian access and active transport access.
  - Confirmed maintaining existing embankment. Current active transport link is not being touched by Systems Connect. Talk about aqueduct over the reservoir could be a link.
  - Neil Gibbs, Metro – private road on site may revert to public road in the future. Potential for active transport in the future
- Svetlana Paunovic – talks about community and stakeholder consultation approach
- Terri Southwell question: regarding daylight access within the buildings
- Roger Rankin how many staff on site during operation
  - 23 permanent staff plus facilities for maintenance staff. Carparking caters for
- Terri Southwell question: recycled water from site contributes to irrigation?
  - Yes. 55,000Ls of water storage
- Terri Southwell question: wanted to walk through someone's journey to the site
  - From the station, down to the cycle path, then Sydney Steel Road, with entrance on Edinburgh road. No access from the reservoir because of security reasons
- Roger Rankin question: what's the route from St Peters?
  - Answered in earlier parts of the presentation
- Daniel East question: residual land. What's the timing?
  - Neil Gibbs responded outside of scope of Systems Connect
- General question around extending the timeline for submission for Inner West Council?
  - Yes. Engagement team will speak to IWC offline.
- James Ogg question: emergency egress road will remain in TfNSW's hands. Be good to see that road as an active transport route in the future.
  - Private road, used for Sydney Water

Ended 12.58PM

Community Feedback on proposed SDPP- Marrickville Dive Site and SMTF South

Feedback #1

Thank you for the opportunity to provide feedback.

I've looked at the proposed site changes and my feedback is this:

You need to plant more trees and expand the green space that this site takes up. This part of Newtown/St Peters/Marrickville has been heavily developed resulting in the loss of green useable space for residents. While the WestConnex project is not your fault, it has happened at the same time as this project and they have been appalling at remediating land they'd promised to make greenspace. This is a chance to provide heavily needed shade in an area that is a busy thoroughfare for residents going to metro and to many of the sites around Marrickville that are accessed by the footpath and bikepath down Steel St .

Feedback #2

I have looked at the SDPP and cannot find any way to provide feedback. I do not want the cycle / pedestrian path that runs from Shirlow Street to Sydney Steel Road to be absorbed by the SDPP footprint. It is a safe way to get from Sydenham and the south to Marrickville Metro, Enmore Park and beyond. It also provides a canvas for legal street artists and a great place for council-approved parties.

Feedback #3

I would like to ask how the facility is designed to accommodate for future extension of the Metro from Bankstown to Liverpool, and also is there capacity for 2x 8 carriage Metro trains to be stored on 1 road in future?

Feedback #4

I was recently informed about the Draft Station Design and Precinct Plan - Sydney Metro Trains Facility South and Marrickville Dive proposed along Sydney Steel Road, Marrickville. I live nearby at the southern end of Newtown, approx 500m from this proposed site.

Link below for reference of the documents I am referring to:

https://www.cpbcon.com.au/en/our-projects/2018/sydney-metro-line-wide-works?fbclid=IwAR1nqgZvku-z8LzT-CQA-bdb-mxcyIudUqcT46APoCJk52GifR1fAXp1UeI

My feedback is generally in support of the works. I do however I have the following comments for your consideration

Why are the buildings proposed to be black?

- How will they meet thermal heating requirements? The Administration building would surely require intense airconditioning to offset the sun absorption.

- How does this respond to reducing the Urban Heat Island effect? The removal of existing industrial use is minimally resolved by the addition of black buildings

- Black does not recede into the background. Pitch black is a colour which does not occur often in nature, meaning it stands out to the human eye when viewed against its surroundings (ie, the sky or other buildings).

- Use of low albedo materials (ie, black buildings and roofing) should be reduced wherever possible

Carpark Materials and Landscaping

- What is the extent of its usage? Surely permeable paving solutions would be suitable in portions to reduce the amount of hardscape. Under key statistics, it mentions "Up to 23 people will work at the site". That doesn't sound particularly high-traffic enough to warrant an over engineered concrete / asphalt carpark.

- The extent of driveway (ie, in front of the water treatment plant) is enormous. While likely necessary for vehicle movement and turning circles, eco-friendly and sustainable materials should be considered.

- There appear to be few trees proposed. Most councils recommend 1 tree per 4 parking spots. TfNSW should be leading this, and pushing for better canopy.

- Shade trees casting over elements with a low albedo (ie, black asphalt roads) should be provided wherever possible to reduce heat.

I believe a number of the elements I have discussed are essential to best practice design in our cities.

I hope that you find the comments constructive, and can look to consider them further in the development of your project.

Feedback #5

The City of Sydney commission a study led by Peter Irga from the UTS and in collaboration with Lendlease and Junglefy to compare the effectiveness on the traditional solar roof International House's to the biosolar roof on Daramu House over an eight month period. The two buildings are adjacent to each and are located in Barangaroo precinct. Both roofs are 1.863.35m2in size. I have attached the Final Report, but in short the key findings include:

- The biosolar roof improved solar energy output by 3.6 per cent, or 9.5 MWh of additional energy generation, equating to $2,595 generation of energy over study period. It has been shown, that solar panels are more efficient in temperatures less than 25 degrees.

- The biosolar roof removed nearly nine tonnes greenhouse gasses compared to the standard roof solar panels. This equates to planting 110 trees – something that is desperately needed in the Inner West.

- Surface temperatures were reduced on the biosolar roof – up to 20°C during Summer in some instances, suggesting a potential reduction in urban heat island effects. Insulation was another benefit of the integrated system, preventing heat transferring inside the building as well as retaining heat in cooler periods.

- Animals thrived on the biosolar roof, becoming a habitat for an increasing number of insects and birds. Species included the native Australian Blue Banded bee, Australian stingless bees, Spotted Doves and Australian Ravens.
- Stormwater modelling on both roofs showed the biosolar roof reduced water flows into the stormwater drains by more than 600 litres per second compared to the traditional solar power roof.
- The biosolar green roof outperformed the conventional solar PV roof.

I love living in the Inner West and am a strong supporter of the Metro. I do hope you consider my submission favourably. I truly believe it would benefit the community and the Metro.

Marrickville Dive Site and SMTF South – Consultation Feedback

The issues raised were considered by the project team and the comments around the design have been noted. The table below summarises how the feedback from the Council and Community/Stakeholders has been addressed.

Topic	Council comments	Community/Stakeholder comments	How feedback has been addressed
Planning Framework	Figure 4-9 is incorrect, as the *Draft Sydenham to Bankstown Urban Renewal Corridor Strategy 2017* was abandoned by the state government, and the planning responsibility returned to Council.		Diagram and wording has been amended to reflect the comments and reference to 'Revised' removed
Planning Framework	It should be noted that the nearby Woolworth's development mentioned in the SDPP has not been built, nor is it currently the subject of a Planning Proposal or Development Application		Figures and narrative have been amended to reflect the correct footprint of the "Neighbouring development proposals location plan". Feedback is appreciated.
Planning Framework	The Sydenham to Bankstown Strategy discussed in the SDPP was only ever a draft and has since been abandoned by the State Government.		Diagram and wording has been amended to reflect the comments and reference to 'Strategy' removed
Government projects as a model	It has always been important that government projects demonstrate best practice in all aspects of sustainability. The importance of this has only increased with the publication of the latest IPCC report.		Feedback is acknowledged.
Capacity and network expandability		I would like to ask how the facility is designed to accommodate for future	The facility has been designed to accommodate greater capacity train to support future

		extension of the Metro from Bankstown to Liverpool, and also is there capacity for 2x 8 carriage Metro trains to be stored on 1 road in future?	Sydney Metro network extension. Current operation plan comprises 2x6 car sets staging per road with the facility design to accommodate additional capacity 2x8 car-sets staging per road.
Public transport access	The site will provide an employment use in a prime location from a public transport perspective. The upgrade to Metro standards of the associated rail line from Bankstown to Sydenham, presents a significant opportunity for this development to maximise the use of public transport.		Feedback is acknowledged
Public transport access	The location of the main entry to the site does not take advantage of the proximity to Sydenham station. Pedestrian and cycle access is unnecessarily long, and through areas that are likely to be perceived as unsafe, especially at night.		This facility being a maintenance facility, will have limited access to personnel only. It is not intended to serve the public as a station. Existing lighting will be supplemented along Sydney Road extension up to the emergency access to site as it is an important part of the walking and cycling network and needs to be as safe as possible for the people who use it.
Public transport access	The maintenance of site security was given as the reason for this. However, it is strongly recommended that the design of the security measures and/or overall site design be revisited to address this issue.		Existing lighting will be supplemented along Sydney Road extension up to the emergency access to site as it is an important part of the walking and cycling network and needs to be as safe as possible for the people who use it.
Active transport	The aspiration to link to the pedestrian and cycle network is promising		Council feedback is acknowledged.
Active transport		I do not want the cycle / pedestrian path that runs from Shirlow Street to Sydney Steel Road to be absorbed by the SDPP footprint. It is a safe way to get from Sydenham and the south to Marrickville Metro, Enmore Park and beyond. It also provides a canvas for legal street artists	The existing walking / cycling path along Sydney Steel Road past the site to Shirlow Street, will be maintained

		and a great place for council-approved parties.	
Active transport	Pedestrian and cycle links to the site, particularly from the Sydenham and St Peters Stations are unsuitable - parts are circuitous, poorly lit and with poor footpath conditions. This is particularly true for the link to Sydenham station which is likely to be an unfriendly environment at night (eg for shift workers accessing the site) as it is indirect and at some points counter intuitive while it winds its way through industrial backstreets. The link from St Peters Station is more direct but faces challenges near Bedwin Bridge. Additionally opportunities to provide improved access via a bridge across the rail line (possibly in the vicinity of Mary Street) should be examined. Ultimately Council requires an active transport plan to be provided as part of the documentation for the proposed development. Council officers will readily assist Sydney Metro in progressing such a study		Existing lighting will be supplemented along Sydney Road extension up to the emergency access to site as it is an important part of the walking and cycling network and needs to be as safe as possible for the people who use it. The links to Sydenham and St Peters Stations are however outside the scope of this SDPP.
Active transport	Opportunities should be explored to enhance active transport links to Marrickville Metro Shopping Centre		Feedback is acknowledged, however this is outside the scope of this SDPP.
Active transport	Council encourages exploration of opportunities to create an active transport link across the Sydney Water facility to provide more direct access to the development		Feedback is acknowledged, however this is outside the scope of this SDPP.
Energy, water and amenity for workers	Council supports the extensive use of solar panels throughout the site and the use of recycled water from the site for irrigation		Solar panels are being provided in accordance with the project scope. The facility also includes a rainwater tank, which will supply site irrigation. The recycled/rainwater is utilised within Security, Maintenance and Admin buildings for amenities flushing / wet area wash down taps and is also utilised at the stabling yard cleaners sink for train cleaning purposes

Energy, water and amenity for workers	While there are statements in 4.6 outlining the ratings achieved for elements of the design, there is insufficient information to understand what elements of the development are covered by these ratings		Text amended to read "As required by the project brief, the administration building has been designed to achieve …." This provides clarity on the building covered by these ratings.
Energy, water and amenity for workers	The statement (in s.4.6) listing certain 'sustainability initiatives to be considered in the design' is inadequate. While it is acknowledged that some initiatives, such as PV cells and low water using plants are obvious in the design information, others such as reducing embodied energy and shading to glazing are not		The following text has been added/amended to the relevant sections. : - Administration Building on page 33: ", including shading to north and east facing glazing." - Fire Control Room Building on page 36: " including shading to the glazing provided by the roof overhang." - S4.6 : "selection of materials to ensure a balance of low embodied energy, low energy consumption, low VOC, recyclability, etc" - 6.1.4 "The selection of materials, such as Kingspan insulated panels, primarily ensures low ongoing energy consumption as well as considering low embodied energy, low VOC, recyclability, etc." Overall, the site design has included solar panels as well as the use of low water using plants.
Energy, water and amenity for workers		- How will they meet thermal heating requirements? The Administration building would surely require intense air conditioning to offset the sun absorption. - How does this respond to reducing the Urban Heat Island effect? The removal of existing industrial use is minimally resolved by the addition of black buildings - Black does not recede into the background. Pitch black is a colour which does not occur often in nature, meaning it	The project's design objective is to maximise green spaces with the consideration of operational requirements to facilitate the extensive network of culverts and services below ground. The type of landscape selected takes this into account and has been provided in all open areas. All hard surfaces have been kept to a minimum to suit operational needs. Footpaths are plain concrete (light grey) and planting areas have been maximised. Colour of roofing has been changed from

		stands out to the human eye when viewed against its surroundings (ie, the sky or other buildings). - Use of low albedo materials (ie, black buildings and roofing) should be reduced wherever possible	"Monument" to a much lighter "Windspray".
Energy, water and amenity for workers		-Stormwater modelling on both roofs showed the biosolar roof reduced water flows into the stormwater drains by more than 600 litres per second compared to the traditional solar power roof. -The biosolar roof improved solar energy output by 3.6 per cent, or 9.5 MWh of additional energy generation, equating to $2,595 generation of energy over study period. It has been shown, that solar panels are more efficient in temperatures less than 25 degrees. -The biosolar green roof outperformed the conventional solar PV roof.	The maintenance facility includes several buildings. The solar panel installation has been optimised across the available roof area to maximise the solar energy that could support the operations. Any available space on the rooftops is required for safe maintenance access leaving little opportunity to benefit from any biodiversity that could be planted.
Energy, water and amenity for workers	It is recommended that further opportunities to incorporate sustainability be included as a key part of the design. For instance:		See response to individual bullet points in rows below.
	o The water from the site also be recycled for purposes in addition to irrigation, such as toilets and train cleaning		The facility includes a rainwater tank, which will supply site irrigation. The recycled/rainwater is utilised within Security, Maintenance and Admin buildings for amenities flushing / wet area wash down taps and is also utilised at the stabling yard cleaners sink for train cleaning purposes

	o The rooves where PV cells are proposed could support green roof elements, (biosolar rooves) shown to improve the performance of the PV cells, while also increasing biodiversity, reducing pollution, insulating the building and reducing stormwater runoff (Lendlease et al[1])		The maintenance facility includes several buildings. The solar panel installation has been optimised across the available roof area to maximise the solar energy that could support the operations. Any available space on the rooftops is required for safe maintenance access leaving little opportunity to benefit from any biodiversity that could be planted.
	o Work undertaken by WSP[2] (albeit for a different development type) has highlighted the issue of potential heat gain through skylights, as opposed to windows especially as the number of days of extreme heat continues to increase. It is recommended that this form of daylight access be revisited, for instance with more typical windows that can be shaded, or the traditional sawtooth roof incorporating windows.		The Maintenance workshop comprises of several large roller shutter doors, required by the operations. These doors would be open during operating hours. This limits the opportunity for windows. Skylights have therefore been used at this tempered air/mechanically ventilated workshop with only isolated rooms being air conditioned. Shading to glazing is provided to all but south facing (which includes DCC requiring clear view of Stabling yard) on the Administration building.
	o It is unclear whether the buildings will have good cross ventilation, which will be essential in summer.		Adequate ventilation provision has been provided at each of the buildings as per the Australian Standards, and are summarised as below: - The maintenance workshop has been designed with tempered air/mechanically ventilated, with only isolated rooms being air conditioned. Large roller doors would be opened during operating hours, which will provide good cross ventilation. - The administration building is fully airconditioned and does not rely on cross ventilation. - The fire pump room is a fully airconditioned space - The Ground Water Treatment plant has large roller doors

			which would provide good cross ventilation and is also mechanically ventilated.
Urban heat island effect	The site has extremely high levels of hard stand and impervious surfaces, most of it appearing to be dark surfaces. Both of these aspects increase the urban heat island effect		Feedback is acknowledged.
Urban heat island effect		Car park materials and landscaping - What is the extent of its usage? Surely permeable paving solutions would be suitable in portions to reduce the amount of hardscape. Under key statistics, it mentions "Up to 23 people will work at the site". That doesn't sound particularly high-traffic enough to warrant an over engineered concrete / asphalt carpark. - The extent of driveway (ie, in front of the water treatment plant) is enormous. While likely necessary for vehicle movement and turning circles, eco-friendly and sustainable materials should be considered. - There appear to be few trees proposed. Most councils recommend 1 tree per 4 parking spots. TfNSW should be leading this, and pushing for better canopy. - Shade trees casting over elements with a low albedo (ie, black asphalt roads) should be provided wherever possible to reduce heat.	The project's design objective is to maximise green spaces with the consideration of operational requirements to facilitate the extensive network of culverts and services below ground. The type of landscape selected takes this into account and has been provided in all open areas. All hard surfaces have been kept to a minimum to suit operational needs. Footpaths are plain concrete (light grey) and planting areas have been maximised. Colour of roofing has been changed from “Monument” to a much lighter “Windspray”.

Urban heat island effect	It is recommended that an urban heat island mitigation strategy be prepared and used to inform the final design. It could incorporate a range of smart surfaces, from landscaped options such as those below to porous or reflective paving		The design has been developed based on knowledge and experience of similar facilities, and the operational and durability requirements. All hard surfaces have been kept to a minimum to suit operational needs. Footpaths are plain concrete (light grey) and planting areas have been maximised. Colour of roofing has been changed from "Monument" to a much lighter "Windspray".
Urban heat island effect		I am largely supportive of the strategy and believe the building architecture is of a high standard and in unison with the nature of the development. Two such opportunities applicable to this Plan are the installation on an extensive green roof on for example the administration building, maintenance workshop and logistics shed, western services building, water treatment plant and where solar panels are to be installed, the installation of a Biosolar roof. Consideration could also be given to a installing an extensive green roof over the stabling yard due to the environmental benefits that would be achieved. • The biosolar green roof outperformed the conventional solar PV roof.	The maintenance facility includes several buildings. The solar panel installation has been optimised across the available roof area to maximise the solar energy that could support the operations. Any available space on the rooftops is required for safe maintenance access leaving little opportunity to benefit from any biodiversity that could be planted.

Landscaping and biodiversity	From a biodiversity perspective, it is preferred that species that come from the original local vegetation communities and similar microclimates be used, where possible, if the soil on the site is suitable for this. This is preferred to such a heavy focus on drought tolerance		All trees, shrubs and groundcovers proposed for this site are indigenous and have been tested for durability with minimal maintenance required due to the nature of the proposed use of the site.
Landscaping		You need to plant more trees and expand the green space that this site takes up. This part of Newtown/St Peters/Marrickville has been heavily developed resulting in the loss of green useable space for residents. While the WestConnex project is not your fault, it has happened at the same time as this project and they have been appalling at remediating land they'd promised to make greenspace. This is a chance to provide heavily needed shade in an area that is a busy thoroughfare for residents going to metro and to many of the sites around Marrickville that are accessed by the footpath and bikepath down Steel St .	The project's design objective is to maximise green spaces with the consideration of operational requirements to facilitate the extensive network of culverts and services below ground. The type of landscape selected takes this into account and has been provided in all open areas.
Landscaping and biodiversity	It is unclear to what extent further soil will be required to bring the site to above the flood level. Any additional soil imported to the site should take into account the potential for its use to grow locally native vegetation		It is confirmed that the entire site has been modified to be elevated above flood levels, which includes importing additional soil and the specification nominates that the soil will be appropriate for the proposed planting species.

Landscaping and biodiversity	From a biodiversity perspective, it is not only the species selection, but also the structure of the vegetation that is important. There appear to be opportunities on the site, particularly those areas where line of sight is less important, that could support more dense plantings of locally native species of varying heights and forms, to support a denser landscape structure. This food, shelter and habitat for small animals and birds could be supplemented by other measures, such as the retention or creation of habitat elements such as logs or rocks (or recycled masonry) on the ground, or an area of more moisture dependent plants		As the site is a rail depot, habitat corridors are not suitable to be provided.
Landscaping and biodiversity	It is understood that there are limitations on tree planting capacity, due to the presence of numerous culverts, and safety requirements along the rail line. However, it does appear that there are more opportunities for groups of trees in some locations. Council has a target for industrial land of 25% tree canopy coverage[1]. If the site constraints do not allow this, Council recommends that other means of achieving green cover, such as green roofs and or walls, irrigated by recycled water, be incorporated in the design to assist in reducing the urban heat island effect. (Noting - Inner West Council Marrickville Development Control Plan 2011 s.2.20)		The maintenance facility includes several buildings. The solar panel installation has been optimised across the available roof area to maximise the solar energy that could support the operations. Any available space on the rooftops is required for safe maintenance access leaving little opportunity to benefit from any biodiversity that could be planted. Similarly the buildings have a significant number of large roller shutter doors which limit the opportunity for green walls. Where possible, glazing has been provided to optimise the use of natural light for the facilities as well. This further limits the opportunities for green walls.

Noise	Any noise that may emanate from the maintenance facility and that we would require a comprehensive acoustic study particularly addressing anticipated noise impacts on nearby residential properties with specific consideration given to night-time activities and their effects on sleep Additionally, due to the likely noise impacts the following activities should not be conducted unless fully acoustically shielded (either underground or within a fully shielded acoustic building: • Shunting; • testing of brakes; • testing of horns; • testing of doors; • any other noise generating activities.		For this facility, maximum noise levels are predicted to comply with the sleep disturbance criteria, derived from the NSW Industrial Noise Policy. In relation to shunting, testing of brakes, testing of horns, testing of doors, any other noise generating activities, the following has been considered: - The maximum noise levels from air release events that occur during train brake testing, are anticipated to be the maximum source of noise. Noise levels from this source are predicted to comply with the sleep disturbance criteria at nearby residential receivers without needing to be located underground or fully shielded. - There will be limited shunting as the trains are electrified.

Appendix B How feedback from consultation has been addressed

Consultation on the SDPP was carried out in September 2021, via letterbox drop, stakeholder email and a briefing for Inner West Council. Doorknocking properties was not possible due to ongoing impacts of the COVID-19 pandemic and associated restrictions in place during the consultation period.

Following the consultation process, six submissions were received for the SDPP, including a submission the Inner West Council (Council). Key issues raised by the community were related to maintaining alternative transport links in the vicinity of the precinct, the design and landscaping elements of the stabling and maintenance facility and surrounding area, capacity of the facility as well as the expandability of the Sydney Metro network. Community comments largely focused on matters outside of the scope of the design for Sydney Metro Trains Facility South and the Marrickville Dive site.

Key Council comments centred on design elements, such as: urban heat effects, landscaping and biodiversity, sustainability (energy and water), and the extent to which design supports public transport access and active transport links.

The issues raised were considered by the project team and the comments around the design have been noted, with further action undertaken in relation to urban heat effects and sustainability elements such as energy and water consumption. The draft document has been amended accordingly.

As outlined in the SDPP, the facility has been designed for stabling and maintenance of the expanded Sydney Metro. The design process has considered the natural environment. Given this and the nature of the comments received, there are no significant changes proposed to the design as a result of the public consultation process of the SDPP.

This final SDPP incorporates minor amendments in response to the consultation feedback received, as outlined in Appendix A above.

Appendix C Evidence of review by the Design Review Panel

Sydney Metro Trains Facility South

Design Review Panel 17 December 2019			
Minutes and Actions			
DRP Comment	**Designer Response**	**DRP Notes**	**Status**
Planning and Pedestrian Movement - The Panel requests that Sydney Metro provide a separate presentation on the residue areas between the station gate line and the city end of the site, to allow a review for the safeguarding of future use.	Noted. This scope of works is outside the scope of this SDPP.	Presented in May 2020 presentation.	Closed
- The Panel supports Sydney Metro's aspiration for an integrated interconnection, including pedestrian and bicycle access, between Sydenham Station and the Sydney Metro South Facility site across the aqueduct.	Noted. This scope of works is outside the scope of this SDPP.	Noted by Project Team	Closed
Materials & Finishes - The Panel requests further information on the proposed roof treatment with potential installation of a solar array.	Solar panels have been reviewed by the sustainability team and several arrays have been proposed. Based on the sustainability team studies on overshading caused by potential future development, solar panel arrays have been limited to the roofs on the administration building, southern dive building and the maintenance workshop building as well as an at grade array to the west of the dive facility. Refer Figure 6-47 in Section 6.2.9 of this SDPP.	Noted inclusion of solar array.	Closed

Design Review Panel 17 December 2019			
Public Art and Heritage Interpretation - The Panel accepts the existing location of integrated art on retaining walls, and supports exploration of other opportunities for the integration of artwork such as on tanks and building roofs.	The public facing boundary fence along Railway Parade and Edinburgh Road has been identified as the preferred location for the implementation of public art/heritage interpretation. Due to the location and nature of the Sydney Metro facility, the HIP recommended an art approach to heritage interpretation. This will take the form of an applied heritage interpretive treatment to the boundary fence on Railway Parade and Edinburgh Road, focusing on indigenous heritage themes. Refer Figure 5-1 in Section 5.2 of this SDPP.	The Panel notes that there will be a separate commission to design and identify the nature of the interpretive artwork, which will be presented to the DRP at a future date.	Open

Design Review Panel 4-5 May 2020			
Minutes and Actions			
DRP Comment	**Designer Response**	**DRP Notes**	**Status**
Planning and Passenger Movement - The Panel request further investigation is undertaken to identify whether the tanks can be located in a different area of the site, due to the importance of this space in linking the public realm, and creating a wide and safe link between new developments and Sydenham Station. - If relocation of tanks is not possible, the Panel request a series of studies through the space to express the quality of experience and visual links between viaduct and Sydney Steel Road.	Investigations were completed following the DRP comment and, regrettably, the site constraints have meant that there are no feasible relocation options for the tanks. The arrangement of the water treatment plant including the associated tanks has been rationalised, however the tanks could not be relocated to another part of the site. The tanks will be finished in a dark cobalt blue which is a similar hue to the cladding used on the suit of buildings used throughout the site.	The Panel notes the tank location is a disappointing outcome, as it does not improve or widen the pedestrian link between the new development and the Sydenham Station, however understands the limitations that are placed on the site's planning.	Closed

Design Review Panel 4-5 May 2020			
Public Art and Heritage Interpretation - The Panel encourage the use of large scale public art to animate the walkway between the viaduct and Sydney Steel Road	Refer to response to Public Art comment from 17 December 2019 meeting.	The Panel notes that the walkway is outside of the Linewide Contract scope of works, however there will be a separate commission to scope and design artwork on the Linewide site. The Panel likewise recommends that public art be pursued in this walkway when it becomes open to the public, and looks forward to the future presentation of the public art strategy to the Linewide site.	Open
General - The Panel encourage Sydney Metro to coordinate with Inner West Council to develop an overall urban renewal plan for the wider area.	Noted. This scope of works is outside the scope of this SDPP.	Noted by Project Team.	Closed
Materials and Finishes - The Panel support the proposed 'lantern', however recommend the lighting levels are carefully reviewed to mitigate any potential impact to surrounding residents.	The lighting design has considered minimisation of any light spill.	The panel accepts that the external lighting has been designed to meet AS4282 to minimise obtrusive lighting to surrounding residents.	Closed

Marrickville Dive

Design Review Panel 21 July 2020			
Minutes and Actions			
DRP Comment	**Designer Response**	**DRP Notes**	**Status**
Proposed Design The Panel supports the presented Stage 1 design for the Southern Dive Site Service Buildings.	Noted	N/A	Closed

Design Review Panel 20 October 2020			
Minutes and Actions			
DRP Comment	**Designer Response**	**DRP Notes**	**Status**
Proposed Design Changes The Panel accepts the design changes made to the Southern Dive Site Facility and encourages careful review of the distribution of matt and gloss finishes to create much needed subtle variation across these long elevations. The Panel also encourages the architects to closely review the detail and interface of the fencing to ensure a consistency of height and quality is maintained.	Noted	N/A	Closed

Sydney Metro Trains Facility South and Dive SDPP

Design Review Panel 19 November 2021			
Minutes and Actions			
DRP Comment	**Designer Response**	**DRP Notes**	**Status**
The design team presented the SMTFS and Marrickville dive site precinct design updates, the SDPP and comments from the public exhibition.	Note	N/A	Closed
SDPP - The Panel supports the presented visual impact assessment and notes that Viewpoint 11 could be considered to have a minor positive impact as opposed to a minor adverse.	Viewpoint 11 VIA impact amended in the SDPP document to minor beneficial.	N/A	Closed
Site Canopy Cover - The Panel are concerned by the lack of tree cover across the site and recommend a review be undertaken of all possible opportunities to increase the site's tree canopy.	Tree cover has been maximised as much as possible across the site, however the opportunity to increase the tree cover further is constrained by both operational and security requirements.	The Panel accepts that tree planting, and therefore canopy cover, has been maximised within the context of the various site constraints; and supports the increase to low level planting to further reduce the site's contribution of hard surfaces to the 'heat island effect'. The Panel recommends that a condition be placed on the adjacent development to include this Linewide site in their minimum canopy cover calculations to increase their contribution of trees to the neighbourhood.	Closed
Sydney Steel Road - The Panel notes that whilst the new development site will trigger the extension and creation of the publicly accessible Sydney Steel Road, this may not occur for many more years. As a result, the Panel strongly recommends the project team provide tree planting to the portion of Sydney Steel Road being delivered in this package of works to commence site improvement and safeguard the quality of tree planting in the future.	Additional landscaping and tree cover options have been considered for Sydney Steel Road extension and incorporated within design for the Marrickville precinct. The landscaping design will be realised within the current Sydney Metro City & Southwest works area.	The Panel notes the addition of trees and low level planting to the Sydney Streel Road extension being delivered by the Linewide Contract. The Panel recommends that a condition be placed on the adjacent development to include the broader Linewide site in their minimum canopy cover calculations to increase their contribution of trees to the neighbourhood. The Panel looks forward to a future presentation of the developed precinct plans of this area.	Closed

Design Review Panel 16 March 2022			
Minutes and Actions			
DRP Comment	**Designer Response**	**DRP Notes**	**Status**
SDPP The DRP endorse the Sydney Metro Trains Facility South and Marrickville Dive SDPP while recognising that two comments remain open related to public art and that public art proposals will be presented to the panel later in 2022.	Noted	N/A	Closed

Appendix D Qualifications and Experience of the author(s) who prepared this plan

Authors CVs

Curricula Vitae

JULIEANNE BOUSTEAD

Principal

Julieanne has 30 years of experience working in landscape in Sydney, Melbourne and London, where she's successfully managed multi-disciplinary teams on complex urban projects across sectors as diverse as transport, culture and education.

Having joined Hassell in 1994, she's firmly established herself within the roots of the practice – offering guidance and mentoring graduate designers coming up through the practice.

Julieanne's projects include the city-changing Sydney Metro Northwest as well as the transformation of Darwin's waterfront precinct earlier in her career.

She is highly valued for her calm, focused approach and her commitment to consultation with clients and teams through every stage of a project. She wants to ensure she and her team have time to explore a vision and develop a clear concept that can carry a project from concept to execution.

"Great design starts with identifying where we'll get the most value – and then making that the foundation of our work."

Qualifications

- B. Planning & Design, Melbourne University
- MLA, Melbourne University

Professional Affiliations

- Registered Landscape Architect, Australian Institute of Landscape Architects, #1285

Key Projects

- Sydney Metro North West, Sydney, Australia
- Darwin City Waterfront Public Domain, Northern Territory, Australia
- Macquarie University Central Courtyard, Sydney, Australia
- Wentworth Common Regional Playground, Sydney, Australia
- Coal Loader, Sydney, Australia
- Sydney Olympic Parklands, Sydney, Australia
- Cross River Rail Woolloongabba, Boggo Road and Dutton Stations Urban Design and Landscape Architecture, Brisbane, Australia
- Sydenham Station and Junction Metro Upgrade Plazas, Sydney, Australia

Curricula Vitae

ANDREW EWINGTON

Associate, Landscape Architecture

Andrew has over 25 years experience in designed and constructed landscapes in Australia, Fiji, Dubai and Oman.

With qualifications in both landscape architecture and project management, Andrew has always enjoyed playing an ongoing role in the design and construction of a project and seeing works through to completion.

As a landscape architect, Andrew has provided design development, technical direction, documentation coordination, contract administration, quality control and project management on a broad range of projects, including large scale integrated urban design projects and many varied educational, institutional and residential projects.

As a project manager, Andrew has managed teams, subcontractors, suppliers, programmes and cost management whilst also ensuring the original design and overall quality is achieved and maintained throughout the entire project, including public domain, open space, recreational and subdivision works.

Qualifications

- BLA, University of New South Wales
- DipProjMgt, MBH Training
- Registered Landscape Architect, Australian Institute of Landscape Architects, #3273

Experience

- Associate, Hassell, Sydney
- Senior Landscape Architect, Hassell, Sydney
- Project Manager, Design Landscapes, Sydney
- Partner, Site Image Landscape Architects, Sydney
- Senior Landscape Architect, DEM Group, Sydney
- Principal, Babylon Landscapes, Sydney
- Construction Manager, Marsupial Landscapes, Sydney
- Landscape Architect, Landscan, Sydney
- Landscape Architect, Marrickville Council, Sydney
- Landscape Architect, Tropman & Tropman Architects, Sydney

Key Projects

- Darling Harbour Live, Sydney, Australia
- Sydney Metro Northwest, Australia
- Summer Hill Flour Mill, Sydney, Australia
- The Ponds Central and Northern Parklands, Sydney, Australia*
- Bathers Way, Dixon Park, Merewether, Newcastle, Australia*
- Edmondson Park Stage 1, Edmondson Park, Sydney, Australia*
- Coachman's Park, St Marys, Sydney, Australia*
- Stonecutters Ridge, Colebee, Sydney, Australia*
- Jamison Park, South Penrith, Australia*
- Bamal Way Through Link, Coulson St, Erskineville, Australia*
- Pop-Up Park, IUCN World Parks Congress 2014, Homebush, Australia*
- Archikidz Playground, Vivid 2015, Hyde Park Barracks, Sydney, Australia*
- iC Central, Wollongong Innovation Campus, Australia*
- New Leaf, Bonnyrigg, Sydney, Australia*
- Rhodes 1A, 1B, 2A and 2B, Australia*
- Sandgate Road, Shortland, Newcastle, Australia*
- CTCP, Wollongong Innovation Campus, Australia*
- Bernie Banton Centre, Concord Repatriation Hospital, Sydney, Australia*
- Sonaisali Island Resort, Fiji*
- Barka Resort, Oman*
- City Quarter, Camperdown, Australia*

* Prior to working at HASSELL

Hassell ©

Curricula vitae

PETER MONCKTON

Senior Associate

Peter joined HASSELL in 2008 to lead high profile health and other projects.

Prior to joining HASSELL, Peter's apprenticeship began as an undergraduate with Lester Firth Associates in Canberra and upon graduation from Sydney University as an architect with Allen Jack and Cottier P/L. There he remained for many years gaining experience 'across the board', and finally in 1996-99 as the resident Director of AJC – Asia Pacific, in Indonesia and Malaysia.

Peter returned to Sydney and formed the practice of Monckton Fyfe P/L 1999-2006. Early in 2006 Peter joined the Cox Group with the purpose of working on large key overseas projects.

The most acclaimed of his built work as design/project architect are the State Library NSW Mitchell Libarary Galleries, Shoalhaven Cancer Care Centre, Exhibition Building, Darling Harbour Live and The Penfolds Magill Estate winery in Adelaide.

Other large built projects include, the twin 45 storey Luxury Condominium Residential Towers "the Binjai", in KLCC Kuala Lumpur; the Hudson in Alexandria, Sydney; "Coast" 98 low rise beachfront apartments; 26 storey office building in Kuala Lumpur.

Qualifications

- BArch (Hons1), University of Sydney
- BSci (EnvDes), University of Canberra

Experience

- Senior Associate, Hassell
- Senior Associate, Cox Group
- Director, Monckton Fyfe
- Director Asia Pacific, Allen, Jack & Cottier

Key Projects

- State Library of NSW Mitchell Building Galleries and Refurbishment, Sydney, Australia
- Capital Metro, Stages 1 & 2, Reference Design, Canberra, Australia
- Sydney Metro City and Southwest, Southwest Stations and Corridor, Bid Phase, Sydney, Australia
- North West Rail Link (Sydney Metro), Sydney, Australia
- Darling Harbour Live, Sydney, Australia
- Shoalhaven Cancer Care Centre, Australia
- Nepean Hospital, Penrith Health Campus Redevelopment Stage 3, East Block and Dental Clinic, Australia
- Grafton Hospital, Surgical Services and Emergency Department, Australia
- Heidelberg Repatriation Hospital, 122 Bed Secure Extended Care Unit, Melbourne, Australia

Hassell ©

Curricula Vitae

PHILLIP MEEHAN

Senior Architect

Phillip has been with HASSELL since 2015, specialising in rail and infrastructure.

His expertise includes Revit and similar rendering applications to detail designs, output construction drawings, and extensive documentation for complex high profile projects requiring extensive coordination. Those project typologies include transport, public, commercial and industrial projects which have shaped his quality of work.

Phillip has worked on many infrastructure upgrades and concept designs, such as Central Railway Station, St Marys Railway Station, Lidcombe Railway Station, the south Sydney freight line railway station upgrades, the east hill and south line easy access railway station upgrades, Quakers Hill Railway Station, Broadmeadow Railway Station, Richmond Sub Station, Brunswick Sub Station, Riley Street sub station, Holroyd sub station and Rookwood sub station.

More recently, Phillip was a construction lead for the Sydney Metro North West underground stations and a design package lead for the Sydney Metro Line Wide works.

Phillip is technically strong and has a deep interest to expand his skillset.

Qualification

- M.Arch, University of Technology Sydney
- BArts in Architecture, University of Technology Sydney

Experience

- Senior Architect, Hassell, Sydney, Australia
- Architect, Beca, Sydney, Australia
- Graduate of Architecture, Caldis Cook Group, Sydney, Australia
- Graduate of Architecture, Vitale Design, Sydney, Australia

Affiliations

- Registered Architect, NSW Architects Registration Board #9099

Specialist Expertise

- Design development, detail design and documentation and construction phase services
- Rail, infrastructure and Industrial

Key Projects

- Sydney Metro Line Wide Works, Sydney, Australia
- Sydney Metro North West, Sydney, Australia
- Holroyd and Rockwood, Electrical Sub Stations, Sydney, Australia
- Project Bintang, Industrial Complex, Kuala Lumpur, Malaysia
- Liverpool Police Station and Court House, Liverpool, Australia
- Central Station Canopy, New Chalmers Street, Australia
- Lidcombe Railway Station, Lift Upgrade, St Marys, Australia
- South Sydney Freight Line, Alterations, Sydney, Australia
- Quakers Hill Railway Station, Upgrade, Sydney, Australia
- Broadmeadow Railway Station, Concept Design for Upgrade, Newcastle, Australia
- Paddington House, Sydney, Australia
- Dolls Point Apartment Complex, Dolls Point, Australia
- Project Aurora, Food and beverage facility, Sydney Australia