



Planning Approval Consistency Assessment Form

SM-17-00000111

Metro Body of Knowledge (MBoK)

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The Planning Approval Consistency Assessment Form should be completed in accordance with [SM-17-00000103 Planning Approval Consistency Assessment Procedure](#).

1. Existing Approved Project

Planning approval reference details (Application/Document No. (including modifications)):

- SSI-10038 Sydney Metro West – Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (Stage 1 of the planning approval process for Sydney Metro West)
- SSI-10038-Mod-1 The Sydney Metro West Westmead to The Bays and Sydney CBD - Modification 1 (Administrative Modification)
- SSI-10038-Mod-2 The Sydney Metro West Westmead to The Bays and Sydney CBD - Modification 2 (Clyde Stabling and Maintenance Facility)

Date of determination:

- SSI 10038: 11 March 2021
- SSI-10038-Mod-1: 28 July 2021
- SSI-10038-Mod-2: 3 June 2022

Type of planning approval: Critical SSI (Division 5.2 “State significant infrastructure”, Environmental Planning and Assessment Act 1979)

Approved Project: Overview

This Consistency Assessment has been prepared for the proposed Clyde Dive and Portal Structure area of works, within the overall Clyde Stabling and Maintenance Facility Construction Site. It aims to address the gap between the approved project and current (post-tender award to GLC) construction methodologies (the proposal, or the proposed change/s).

- For the purposes of this Consistency Assessment, the approved project is considered to include all relevant Clyde Stabling and Maintenance Facility aspects documented in a) the SSI-10038 Sydney Metro West – Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (Stage 1 of the planning approval process for Sydney Metro West), b) SSI-10038-Mod-1, and c) SSI-10038-Mod-2
- The SSI-10038-Mod-2 modification, amongst other things, addresses a) an additional area required for construction north of the original approved construction site, and b) the Clyde Dive structure relocation and extension to avoid major utilities. The additional construction area and SSI-10038-Mod-2 proposed dive structure location are directly relevant to addressing the gap between project approval and current design/methodologies as documented in this Consistency Assessment

- The 'Consistency Assessment SMW01: Sydney Metro West – Tunnel boring machine drive strategy and future Rosehill crossover' (endorsed 13 September 2021) document is also noted. Whilst it did not address identical design aspects to those proposed in this Consistency Assessment, did consider a) a substantially revised tunnel boring machine drive strategy, b) an additional rail crossover around Rosehill, c) a revised tunnel alignment (further south to accommodate the revised location for the Rosehill services shaft) and d) precast facilities. Despite these methodology changes within the Clyde Stabling and Maintenance Facility Construction Site it concluded that impacts associated with the change would be minimal / consistent with the EIS approval, and that no additional control measures were required

A description of Sydney Metro West and Stage 1 concept and major civil construction work, incorporating the original project approval and key features of the subsequent modifications (focusing on SSI-10038-Mod-2) is provided below. **Figure 1** and **Figure 2** below represent the site layout and features from the original approval and then SSI-10038-Mod-2 respectively.

Approved Project: Sydney Metro West (the Concept)

The Concept involves the construction and operation of a metro rail line around 24 kilometres long between Westmead and Hunter Street in the Sydney CBD. The key components are expected to include (as described in Chapter 6 of the Environmental Impact Statement (EIS)):

- Construction and operation of new passenger rail infrastructure between Westmead and the central business district of Sydney, including:
 - Tunnels, stations (including surrounding areas) and associated rail facilities
 - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)
- Modification of existing rail infrastructure (including stations and surrounding areas)
- Ancillary development.

Approved Project: Approved Concept and Major Civil Construction Work – Sydney Metro West between Westmead and The Bays – Stage 1 of the Planning Approval Process (for Sydney Metro West)

As per Section 9 of the Environmental Impact Statement (EIS) this includes:

- Enabling works, such as demolition, utility supply to construction sites, utility adjustments and modifications to the existing transport network
- Tunnel excavation including tunnel support activities between Westmead and The Bays
- Station excavation for new metro stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and The Bays
- Shaft excavation for services facilities
- Civil work for the Clyde Stabling and Maintenance Facility at Clyde.

Clyde Stabling and Maintenance Facility Construction Site (EIS): As per the EIS, the Clyde Stabling and Maintenance Facility construction site was stated to cover about 380,000 square metres between the M4 motorway, James Ruse Drive and Rosehill Gardens Racecourse. The site was noted to contain industrial and commercial buildings, Sydney Speedway (location on NSW Government owned land) and the redundant T6 Carlingford Line at Rosehill. The EIS stated that the site would be used to:

- Construct the land formation for the stabling and maintenance facility
- Construct structures over A'Becketts Creek and Duck Creek, including creek realignment works
- Construct and operate a temporary precast concrete segment production facility
- Excavate the Rosehill services facility
- Excavate and construct the Rosehill dive structure and tunnel portal

This construction site would include spoil storage and removal from the excavations for the services facility shaft and dive structure and portal, water supply, water treatment and disposal, material storage as well as office facilities, worker amenities and parking. It was also noted to include a section of the redundant T6 Carlingford Line required for the construction of future stages of Sydney Metro West. Kay Street and Unwin Street were stated to be permanently realigned around the construction site and would include a bridge over the future metro rail tracks. The excavation of the Rosehill dive structure, tunnel portal and services facility was stated to require the removal of about 195,000 cubic metres of spoil. Access to and egress from the site was via Wentworth Street to Parramatta Road. The location and indicative layout of the Clyde Stabling and Maintenance Facility construction site, including vehicle access and egress was illustrated in Figure 9-17 of the EIS as reproduced below as **Figure 1**.

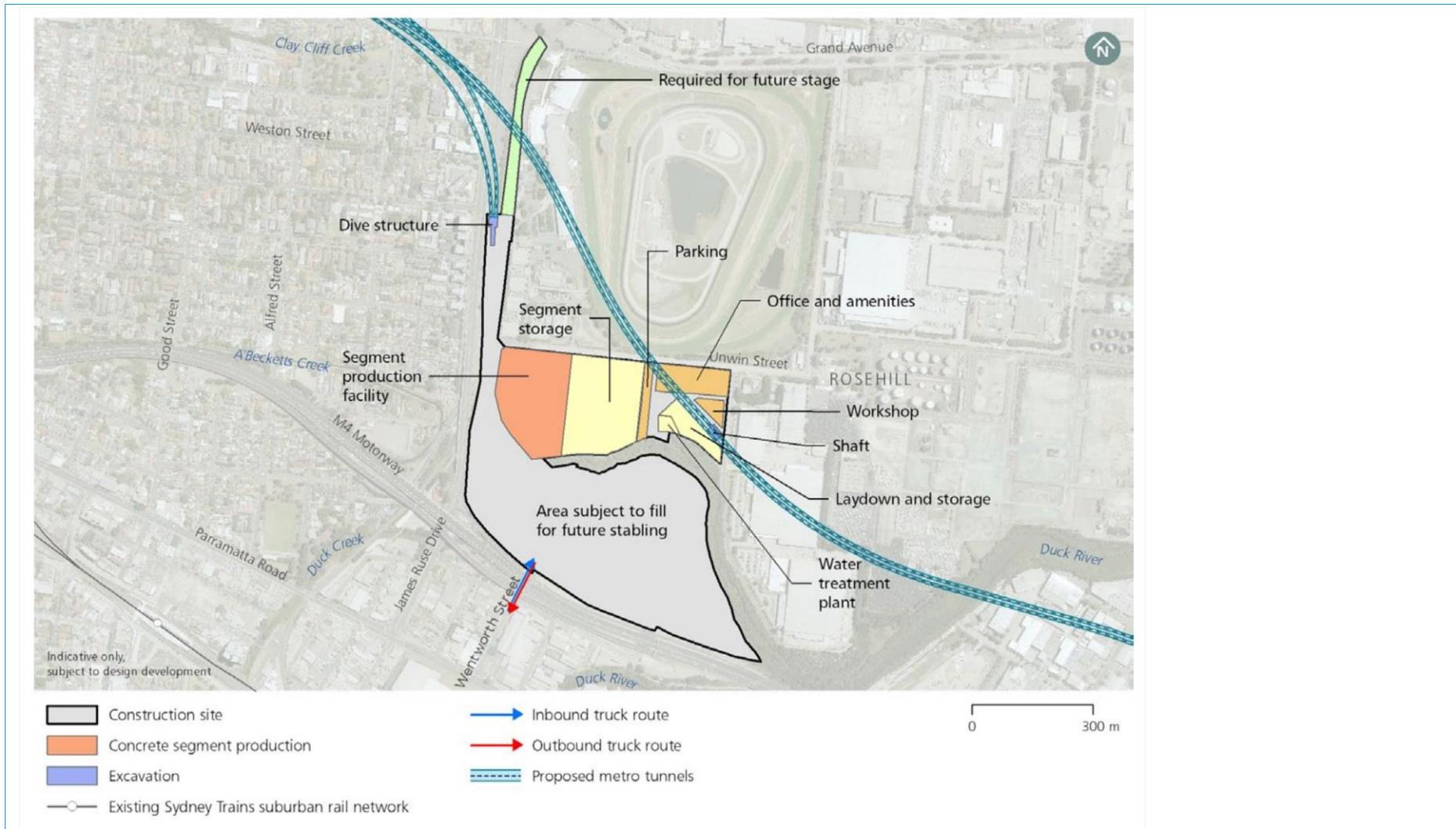


Figure 1 Clyde Stabling and Maintenance Facility Construction Site (Source, EIS Figure 9-17)

As per the EIS, civil works for the formation of the Clyde Stabling and Maintenance Facility would involve:

- Enabling works including protection or diversion of utilities and establishment of site access points
- Demolition of structures on the site and clearance of vegetation (if present)
- Import and placement of fill material. The stabling and maintenance facility would be designed and constructed to be protected from the one per cent Annual Exceedance Probability flood event. In some areas, this may also involve the construction of retaining walls
- Structures for crossings of A'Becketts Creek and Duck Creek.

The EIS stated that a temporary precast concrete segment construction production facility to support tunnelling would also be located at the Clyde stabling and maintenance facility construction site. As per the EIS, dive structure and tunnel portal would be constructed at Rosehill (within the Clyde Stabling and Maintenance Facility construction site) to facilitate a surface connection to the Clyde Stabling and Maintenance Facility. The construction of the dive structure and tunnel portal would generally involve:

- Piling work along the walls of the dive structure
- Excavation of existing material to below future track level
- Placement of precast concrete for the cut-and-cover section and to form the tunnel portal.

EIS Section 9.4.6 noted that the dive structures would be designed and constructed to be protected from the probable maximum flood level.

Approved Project: Clyde Stabling and Maintenance Facility Construction Site (SSI-10038-Mod-2)

The Clyde Stabling and Maintenance Facility modification report (SSI-10038-Mod-2) addressed a) a revised location for the Rosehill Dive Structure, and b) the Kay Street and Unwin Street Realignment. Under SSI-10038-Mod-2 the overarching description of the Clyde Stabling and Maintenance Facility was consistent with the EIS. The indicative layout of the Clyde Stabling and Maintenance Facility construction site presented in SSI-10038-Mod-2 identified a larger section of the former T6 Carlingford Line to the north of the Rosehill dive structure to be required for the construction of future stages of Sydney Metro West and to provide for a future connection from the Clyde Stabling and Maintenance Facility to the mainline tunnels. The construction footprint for the Clyde Stabling and Maintenance Facility Construction Site also increased from about 380,000 square metres to about 383,000 square metres, with the construction site estimated to cover 368,000 square metres, whilst the additional area required for construction is about 15,000 square metres (refer Table A.2 of SSI-10038-Mod-2). The indicative location of the Rosehill dive structure was identified to be within the north-western corner of the Clyde Stabling and Maintenance Facility construction site. SSI-10038-Mod-2 described the construction of the dive structure and tunnel portal:

- Piling work along the walls of the dive structure
- Excavation of existing material to below future track level. The excavation of underground connecting tunnels would be excavated by road header from the tunnel portal to the mainline tunnels, consistent with the approved project
- Placement of precast concrete for the cut-and-cover section and to form the tunnel portal, consistent with the approved project

SSI-10038-Mod-2 stated that the dive structure would be designed and constructed to be protected from the probable maximum flood level. SSI-10038-Mod-2 reproduced Figure 9-17 of the EIS (see **Figure 1** above) but noted that “...as part of design development and construction planning, elements shown on this figure have changed (including removal of segment production facility, segment storage, parking and changed shaft location) and have been determined to be consistent with the approved project.”

SSI-10038-Mod-2 summarised the overall modification stating it relates to the major civil construction work at the Clyde Stabling and Maintenance Facility and would include:

- Rosehill dive structure relocation and extension
- Kay Street and Unwin Street realignment.

These changes to the design for the approved project would require:

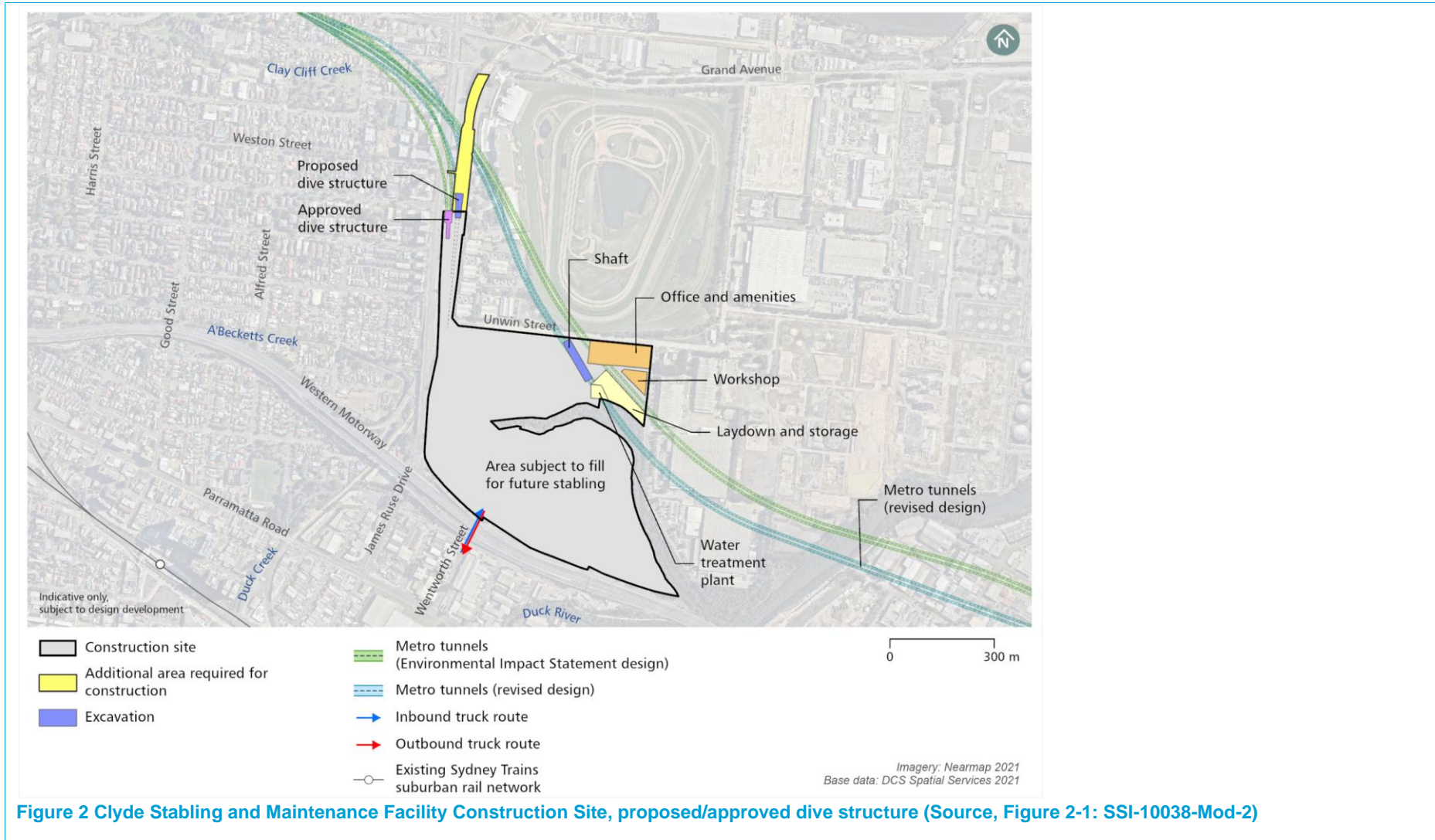
- Additional land required for future planning applications brought forward
- Additional impact to heritage not assessed as part of the approved project
- Additional impact to biodiversity not assessed as part of the approved project.

SSI-10038-Mod-2 stated that relocation and extension of the Rosehill dive structure is required to avoid major utilities on site and the change to the Kay Street and Unwin Street realignment is required to reduce the need to disturb potentially contaminated soils. In addition, following approval of the major civil construction work between Westmead and The Bays, SSI-10038-Mod-2 noted that a new threatened flora species was located within the approved construction site at Clyde. This modification then provided an assessment of the impacts to this species, that were not previously assessed as part of the approved project. SSI-10038-Mod-2 then stated that there would be no changes proposed to the Concept as described in Chapter 6 (Concept Description) of the EIS.

SSI-10038-Mod-2 then provided more detail on the “Rosehill dive structure” defining it as:

- Relocation east and extension of the Rosehill dive structure further north-east within the former T6 Carlingford Line
- Additional construction area, previously identified in the EIS as required for future use, to allow for:
 - Enabling works as outlined in the EIS
 - Removal of the Rosehill Railway Station Footbridge which is of local heritage significance, listed under the RailCorp Heritage and Conservation Register under Section 170 of the Heritage Act 1977 (NSW) and provision for an alternative crossing of the former T6 Carlingford Line prior to removal of the footbridge
 - Removal of the platforms and station furniture at the former Rosehill Railway Station
- Minor realignment of the tunnel portal connecting the mainline tunnels to the revised Rosehill dive structure location.

Figure 2-1 of SSI-10038-Mod-2 which presents the approved project and modification of the dive structure within the Clyde site (as well as the elements changed during design) is reproduced below as **Figure 2**.



As documented in the NSW Government – Department of Planning and Environment (DPE) – Sydney Metro West - Concept and Stage 1 Modification 2 - Assessment Report (June 2022) the modification was submitted and submissions were received but amendments to the proposed modification were not required. Accordingly the information detailed within the modification report (as summarised above) remains valid when considering the proposed changes documented in this Consistency Assessment, in addition to the Consolidated Instrument of Approval – Sydney Metro West – Concept and Stage 1 – Conditions of Approval, dated 3 June 2022.

Relevant background information (including EA, REF, Submissions Report, Director General’s Report, MCoA):

This Consistency Assessment has been undertaken for the Sydney Metro West Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (Stage 1 of the planning approval process). This includes the following planning approval documentation:

- Sydney Metro West - Westmead to The Bays and Sydney CBD (Concept and Stage 1) Environmental Impact Statement (15 April 2020)
- Sydney Metro West - Westmead to The Bays and Sydney CBD (Concept and Stage 1) Submissions Report (20 November 2020)
- Sydney Metro West - Westmead to The Bays and Sydney CBD (Concept and Stage 1) Amendment Report (20 November 2020)
- Sydney Metro West - Westmead to The Bays and Sydney CBD (Concept and Stage 1) Modification 1 - Administrative Modification (July 2021)
- Sydney Metro West - Westmead to The Bays and Sydney CBD (Concept and Stage 1) Modification 2 - Clyde Stabling and Maintenance Facility Modification Report (November 2021)
- Sydney Metro West - Westmead to The Bays and Sydney CBD (Concept and Stage 1) Modification 2 - Clyde Stabling and Maintenance Facility Submissions Report (March 2022)
- Sydney Metro West - Concept and Stage 1, Modification 2 - Assessment Report (DPE, June 2022)
- Consolidated Instrument of Approval – Sydney Metro West – Concept and Stage 1 – Conditions of Approval (3 June 2022)

All documentation has been published on the DPE Major Projects website located here (Major Project Number: SSI-10038): <https://www.planningportal.nsw.gov.au/major-projects/project/25631>.

Other relevant documentation prepared as part of design development and construction planning include:

- Consistency Assessment SMW01: Sydney Metro West – Tunnel boring machine drive strategy and future Rosehill crossover’ (endorsed 13 September 2021).
- Detailed Noise and Vibration Impact Statement (DNVIS) (610.30644-R03-v0.1)

All proposed works identified in this assessment would be undertaken in accordance with the mitigation measures identified in the Environmental Impact Statement, Submissions Report and Amendment Report and the conditions of approval.

2. Description of Proposed Development/Activity/Works

The proposal includes a revised construction methodology for the Clyde Dive and Portal Structure including:

- Addition of an excavation shaft (nominally 16 metres (m) in diameter and 25 m deep)
- Addition of an underground “adit” (8 m (w) x up to 7 m (h) with a length of 8 m at a depth of 25 m)
- Addition of an acoustic shed (nominally 20 m (w) x 20 m (h) with a length of 72 m) within the approved project boundary, located above the proposed excavation shaft and underground adit. The acoustic shed will be installed on a slab at RL 11.245, and although 20 m in height is set down below ground level by approximately 4 m, such that its above ground height is roughly 16 m.
- Relocation of the tunnel portal approximately 100m south. The tunnel portal will be uncovered and involve open air excavation as per cut and cover methods being adopted across the project. The tunnel portal relocation will also result in an extension of the existing underground spur lines with the same profile geometry as outlined in the approved project, continuing to the new Dive Structure location. Arrival tunnel is approximately 909m and the Departure tunnel is approximately 854m

Additional information regarding these works is provided below:

- Three (3) “roadheader” for underground tunnel and cavern spoil removal works will be required within the arrival and departure tunnels, and junction cavern / spur interface
- The revised construction methodology includes pre-cast tunnel linings for the arrival and departure spur tunnels (incl. arrival and departure passing bays and spur lines)
- The excavation shaft will be constructed via the installation of concrete piles (bored piling) and excavation of material. The underground adit and T section will be constructed via roadheader excavation and support and will provide connection to the spur line (for broader underground works and material transportation via Articulated Dump Trucks, ADT). The adit and T section will provide this connection to the spur line whilst avoiding and limiting impact to the Sydney Water sewer. The excavation shaft, underground adit and T section will be covered by an acoustic shed, that will also require concrete piles (bored piling) around its perimeter. The revised construction methodology will be implemented across nine different stages of work taking an estimated 37 months to complete from shaft excavation to handover
- The proposed construction methodology is anticipated to increase spoil production by 5,500 cubic metres. However, this spoil is anticipated to be reused on site and the excavation shaft, adit and T section backfilled at the conclusion of works. The resultant increase in spoil is therefore minimal when compared to the amount of spoil already approved for the overall Clyde site, which as per

SSI-10038-Mod-2 is estimated to be 165,000 cubic metres (for the excavation of the Rosehill dive structure, tunnel portal and services facility)

- In addition to the primary site uses described in SSI-10038-Mod-2 (as summarised in Section 1.0 of this Consistency Assessment) the construction site would also include spoil storage and removal from the excavations for the services facility shaft and dive structure and portal, water supply, water treatment and disposal, material storage as well as office facilities, worker amenities and parking.
- It would also include a section of the redundant T6 Carlingford Line required for the construction of future stages of Sydney Metro West.
- The proposed change in construction methodology does not modify the existing approved underground tunnel alignment. All tunnels, spur line and underground conditions are also unchanged as a result of the proposed construction methodology
- The proposed change in construction methodology does not modify the intent to design and construct the dive structure to be protected from the probable maximum flood level. All other elements of the proposed change would achieve this requirement as relevant
- Environmental characteristics resulting from the proposed change in construction methodology would be largely consistent, or the same as, the approved project at the conclusion of works. The proposed change in construction methodology will not impact any aspects of operations (entirely limited to the construction phase), as identified in the **Section 11.0** impact assessment. No changes to the approved project area are required for the proposed change in construction methodology.

The location of the excavation shaft, adit, T section, tunnel portal and laydown/storage area are identified in **Figure 3**. These components, as well as the existing environmental constraints within and surrounding the Clyde Dive and Portal Structure site, are presented in **Figure 4** below.

These elements and the staged construction methodology are detailed in the 'Clyde Dive and Portal Structure Design' document (Source: GLC) reproduced in **Appendix A** of this Consistency Assessment.

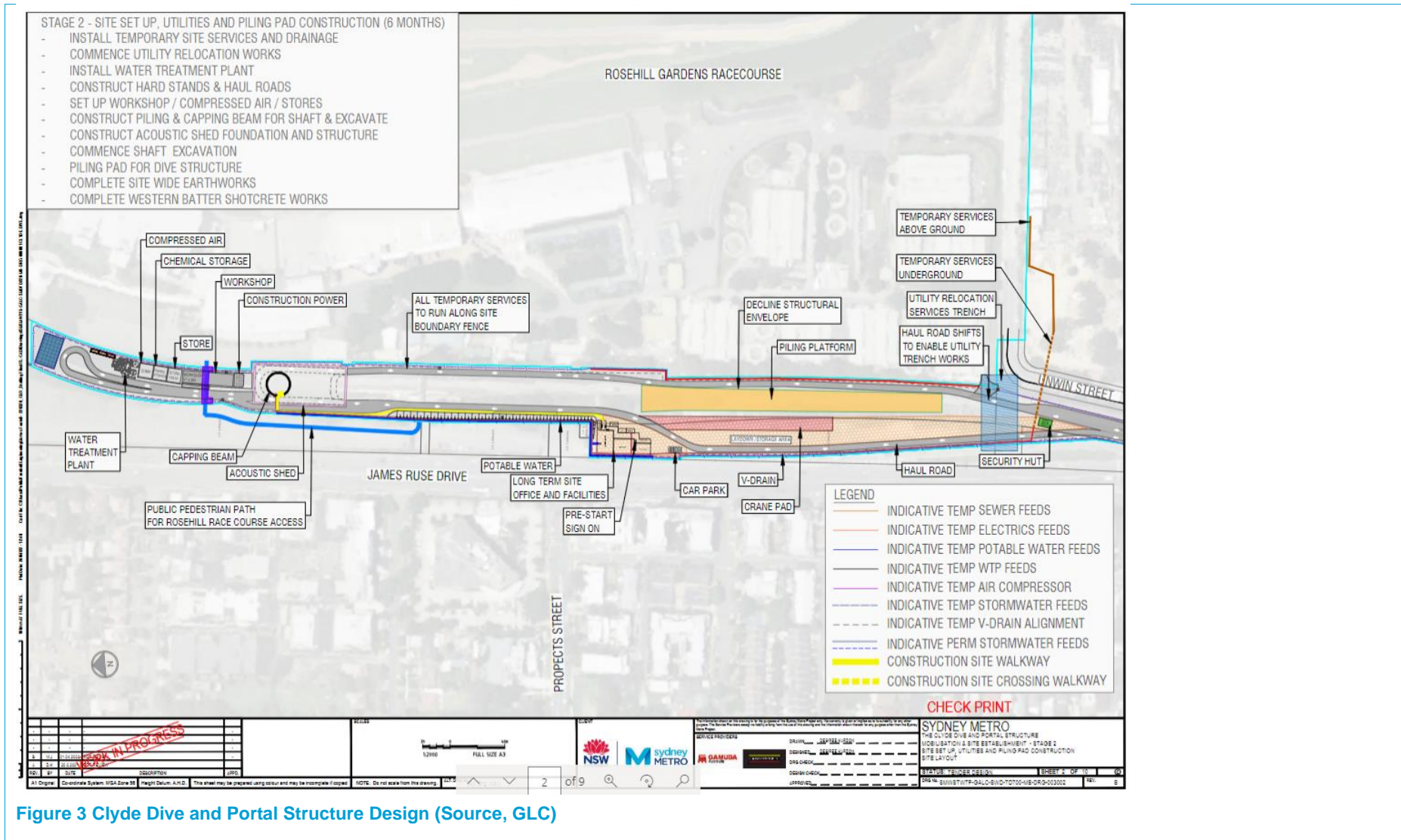


Figure 3 Clyde Dive and Portal Structure Design (Source, GLC)

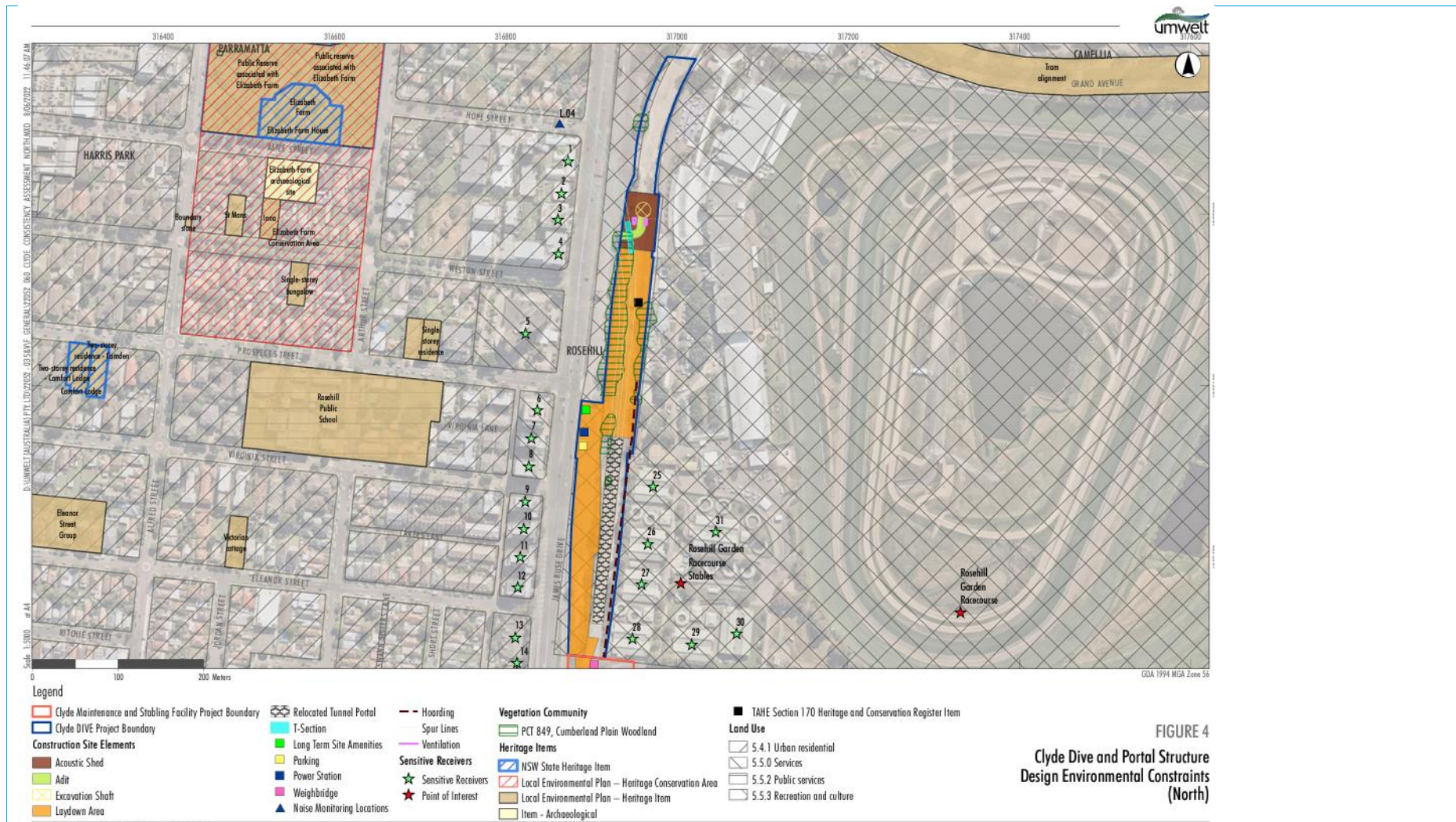


FIGURE 4
Clyde Dive and Portal Structure
Design Environmental Constraints
(North)

Figure 4 Clyde Dive and Portal Structure Design Environmental Constraints

3. Timeframe

The works associated with the proposed change in construction methodology will occur within the approved standard hours. Any highly noise intensive works will be limited to the hours specified under Condition D36 of the CoA. Works associated with the proposed change will comply with Condition D37 and D38 of the CoA.

Major civil construction work for Clyde Stabling and Maintenance Facility Construction Site will still commence early 2022 and end by mid-2025 (around three years), as part of this proposal.

4. Site Description

Clyde Stabling and Maintenance Facility

As per the approved project (SSI SSI-10038-Mod-2), the Clyde Stabling and Maintenance Facility construction site would cover about 383,000 square metres between the M4 motorway, James Ruse Drive and Rosehill Gardens Racecourse. The site currently contains industrial and commercial buildings, Sydney Speedway (location on NSW Government owned land) and the former T6 Carlingford Line at Rosehill. As noted in SSI-10038-Mod-2 the approved project estimated that the construction footprint covered about 380,000 square metres but this value increased to about 383,000 square metres (refer Table A.2 of SSI-10038-Mod-2). The construction site is estimated to cover 368,000 square metres, whilst the additional area required for construction is about 15,000 square metres.

The proposed change in construction methodology is situated almost entirely within that 15,000 square metre additional area (at the northern extent of the construction site, and running parallel to James Ruse Drive) as documented within SSI-10038-Mod-2 and shown in **Figure 1** and **Figure 2** of this Consistency Assessment.

5. Site Environmental Characteristics

A summary of the site environmental characteristics for the Clyde Stabling and Maintenance Facility includes:

- Historical aerial photography shows that the Clyde construction site has comprised commercial, industrial and recreational land uses since the 1940s, including a race track on the current Sydney Speedway site. A'Becketts Creek and Duck Creek are also visible within the construction site from the 1950s, including areas of riparian vegetation. Reclamation and realignment work appears to have been carried out on some sections of these watercourses in the 1970s, along with increasing development of large industrial and warehousing land uses. There does not appear to have been substantial modification to land uses at the site since this time.

- In the area surrounding the construction site, land uses since the 1940s include low density residential development, commercial and industrial premises, rail infrastructure, Rosehill Gardens racecourse and the former Shell Refinery (Viva Energy). Commercial and industrial premises, rail infrastructure and activities at Rosehill Gardens racecourse may be associated with higher contamination risks. Key developments in the surrounding area since the 1940s include: intensified commercial and industrial development in the 1970s, revegetation along the Parramatta River in the 1980s.
- The Clyde Stabling and Maintenance Facility construction site is currently characterised by industrial uses and major recreational facilities, and is bisected by Duck Creek and A'Becketts Creek. Land uses surrounding the construction site include the following:
 - North of the site is the Rosehill Gardens racecourse
 - East of the site is Duck Creek and Shirley Street, beyond which are large warehouses, and the Viva Energy site that was formerly used as part of Clyde oil refinery
 - South of the site is the M4 Western Motorway, beyond which the Clyde industrial area continues
 - West of the site is a corridor containing James Ruse Drive and the now closed T6 Carlingford Line. Further west are low density residential areas in Rosehill and Granville
 - Sydney Speedway (location on NSW Government owned land) is a key land use feature of the site. Duck Creek is also located within the construction site and is heavily vegetated.
 - As a result of Stage 1 there would be a change from industrial and recreational land uses to a transport infrastructure construction site. This land use change would be minor considering the scale of surrounding industrial land in Clyde, Camellia, Rosehill and Silverwater. Other developments, once complete, such as the remediation of the western area of the former Viva Energy refinery would also potentially be able to compensate for the loss of industrial zoned land as a result of Stage 1. The NSW Government is committed to providing an alternative speedway within Sydney.
- SSI-10038-Mod-2 identified that the modification (including the land area where this change in construction methodology is proposed) includes areas of naturally occurring native vegetation, including a new (not identified in the original EIS approval) threatened flora species (Downy Wattle). Amongst other things, Downy Wattle was assessed in detail in SSI-10038-Mod-2. Weeds, exotic species, street trees and residential garden plantings (which may include some native species found in NSW) are also assumed to be present, or nearby
- The SMW04 revised site has a moderate contamination risk with historical construction waste (building materials and demolition wastes) and leaks and spills (from a former fuel station on the corner of Alexandra Avenue and Hassall Street). There are no sites listed on the NSW Environment Protection Authority Contaminated Sites Register within 500 metres and NSW EPA Protection of the Environment Operations Act public register that have current environment protection licences
- The following four Noise Catchment Areas (NCA) are located near the Clyde site and described as follows:

- NCA04: South of the Parramatta River and west of James Ruse Drive. The catchment is mainly residential with small areas of commercial receivers.
- NCA05: North of the M4 Motorway and west of James Ruse Drive. The catchment is mainly residential. 'Other sensitive' receivers include Rosehill Public School and a number of hotels and child care centres.
- NCA06: South of the M4 Motorway in Granville. The catchment is mostly residential adjacent to the motorway, with some commercial use in the south-east
- NCA07: East of James Ruse Drive, this catchment is mostly commercial and covers Rosehill Gardens racecourse, the Clyde commercial/industrial area, and Silverwater and Newington. Residential receivers and Newington Public School are in the south-east. This catchment is included in both the Clyde and Silverwater precincts.
- SSI-10038-Mod-2 identified that the modification (including the additional land area where this change in construction methodology is proposed) is not located within an area of Aboriginal archaeological potential as identified in Technical Paper 4 of the EIS for the approved project.
- SSI-10038-Mod-2 identified that non-Aboriginal heritage impacts are anticipated to change as a result of the modification. Construction access to the revised Rosehill dive structure location requires removal of a locally significant heritage item (Rosehill Railway Station Footbridge).

6. Justification for the Proposed Works

The changes in construction methodology proposed under this Consistency Assessment would be consistent with the objectives and functions of the approved project. Justification for each aspect of this consistency assessment is as follows:

- **Excavation shaft:** The inclusion of the excavation shaft in the proposed location will help reduce critical path timeframes for the dive excavation and spur line construction activities. The addition of the excavation shaft will also help to remove the interface of activities by splitting up work zones, allowing key construction activities to be undertaken concurrently within the Site. The addition of the excavation shaft will also reduce surface level noise emissions at nearby sensitive receivers by allowing surface works to be undertaken subsurface, as well as an overall reduction in surface works as a result of a shortened decline structural envelope when compared to the approved project design.
- **Addition of adit and T section:** The inclusion of the proposed adit and T section will ultimately provide connection to the spur line whilst avoiding impacts to the Sydney Water sewer, in line with the approved project. The inclusion of the adit and T-section will allow space for machinery to cut an access passage between the departure and arrival tunnels, allowing construction teams to work along both underground tunnels concurrently. The adit, T section and excavation shaft will also be covered by an acoustic shed, reducing surface noise levels resulting from construction activities.

- **Relocation of tunnel portal:** The relocation of the tunnel portal from the approved location reduces the extent of construction activities adjacent the Rosehill Gardens Racecourse horse stables, currently managed by the Australian Turf Club (ATC). As mentioned above, the relocated tunnel portal also results in a shortened decline structural portal, reducing the extent of noisy surface works and ultimately reducing surface noise levels at nearby sensitive receptors.

7. Environmental Benefit

The key environmental benefits of the proposal are avoiding direct and indirect impacts to the Sydney Water sewer, as well as reducing surface noise levels at nearby sensitive receptors. As noted in **Section 1.0** of this Consistency Assessment, the Sydney Water sewer was built in 1925 and serves about 1.5 million people in western Sydney. Diversion of the sewer (which would involve intensive construction works adjacent to sensitive receivers and within an area that is at risk from flooding) was avoided as part of SSI-10038-Mod-2.

As indicated in **Section 6** above, the relocation of the tunnel portal will result in a shortened decline structural portal, in turn reducing surface construction works and ultimately reducing surface noise levels at nearby sensitive receptors. The addition of the excavation shaft will further reduce surface noise levels by allowing construction works to be undertaken subsurface, and concurrently with other key construction stages. The tunnel portal relocation will also reduce the extent of construction activities adjacent the Rosehill Gardens Racecourse horse stables, helping minimise the risk of impacts to operations within the stables.

The excavation shaft, as well as the adit and T section will help reduce critical path timeframes for construction activities. These three key inclusions will also be covered by an acoustic shed, further reducing noise levels from construction activities.

The proposed change in construction methodology is required to ensure direct and indirect impacts to the Sydney Water sewer are avoided, and to ensure that the reduced SSI-10038-Mod-2 environmental impacts are achieved.

8. Control Measures

An EMP specific to the proposed change is not required. The Sydney Metro Construction Environmental Management Framework, Construction Noise and Vibration Standard and Construction Traffic Management Framework set out the overall approach to environmental management.

The proposal would also be undertaken in accordance with the mitigation measures and the conditions of approval for the approved project. The proposal would be managed in accordance with the relevant Construction Environmental Management Plans, which must be produced in accordance with the conditions of approval for the approved project.

9. Climate Change Impacts

No change in climate change risk (as identified in the EIS) will occur as a result of this proposed change in construction methodology.

10. Impact Assessment – Construction

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No additional clearing of vegetation would be required outside of what has been assessed and approved under SSI-10038-Mod-2. As such, no additional impacts to the approved project are anticipated as a result of the updated construction methodology proposed under this Consistency Assessment.	No additional measures required beyond those identified in SSI-10038-Mod-2. Mitigation measures proposed in the FFMP already address SSI-10038-Mod-2 and the changes proposed under this Consistency Assessment. Revision of the FFMP will require the acknowledgement of the construction methodology described in this consistency assessment.	Y	Y	
Water and soils	SSI-10038-Mod-2 identified that the groundwater and ground movement approved under the modification (including the additional land area where this change in construction methodology is proposed) is consistent with groundwater and ground movement assessed for the approved project. SSI-10038-Mod-2 also noted that the revised location of Rosehill dive structure will not significantly change the groundwater in the area or the impacts to ground movement. Soils and surface water quality approved under the modification were also identified to be consistent with those assessed for the approved project. The proposed change in construction methodology addressed in this Consistency Assessment are anticipated to be consistent to that assessed for the SSI-10038-Mod-2 dive structure. As such, no additional impacts to the approved project are	No additional measures required beyond those identified in SSI-10038-Mod-2.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	anticipated as a result of the updated construction methodology proposed under this Consistency Assessment.				
Air quality	No additional impacts to the approved project.	No additional measures required.	Y	Y	
Noise and vibration	<p>The draft DNVIS (610.30644-R02-v0.4) prepared by SLR has addressed emissions associated with the proposed changes in construction methodology outlined in this Consistency Assessment.</p> <p>A summary of the relevant noise results from the DNVIS and how these are consistent with the overall impacts assessed as part of the approved project has been included in Appendix B to support this Consistency Assessment.</p> <p>The results of the DNVIS (summarised in Appendix B) indicate that the DNVIS accurately represents noise and vibration impacts associated with the construction methodology proposed under this Consistency Assessment.</p> <p>The authors of this Consistency Assessment confirmed the features and outcomes of the DNVIS with SLR via teleconference on 9 June 2022.</p>	<p>No additional measures required unless identified by DNVIS.</p> <p>Noise impacts would also continue to be managed in accordance with the Sydney Metro Construction Noise and Vibration Standard.</p>	Y	Y	
Indigenous heritage	<p>SSI-10038-Mod-2 identified that the modification (including the additional land area where this change in construction methodology is proposed) is not located within an area of Aboriginal archaeological potential as identified in Technical Paper 4 of the EIS for the approved project.</p> <p>As such, no additional impacts to the approved project are anticipated as a result of the updated construction methodology proposed under this Consistency Assessment.</p>	<p>No additional measures required beyond those identified in SSI-10038-Mod-2</p> <p>Revision of the HMP to incorporate all relevant aspects of SSI-10038-Mod-2 and acknowledge the construction methodology described in this consistency assessment.</p>	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Non-indigenous heritage	<p>SSI-10038-Mod-2 identified that non-Aboriginal heritage impacts are anticipated to change as a result of the modification. Construction access to the revised Rosehill dive structure location requires relocation of a locally significant heritage item (Rosehill Railway Station Footbridge).</p> <p>The proposed change in construction methodology addressed in this Consistency Assessment does not however generate any additional non-indigenous heritage impacts.</p> <p>As such, no additional impacts to the approved project are anticipated as a result of the updated construction methodology proposed under this Consistency Assessment.</p>	<p>No additional measures required beyond those identified in SSI-10038-Mod-2</p> <p>Revision of the HMP to incorporate all relevant aspects of SSI-10038-Mod-2 and acknowledge the construction methodology described in this consistency assessment.</p>	Y	Y	
Community and stakeholder	<p>Outcomes of the draft DNVIS (610.30644-R02-v0.3) prepared by SLR would be incorporated into community and stakeholder management and planning as required.</p> <p>Consultation would continue with stakeholders in line with SSI-10038-Mod-2, and updates would be provided through communication streams already established through the approved project.</p> <p>As such, no additional impacts to the approved project are anticipated as a result of the updated construction methodology proposed under this Consistency Assessment.</p>	<p>With regards to noise and vibration, no additional community and stakeholder measures required as a result of this Consistency Assessment, outside of those identified within the DNVIS and/or associated documentation e.g. DNVIS Consultation Report.</p> <p>Targeted GLC consultation for noise and vibration to occur (already planned).</p> <p>GLC meetings with Parramatta City Council and ongoing consultation with major stakeholders in line with SSI-10038-Mod-2 (already occurring and/or planned).</p>	Y	Y	
Traffic	No additional impacts to the approved project.	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Waste	<p>The construction methodology changes proposed under this Consistency Assessment will result in an increase in spoil production by 5,500 m³. However, this spoil is anticipated to be reused on site and the excavation shaft, adit and T section will be backfilled at the conclusion of works. The resultant increase in spoil is therefore minimal when compared to the amount of spoil generation already approved for the overall Clyde site, which as per SSI-10038-Mod-2 is estimated to be 165,000 m³.</p> <p>SSI-10038-Mod-2 identified that the spoil, waste management and resource use approved under the modification (including the additional land area where this change in construction methodology is proposed) will be consistent with those assessed for the approved project.</p> <p>It noted that less spoil may be generated as a result of the revised Kay Street and Unwin Street realignment but the proposed change documented in this Consistency Assessment has no interaction with that realignment.</p> <p>As such, the increase in spoil production as a result of the updated construction methodology proposed under this Consistency Assessment will not substantially increase the generation of spoil already approved for the broader Clyde site. Spoil generated as a result of the updated construction methodology will also be reused and/or backfilled on site where possible, which will ultimately result in a reduction to the anticipated amount of spoil.</p>	No additional measures required beyond those identified in SSI-10038-Mod-2.	Y	Y	
Social	No additional impacts to the approved project.	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Economic	No additional impacts to the approved project.	No additional measures required.	Y	Y	
Visual	<p>SSI-10038-Mod-2 identified that revised location of the Rosehill dive structure would have a moderate adverse landscape impact during construction on the former T6 Carlingford Line and Rosehill Railway Station, due to the removal of the vegetation along the embankments, reducing the shade cover and overall amenity.</p> <p>A desktop Visual Impact Assessment (VIA) has been prepared to assess relevant landscape and visual impacts resulting from the installation of the acoustic shed proposed under this Consistency Assessment. The desktop VIA has been included as Appendix C to this Consistency Assessment.</p> <p>The results of the desktop VIA (Appendix C) indicate that the proposed updates to the construction methodology outlined in this Consistency Assessment would be largely consistent with the visual landscape assessed under SSI-10038-Mod-2. The desktop VIA also provides additional mitigation measures to help reduce visual impacts associated with the installation of the acoustic shed.</p>	No additional measures required beyond those identified in SSI-10038-Mod-2 and the desktop VIA (Appendix C).	Y	Y	
Urban design	No additional impacts to the approved project.	No additional measures required.	Y	Y	
Hydrology and flooding	SSI-10038-Mod-2 identified that hydrology and flooding impacts are anticipated to change as a result of the modification. These impacts were however limited Unwin Street and Kay Street realignment, and were anticipated to be minimal as	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	<p>the culverts, and associated benefits, for the approved project would be retained.</p> <p>The proposed change documented in this Consistency Assessment has not interaction with that realignment Kay Street and Unwin Street realignment and will not alter proposed culverts, such that associated benefits for the approved project would be retained.</p> <p>The proposed change in construction methodology addressed in this Consistency Assessment are anticipated to be consistent to that assessed for the SSI-10038-Mod-2 dive structure.</p> <p>As such, no additional impacts to the approved project are anticipated as a result of the updated construction methodology proposed under this Consistency Assessment.</p>				
Land use	No additional impacts to the approved project.	No additional measures required.	Y	Y	
Contamination	<p>SSI-10038-Mod-2 noted that contamination impacts were anticipated to change as a result of the modification (including the additional land area where this change in construction methodology is proposed). It identified changes to the revised dive structure location may expose additional contamination, however this was determined to be minimal.</p> <p>The proposed change in construction methodology addressed in this Consistency Assessment are anticipated to be consistent to that assessed for the SSI-10038-Mod-2 dive structure.</p> <p>As such, no additional impacts to the approved project are anticipated as a result of the updated</p>	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	construction methodology proposed under this Consistency Assessment.				
Climate change	No additional impacts to the approved project.	No additional measures required.	Y	Y	
Risk	No additional impacts to the approved project.	No additional measures required.	Y	Y	
Other	No additional impacts to the approved project.	No additional measures required.	Y	Y	
Management and mitigation measures	No additional impacts to the approved project.	No additional measures required.	Y	Y	

11. Impact Assessment – Operation

As noted in **Section 3** above, the proposed change in construction methodology will not impact any aspects of operations and is entirely limited to the construction phase.

Furthermore, Stage 1 of the planning application for Sydney Metro West (subject of this Consistency Assessment) is for major civil construction work for Sydney Metro West between Westmead and The Bays. At this stage, measures to avoid or minimise impacts have been developed only for major civil construction work for Sydney Metro West between Westmead and The Bays – which involves construction only. Impacts applicable to the operational aspects of Sydney Metro West including operation stage environmental mitigation measures would be developed when planning approval applications are made for future stages. This includes the scope of this Consistency Assessment with details of the associated operational impacts and appropriate mitigation to be provided as part of the relevant future planning approval staged application.

As such, operational impacts of the proposal are not applicable, and therefore there are no changes from the approved project are anticipated.

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No change from the approved project.	No additional measures required.	Y	Y	
Water	No change from the approved project.	No additional measures required.	Y	Y	
Air quality	No change from the approved project.	No additional measures required.	Y	Y	
Noise vibration	No change from the approved project.	No additional measures required.	Y	Y	
Indigenous heritage	No change from the approved project.	No additional measures required.	Y	Y	
Non-indigenous heritage	No change from the approved project.	No additional measures required.	Y	Y	
Community and stakeholder	No change from the approved project.	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Traffic	No change from the approved project.	No additional measures required.	Y	Y	
Waste	No change from the approved project.	No additional measures required.	Y	Y	
Social	No change from the approved project.	No additional measures required.	Y	Y	
Economic	No change from the approved project.	No additional measures required.	Y	Y	
Visual	No change from the approved project.	No additional measures required.	Y	Y	
Urban design	No change from the approved project.	No additional measures required.	Y	Y	
Hydrology and Flooding	No change from the approved project.	No additional measures required.	Y	Y	
Land use	No change from the approved project.	No additional measures required.	Y	Y	
Climate Change	No change from the approved project.	No additional measures required.	Y	Y	
Risk	No change from the approved project.	No additional measures required.	Y	Y	
Other	No change from the approved project.	No additional measures required.	Y	Y	
Management and mitigation measures	No change from the approved project.	No additional measures required.	Y	Y	

12. Consistency with the Approved Project

<p>Based on a review and understanding of the existing Approved Project and the proposed modifications, is there is a transformation of the Project?</p>	<p>No. The proposal would not transform the project. The project would continue to provide major civil works between Westmead and The Bays as part of the approved project.</p>
<p>Is the project as modified consistent with the objectives and functions of the Approved Project as a whole?</p>	<p>Yes. The proposal would be consistent with the objectives and functions of the approved project.</p>
<p>Is the project as modified consistent with the objectives and functions of elements of the Approved Project?</p>	<p>Yes. The proposal would be consistent with the objectives and functions of the approved works for the project. The activities proposed to be undertaken are generally consistent with the activities identified for the approved project.</p>
<p>Are there any new environmental impacts as a result of the proposed works/modifications?</p>	<p>No. There would be no new environmental risks as a result of the proposal. All risks identified for the approved project and the proposal would be adequately addressed through the application of the mitigation measures provided in the Environmental Impact Statement, Submissions Report, Amendment Report, Subsequent Modifications and Consolidated Instrument of Approval (3 June 2022).</p>
<p>Is the project as modified consistent with the conditions of approval?</p>	<p>Yes. The proposal would be consistent with the conditions of approval, or those revised under SSI-10038-Mod-2.</p>
<p>Are the impacts of the proposed activity/works known and understood?</p>	<p>Yes. The impacts of the proposal are understood and will be accounted for by implementing the existing mitigation measures provided in the Environmental Impact Statement, Submissions Report, Amendment Report, Subsequent Modifications and Consolidated Instrument of Approval (3 June 2022). These would be implemented through the Sydney Metro Construction Environment Management Framework, Construction Traffic Management Framework and Construction Noise and Vibration Standard.</p>
<p>Are the impacts of the proposed activity/works able to be managed so as not to have an adverse impact?</p>	<p>Yes. The impacts of the proposal can be managed so as to avoid an adverse impact.</p>

13. Other Environmental Approvals

Identify all other approvals required for the project:	n/a
--	-----

Author certification

To be completed by person preparing checklist.

I certify that to the best of my knowledge this Consistency Checklist:

- Examines and takes into account the fullest extent possible all matters affecting or likely to affect the environment as a result of activities associated with the Proposed Revision; and
- Examines the consistency of the Proposed Revision with the Approved Project; is accurate in all material respects and does not omit any material information.

Name:	Nathan Baker	Signature:	
Title:	Principal Environmental Consultant, CEnvP 1484		
Company:	Umwelt (Australia) Pty Limited, on behalf of GLC	Date:	22 July 2022

This section is for Sydney Metro only.

Application supported and submitted by

Name:	Yvette Buchli	Date:	02/08/2022
Title:	Associate Director - Planning Approvals	Comments:	
Signature:			

Based on the above assessment, are the impacts and scope of the proposed activity/modification consistent with the existing Approved Project?

- Yes The proposed activity/works are consistent and no further assessment is required.
- No The proposed works/activity is not consistent with the Approved Project. A modification or a new activity approval/ consent is required. Advise Project Manager of appropriate alternative planning approvals pathway to be undertaken.

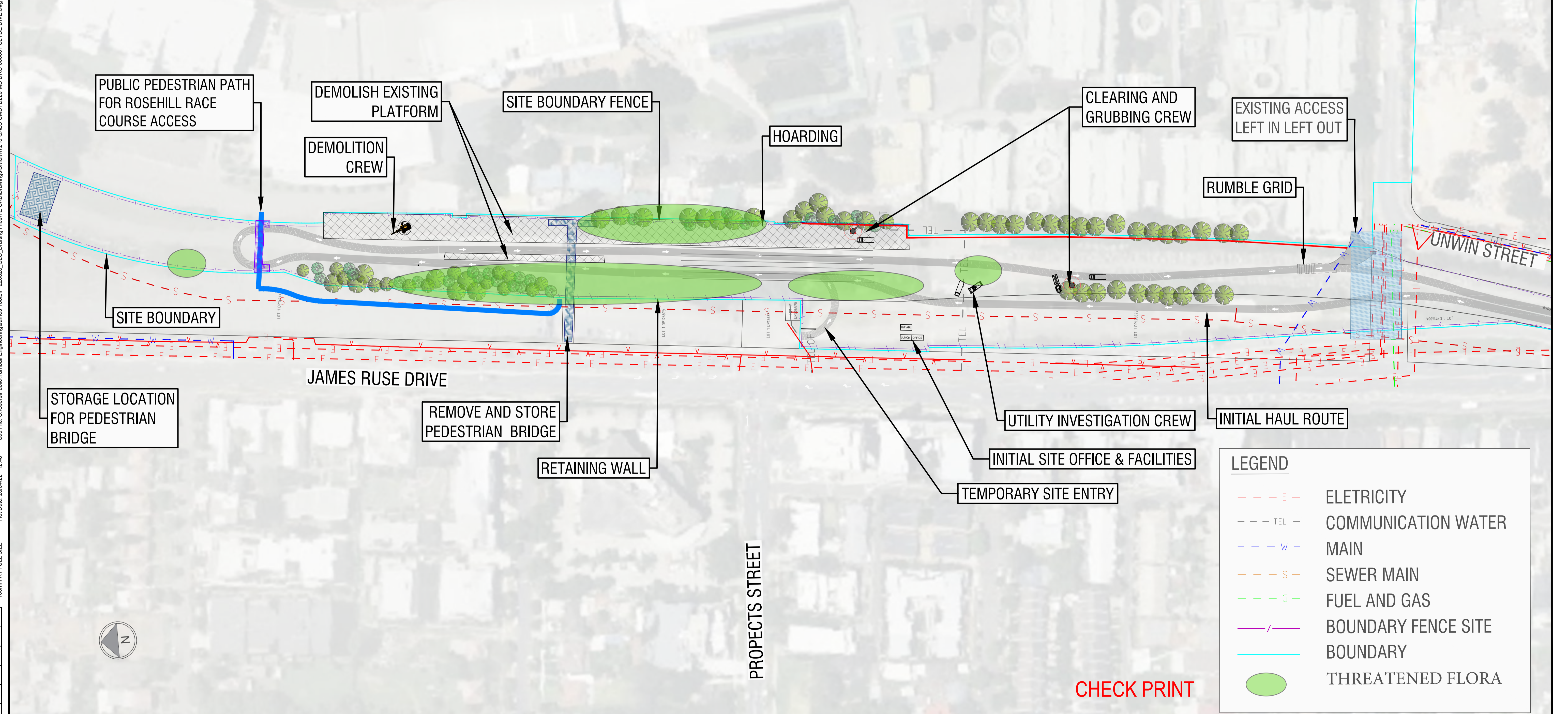
Endorsed by			
Name:	Carolyn Riley	Date:	03/08/2022
Title:	Director Environmental, Sustainability and Planning	Comments:	
Signature:			

Appendix A – Clyde Dive and Portal Structure - Construction Methodology Staging

STAGE 1 - SITE ESTABLISHMENT (2 MONTHS)

- INSTALL FENCING AND NOISE WALL AROUND BOUNDARY
- UTILITY INVESTIGATION WORKS
- INSTALL ERSED CONTROLS
- CLEARING AND GRUBBING
- SET UP INITIAL SITE OFFICE AND FACILITIES
- DEMOLISH EXISTING PLATFORM
- REMOVE AND STORE EXISTING PEDESTRIAN BRIDGE
- CONSTRUCT RETAINING WALL
- INSTALL RUMBLE GRID
- COMMENCE SITE WIDE EARTHWORKS
- COMMENCE WESTERN BATTER SHOTCRETE WORKS

ROSEHILL GARDENS RACECOURSE



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Service Providers

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 DESIGNED: DESIREE KARZON
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 DESIGN CHECK: _____
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SYDNEY METRO
 THE CLYDE DIVE AND PORTAL STRUCTURE
 MOBILISATION & SITE ESTABLISHMENT - STAGE 1
 SITE LAYOUT

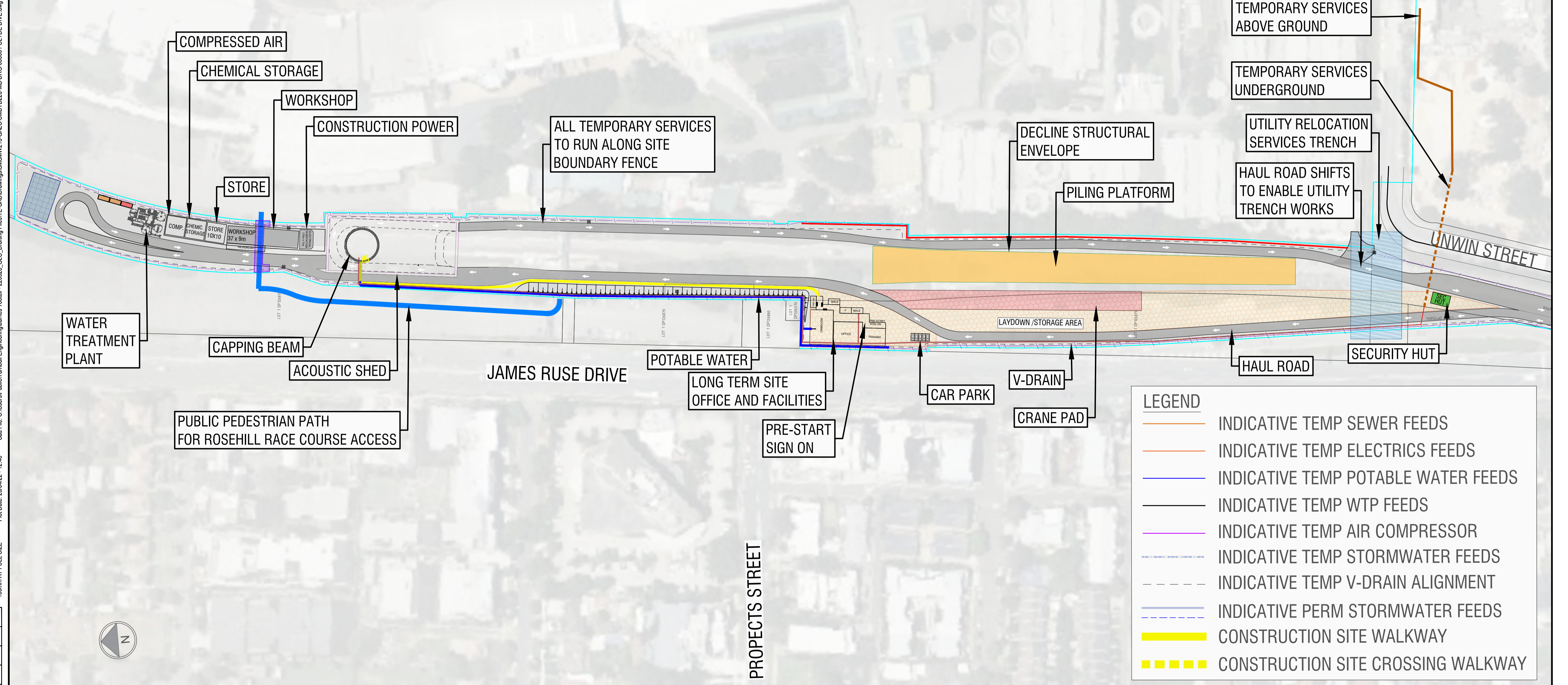
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STAGE 2 - SITE SET UP, UTILITIES AND PILING PAD CONSTRUCTION (6 MONTHS)

- INSTALL TEMPORARY SITE SERVICES AND DRAINAGE
- COMMENCE UTILITY RELOCATION WORKS
- INSTALL WATER TREATMENT PLANT
- CONSTRUCT HARD STANDS & HAUL ROADS
- SET UP WORKSHOP / COMPRESSED AIR / STORES
- CONSTRUCT PILING & CAPPING BEAM FOR SHAFT & EXCAVATE
- CONSTRUCT ACOUSTIC SHED FOUNDATION AND STRUCTURE
- COMMENCE SHAFT EXCAVATION
- PILING PAD FOR DIVE STRUCTURE
- COMPLETE SITE WIDE EARTHWORKS
- COMPLETE WESTERN BATTER SHOTCRETE WORKS

ROSEHILL GARDENS RACECOURSE



LEGEND

	INDICATIVE TEMP SEWER FEEDS
	INDICATIVE TEMP ELECTRICS FEEDS
	INDICATIVE TEMP POTABLE WATER FEEDS
	INDICATIVE TEMP WTP FEEDS
	INDICATIVE TEMP AIR COMPRESSOR
	INDICATIVE TEMP STORMWATER FEEDS
	INDICATIVE TEMP V-DRAIN ALIGNMENT
	INDICATIVE PERM STORMWATER FEEDS
	CONSTRUCTION SITE WALKWAY
	CONSTRUCTION SITE CROSSING WALKWAY

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SYDNEY METRO
 THE CLYDE DIVE AND PORTAL STRUCTURE
 MOBILISATION & SITE ESTABLISHMENT - STAGE 2
 SITE SET UP, UTILITIES AND PILING PAD CONSTRUCTION
 SITE LAYOUT

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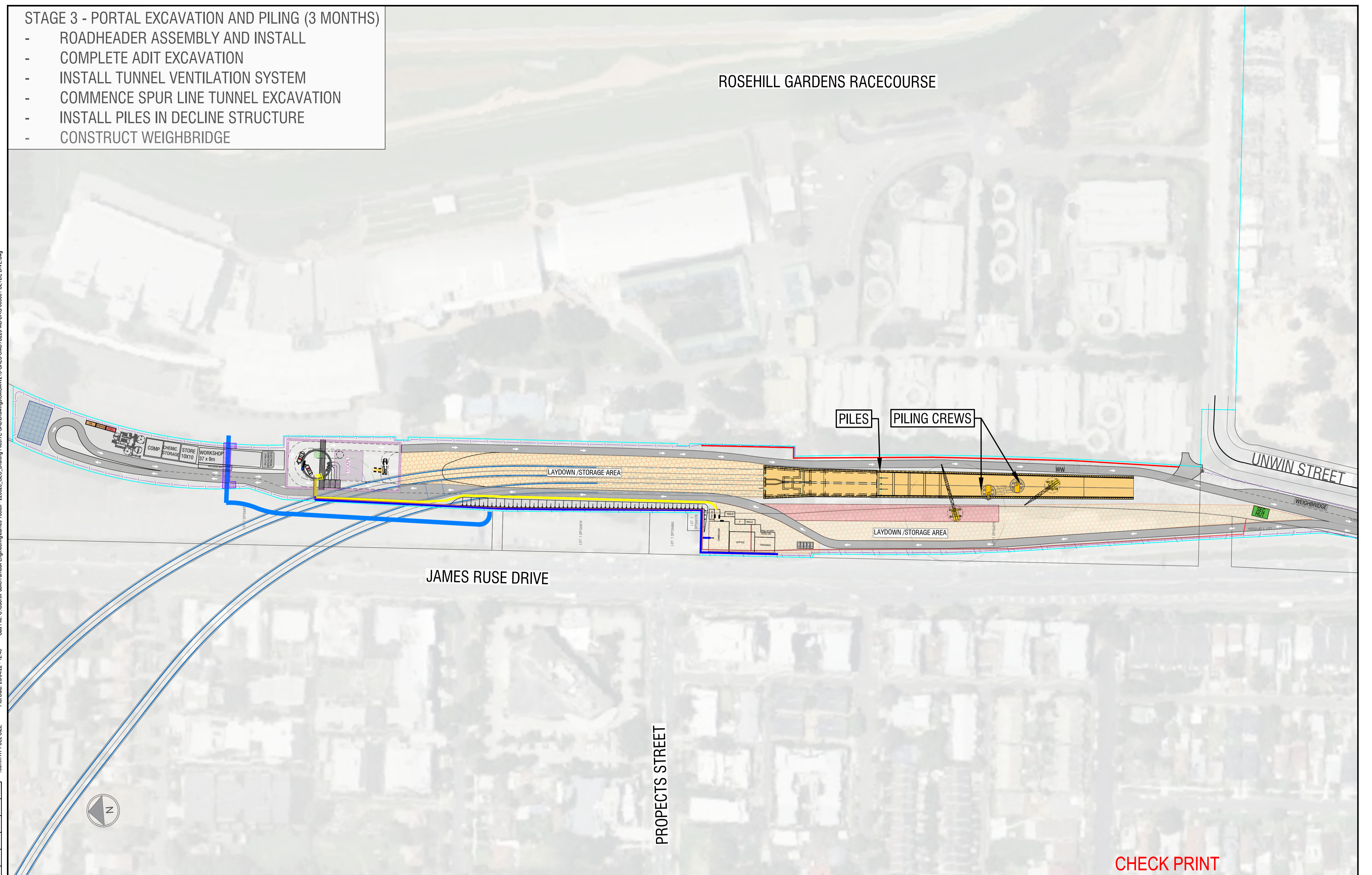
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STAGE 3 - PORTAL EXCAVATION AND PILING (3 MONTHS)

- ROADHEADER ASSEMBLY AND INSTALL
- COMPLETE ADIT EXCAVATION
- INSTALL TUNNEL VENTILATION SYSTEM
- COMMENCE SPUR LINE TUNNEL EXCAVATION
- INSTALL PILES IN DECLINE STRUCTURE
- CONSTRUCT WEIGHBRIDGE

ROSEHILL GARDENS RACECOURSE

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SYDNEY METRO
THE CLYDE DIVE AND PORTAL STRUCTURE
MOBILISATION & SITE ESTABLISHMENT - STAGE 3
PORTAL EXCAVATION AND PILING
SITE LAYOUT

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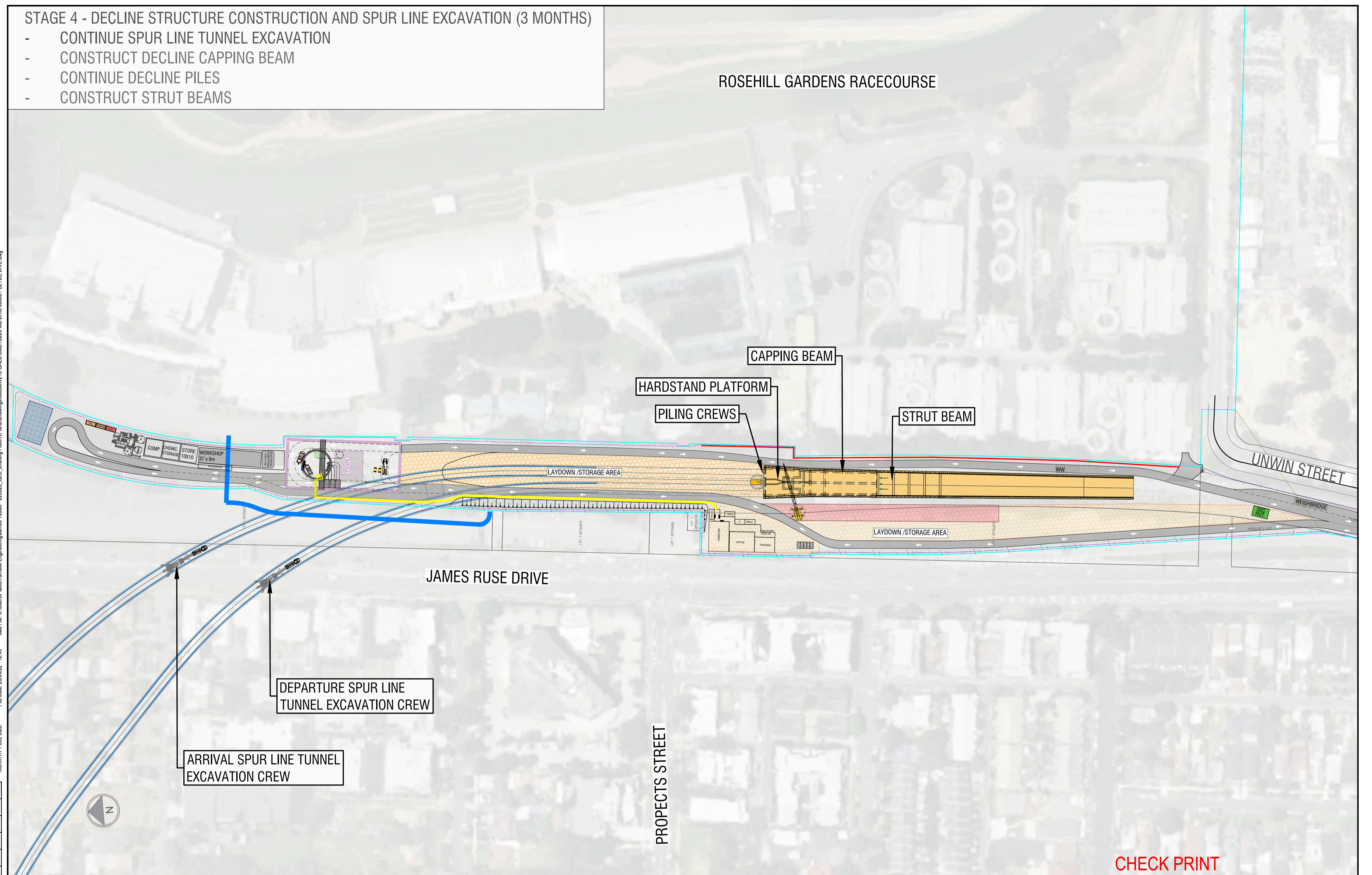
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STAGE 4 - DECLINE STRUCTURE CONSTRUCTION AND SPUR LINE EXCAVATION (3 MONTHS)

- CONTINUE SPUR LINE TUNNEL EXCAVATION
- CONSTRUCT DECLINE CAPPING BEAM
- CONTINUE DECLINE PILES
- CONSTRUCT STRUT BEAMS

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THE CLYDE DIVE AND PORTAL STRUCTURE
 MOBILISATION & SITE ESTABLISHMENT - STAGE 4
 DECLINE STRUCTURE CONSTRUCTION AND SPUR LINE EXCAVATION
 SITE LAYOUT

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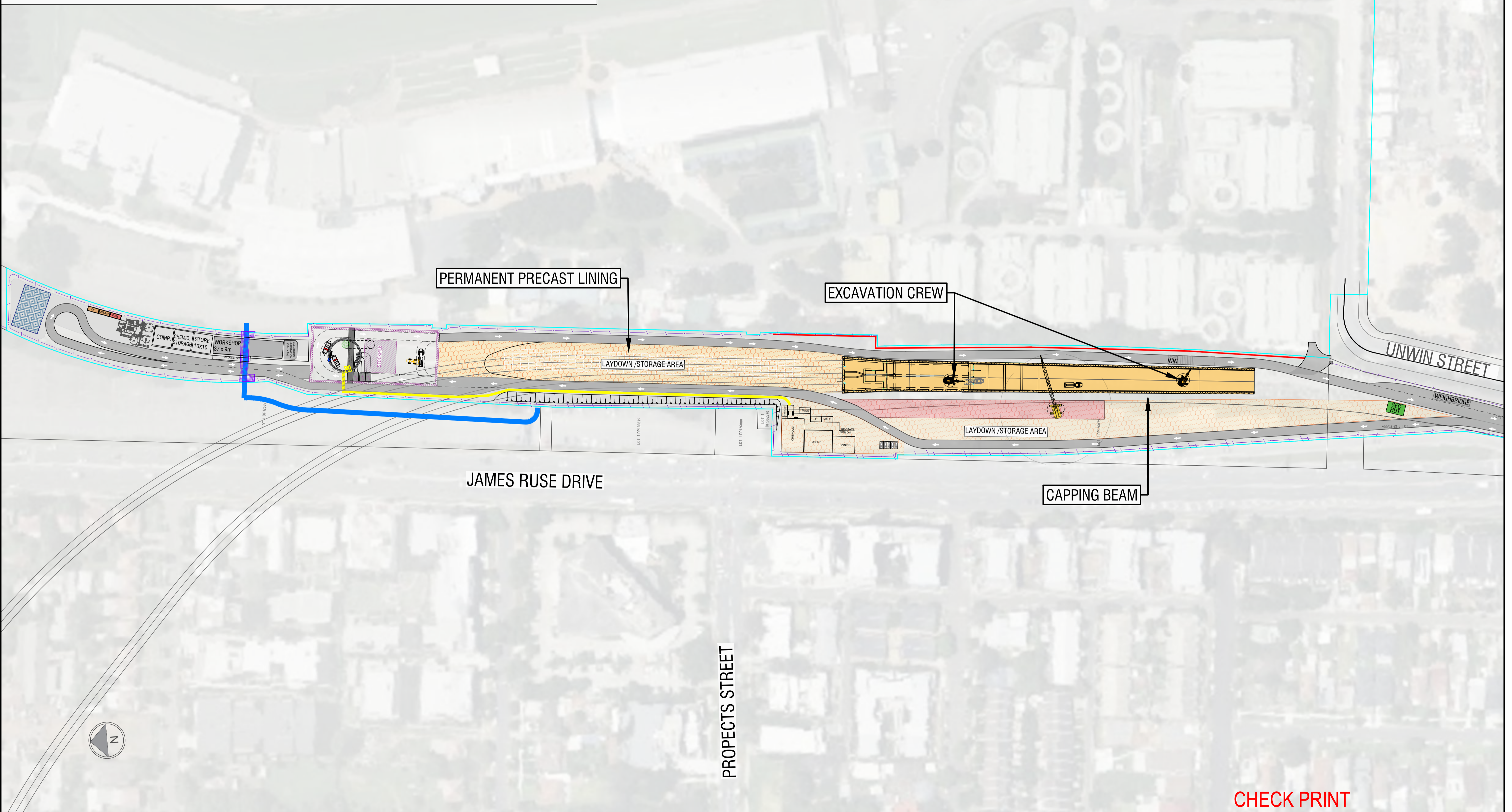
STAGE 5 - SPUR LINE TUNNEL AND DECLINE EXCAVATION AND BUILD (7 MONTHS)

- COMPLETE SPUR LINE TUNNEL EXCAVATION
- COMMENCE EXCAVATION OF JUNCTION CAVERNS
- COMMENCE PERMANENT LINING OF SPUR LINE TUNNELS
- EXCAVATE DECLINE
- CONSTRUCT CAPPING BEAM
- CONSTRUCT BASE SLAB

ROSEHILL GARDENS RACECOURSE

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SYDNEY METRO
 THE CLYDE DIVE AND PORTAL STRUCTURE
 MOBILISATION & SITE ESTABLISHMENT - STAGE 5
 SPUR LINE TUNNEL AND DECLINE EXCAVATION AND BUILD
 SITE LAYOUT

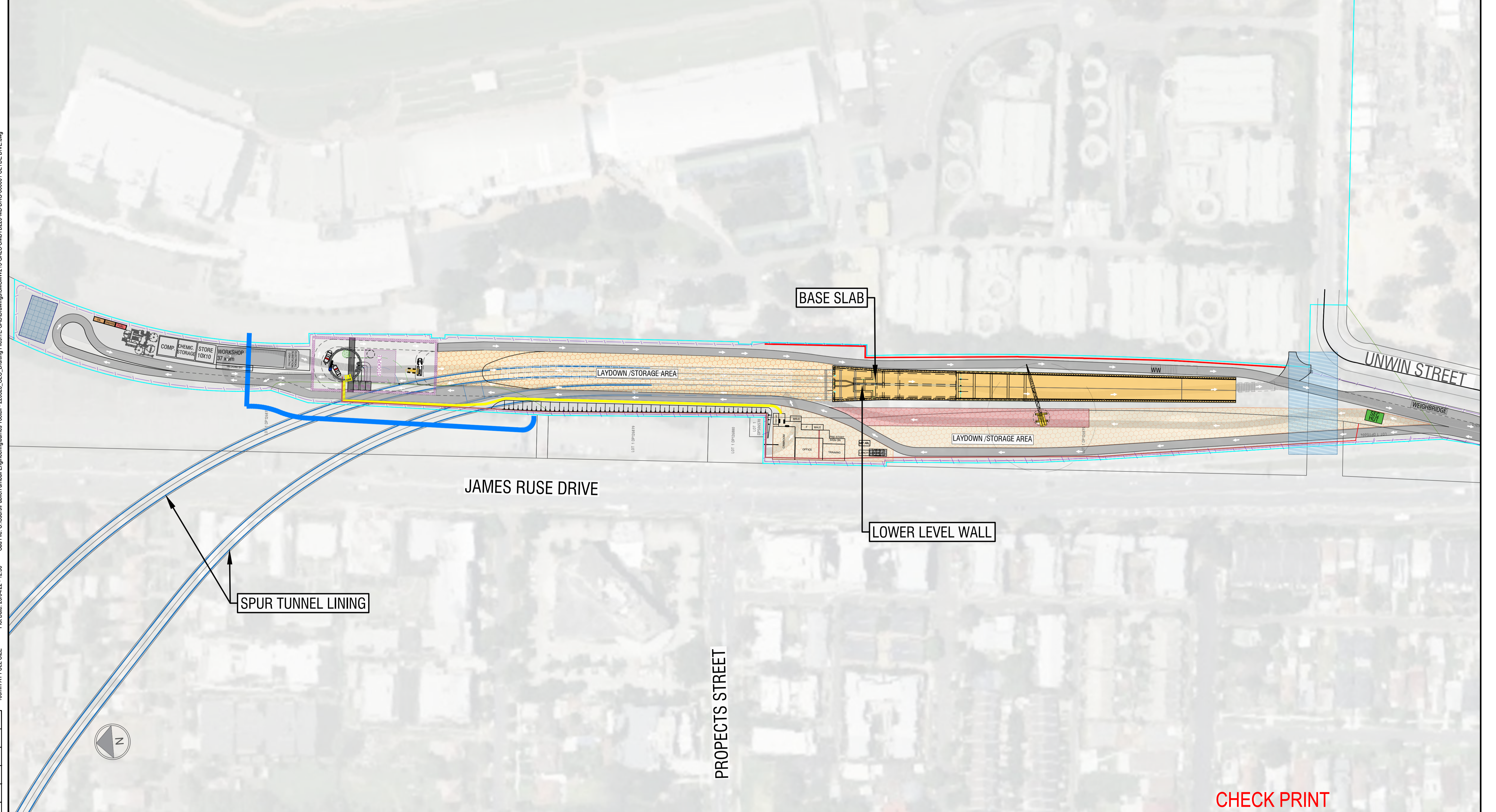
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STAGE 6 - JUNCTION EXCAVATION AND PORTAL BUILD (4 MONTHS)

- COMPLETE EXCAVATION OF JUNCTION CAVERNS
- CONTINUE PERMANENT LINING OF SPUR LINE TUNNELS
- COMMENCE PERMANENT LINING OF JUNCTION CAVERNS
- CONSTRUCT BASE SLAB OF DECLINE STRUCTURE
- CONSTRUCT LOWER LEVEL WALL OF DECLINE STRUCTURE

ROSEHILL GARDENS RACECOURSE



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SYDNEY METRO
 THE CLYDE DIVE AND PORTAL STRUCTURE
 MOBILISATION AND SITE ESTABLISHMENT - STAGE 6
 JUNCTION EXCAVATION AND PORTAL BUILD
 SITE LAYOUT

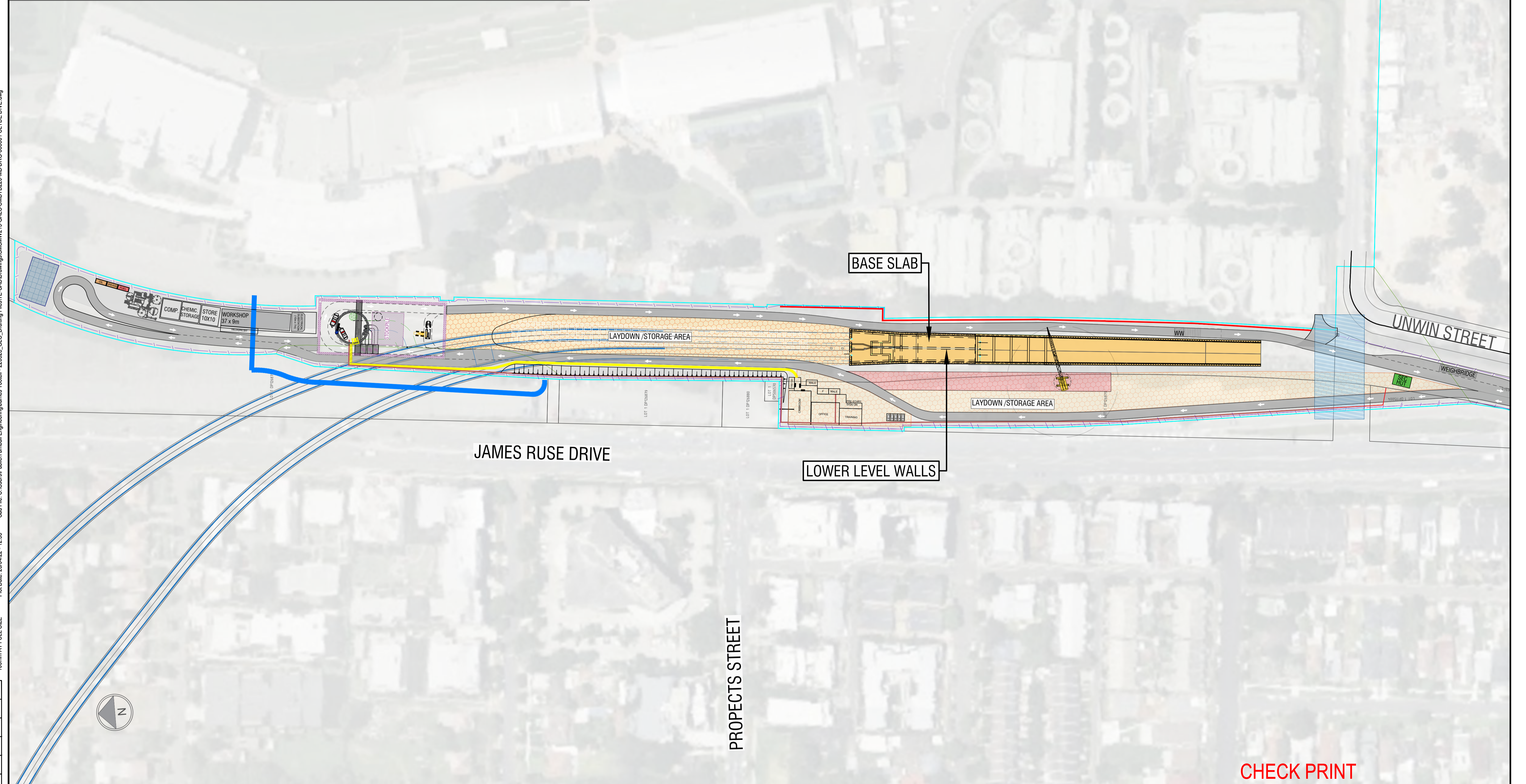
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STAGE 7 - TUNNEL LINING AND PORTAL CONSTRUCTION (2 MONTHS)

- CONTINUE LINING OF SPUR LINE TUNNELS
- CONTINUE LINING OF JUNCTION CAVERNS
- CONSTRUCT BASE SLAB OF DECLINE STRUCTURE
- CONSTRUCT LOWER LEVEL PERIMETRAL WALLS OF DECLINE STRUCTURE
- CONSTRUCT LOWER LEVEL DEFLECTION WALLS OF DECLINE STRUCTURE
- CONSTRUCT SERVICE SLAB OF DECLINE STRUCTURE
- CONSTRUCT FIRST LEVEL COLUMNS OF DECLINE STRUCTURE

ROSEHILL GARDENS RACECOURSE



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A	D.K	20.0.2021	FOR REVIEW	
A1	Original		Co-ordinate System: MGA Zone 56 Height Datum: A.H.D.	

SCALES

NOTE: Do not scale from this drawing. ALT. DRG No. [Alt. Drg. No.]

CLIENT

Service Providers

DRAWN: DESIREE KARZON
DESIGNED: DESIREE KARZON
DRG CHECK: _____
DESIGN CHECK: _____
APPROVED: _____

SYDNEY METRO
THE CLYDE DIVE AND PORTAL STRUCTURE
MOBILISATION AND SITE ESTABLISHMENT - STAGE 7
TUNNEL LINING AND PORTAL CONSTRUCTION
SITE LAYOUT

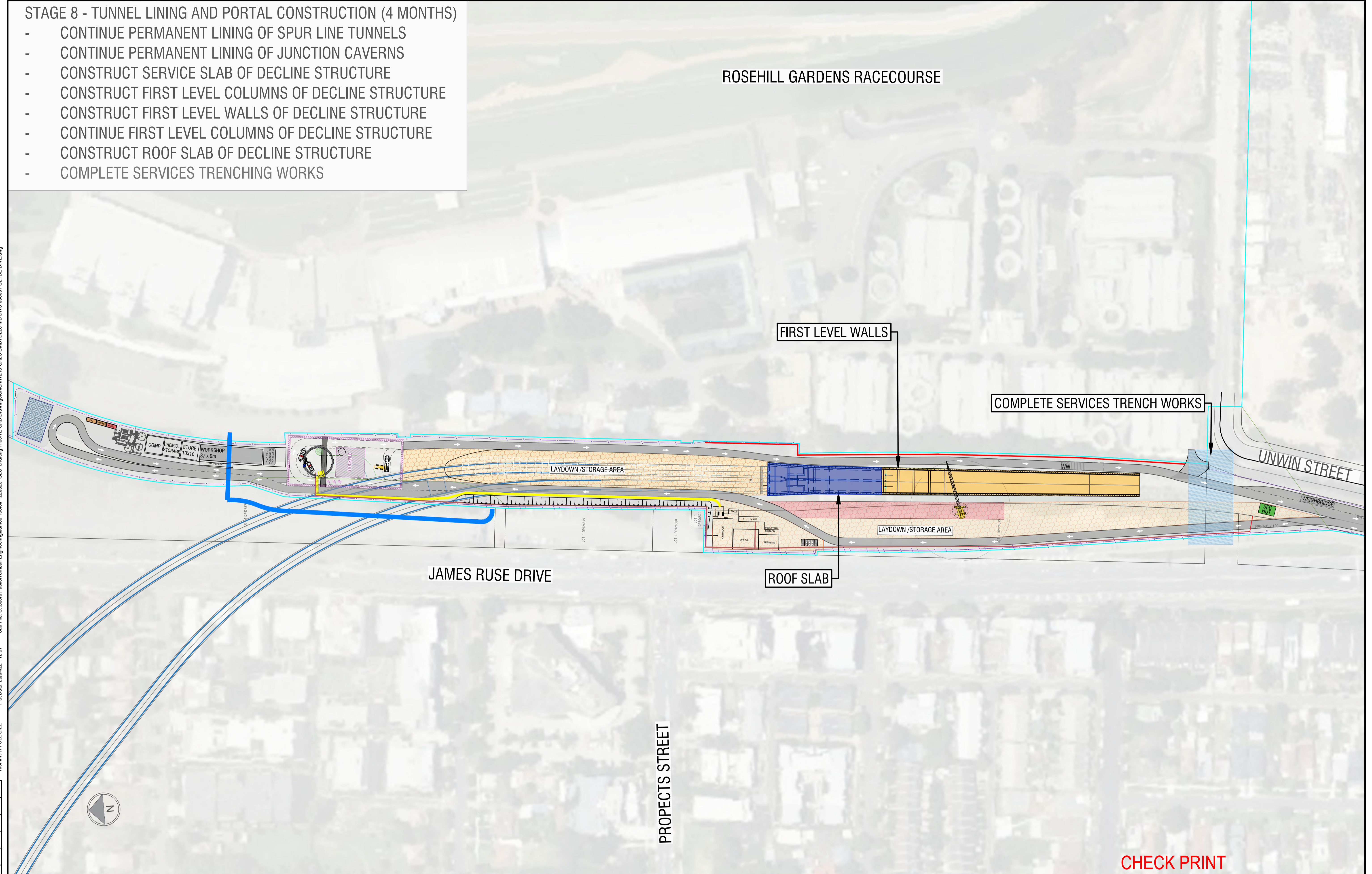
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WORK IN PROGRESS

STAGE 8 - TUNNEL LINING AND PORTAL CONSTRUCTION (4 MONTHS)

- CONTINUE PERMANENT LINING OF SPUR LINE TUNNELS
- CONTINUE PERMANENT LINING OF JUNCTION CAVERNS
- CONSTRUCT SERVICE SLAB OF DECLINE STRUCTURE
- CONSTRUCT FIRST LEVEL COLUMNS OF DECLINE STRUCTURE
- CONSTRUCT FIRST LEVEL WALLS OF DECLINE STRUCTURE
- CONTINUE FIRST LEVEL COLUMNS OF DECLINE STRUCTURE
- CONSTRUCT ROOF SLAB OF DECLINE STRUCTURE
- COMPLETE SERVICES TRENCH WORKS

ROSEHILL GARDENS RACECOURSE



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JAMES RUSE DRIVE

PROPECTS STREET

UNWIN STREET

WEIGHBRIDGE

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B	M.J	01.04.2022	FOR REVIEW	
A	D.K	20.0.2021	FOR REVIEW	
A1	Original		Co-ordinate System: MGA Zone 56	

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SCALES

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NOTE: Do not scale from this drawing. ALT. DRG No. [Alt. Drg. No.]

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Service Providers

DRAWN: DESIREE KARZON
 DESIGNED: DESIREE KARZON
 DRG CHECK: _____
 DESIGN CHECK: _____
 APPROVED: _____

SYDNEY METRO
 THE CLYDE DIVE AND PORTAL STRUCTURE
 MOBILISATION AND SITE ESTABLISHMENT
 TUNNEL LINING AND PORTAL CONSTRUCTION
 SITE LAYOUT

STATUS: TENDER DESIGN SHEET 8 OF 10

DRG No: SMWSTWTP-GALC-SWD-TD700-MB-DRG-003008 REV. B

WORK IN PROGRESS

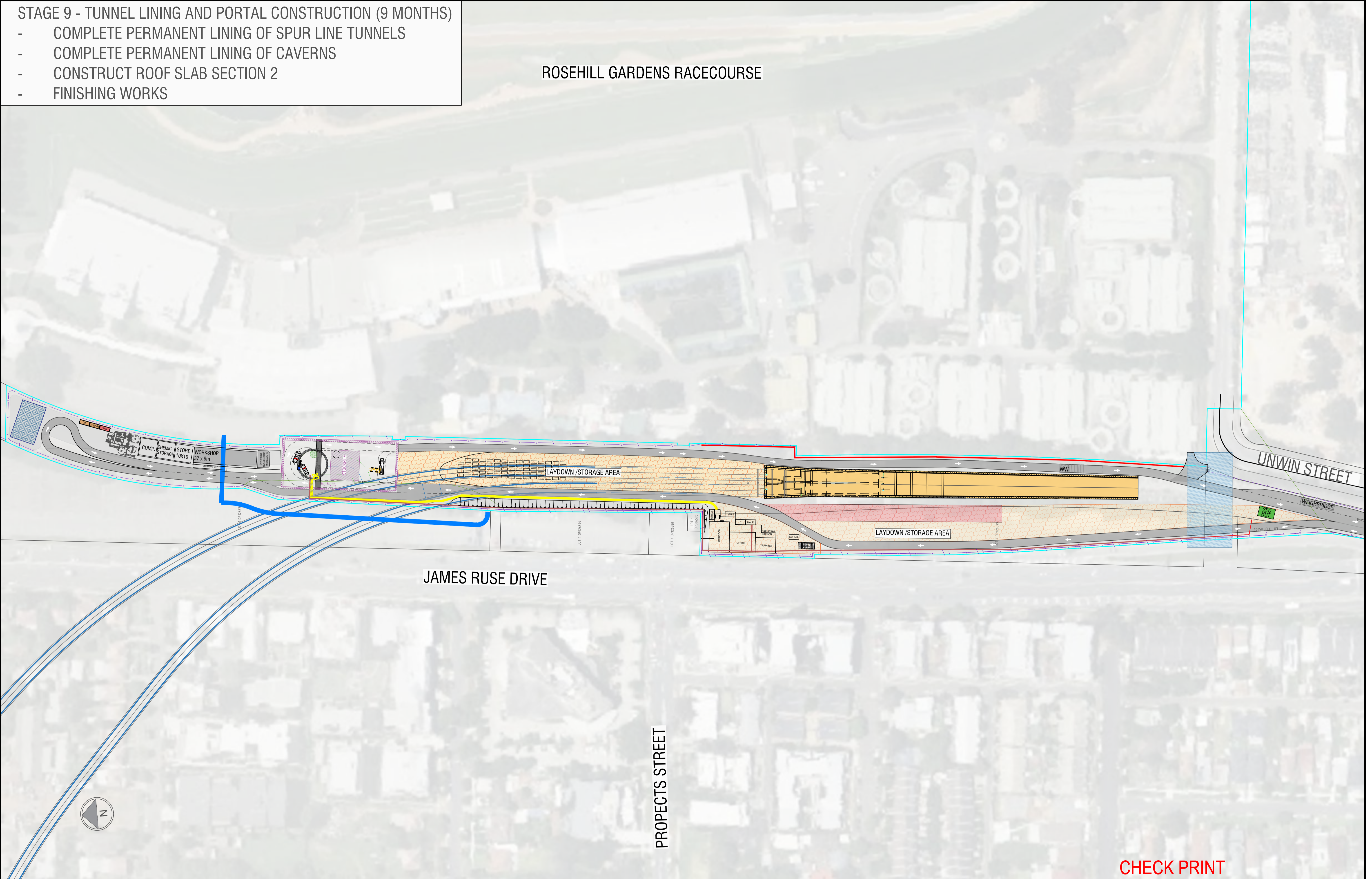
STAGE 9 - TUNNEL LINING AND PORTAL CONSTRUCTION (9 MONTHS)

- COMPLETE PERMANENT LINING OF SPUR LINE TUNNELS
- COMPLETE PERMANENT LINING OF CAVERNS
- CONSTRUCT ROOF SLAB SECTION 2
- FINISHING WORKS

ROSEHILL GARDENS RACECOURSE

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JAMES RUSE DRIVE

PROPECTS STREET

UNWIN STREET

WEIGHBRIDGE

CHECK PRINT

REV.	BY	DATE	DESCRIPTION	APPD.
B	M.J.	01.04.2022	FOR REVIEW	-
A	D.K.	20.0.2021	FOR REVIEW	-

WORK IN PROGRESS

A1 Original Co-ordinate System: MGA Zone 56 Height Datum: A.H.D. This sheet may be prepared using colour and may be incomplete if copied

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CLIENT

Service Providers

DRAWN: DESIREE KARZON
 DESIGNED: DESIREE KARZON
 DRG CHECK: _____
 DESIGN CHECK: _____
 APPROVED: _____

SYDNEY METRO
 THE CLYDE DIVE AND PORTAL STRUCTURE
 MOBILISATION & SITE ESTABLISHMENT - STAGE 9
 TUNNEL LINING AND PORTAL CONSTRUCTION
 SITE LAYOUT

STATUS: TENDER DESIGN SHEET 9 OF 10

DRG No: SMWSTWTP-GALC-SWD-TD700-MB-DRG-003009 REV. B

Appendix B – Clyde Dive and Portal Structure – Noise Briefing Note

Briefing Note – Noise Summary of Results

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Cc: Nathan Baker
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From: Thomas Buchan
Date: 22 July 2022
Subject: **Sydney Metro West Clyde Dive and Portal Structure – Planning Approval Consistency Assessment - Noise Summary of Results**

1.0 Introduction

The Sydney Metro West Project involves the construction and operation of a metro rail line around 24 kilometres long between Westmead and Hunter Street in the Sydney CBD. The key components are expected to include:

- Construction and operation of new passenger rail infrastructure between Westmead and the central business district of Sydney, including:
 - Tunnels, stations (including surrounding areas) and associated rail facilities
 - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)
- Modification of existing rail infrastructure (including stations and surrounding areas)
- Ancillary development.

A Planning Approval Consistency Assessment (CA) has been prepared to address the gap between the approved project and current construction methodologies proposed for the Clyde Dive and Portal Structure, as part of the broader Clyde Stabling and Maintenance Facility.

This briefing note has been prepared in response to Sydney Metro’s review of the CA, and provides a summary of noise levels from the relevant construction scenarios within the Sydney Metro West Western Tunneling Package (WTP) Detailed Noise and Vibration Impact Statement (DNVIS) prepared by SLR in June 2022 (SLR, 2022) that relate to the construction changes proposed under the CA. This briefing note also aims to demonstrate that the results of the DNVIS are consistent with the overall impacts addressed as part of the approved project, where possible.

1.1 Existing Approved Project

For the purposes of the Clyde Dive and Portal Structure construction methodology CA, the approved project is considered to include all relevant Clyde Stabling and Maintenance Facility aspects documented in a) the SSI-10038 Sydney Metro West – Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (Stage 1 of the planning approval process for Sydney Metro West), b) SSI-10038-Mod-1, and c) SSI-10038-Mod-2.

1.2 Changes in Construction Methodology Proposed under the Consistency Assessment

The changes in construction methodology for the Clyde Dive and Portal Structure proposed under the CA are summarised below:

- Addition of an excavation shaft (nominally 16 metres (m) in diameter and 25 m deep)
- Addition of an underground “adit” (8 m (w) x up to 7 m (h) with a length of 8 m at a depth of 25 m)
- Addition of an acoustic shed (nominally 20 m (w) x 20 m (h) with a length of 72 m) within the approved project boundary, located above the proposed excavation shaft and underground adit.
- Relocation of the tunnel portal approximately 100m south. The tunnel portal will be uncovered and involve open air excavation as per cut and cover methods being adopted across the project. The tunnel portal relocation will also result in an extension of the existing underground spur lines with the same profile geometry as outlined in the approved project, continuing to the new Dive Structure location.

The changes in construction methodology proposed under this CA for the Clyde Dive Portal and Structure construction site are presented on **Figure 1.1** below.

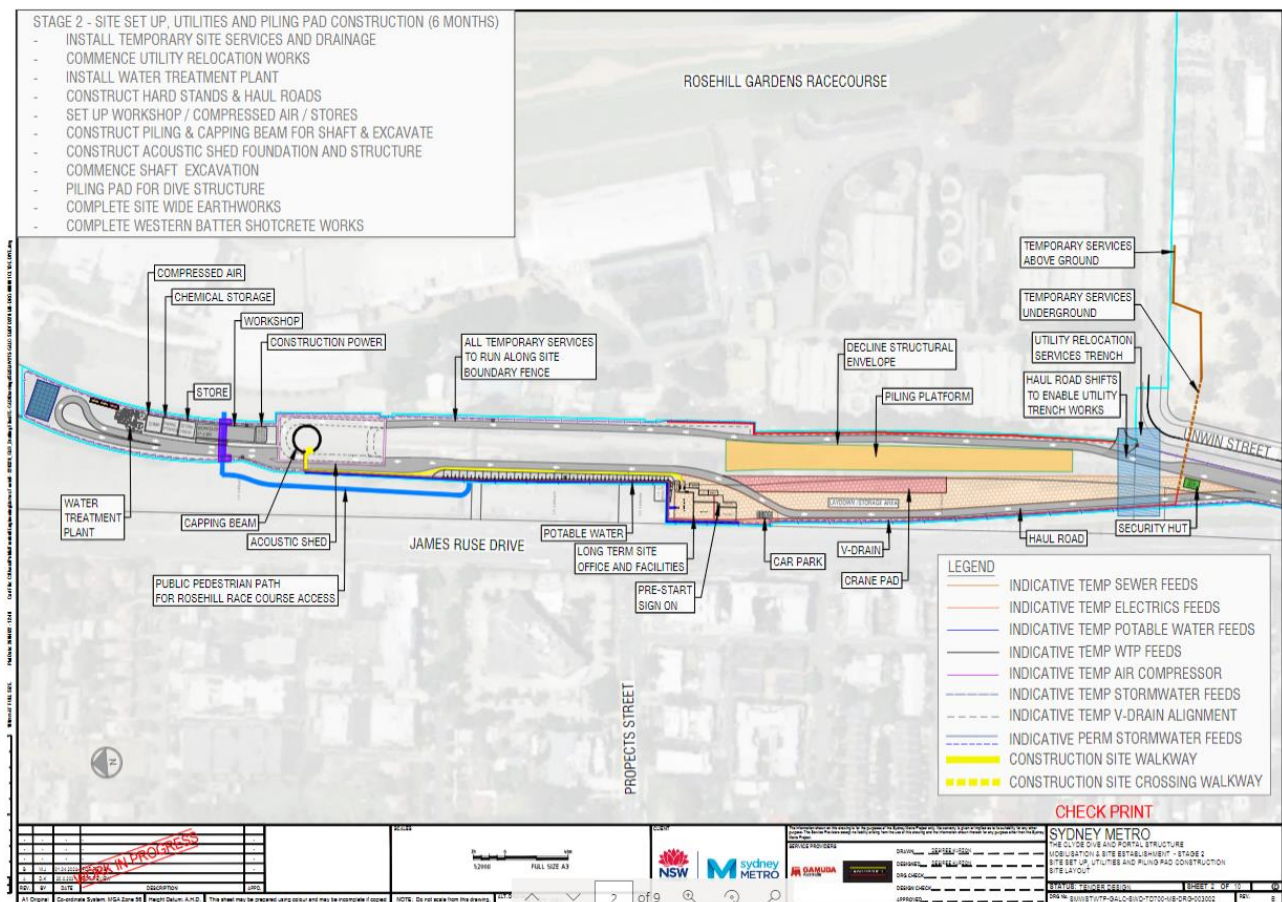


Figure 1-1 Clyde Dive and Portal Structure Construction Site
Source: GLC

1.3 DNVIS Summary

The DNVIS (SLR, 2022) assesses the potential construction noise and vibration impacts associated with the Sydney Metro West WTP Project and includes assessment at four key study areas across Sydney Metro West Stage 1, including Westmead, Parramatta, Clyde/Rosehill, and Sydney Olympic Park.

The DNVIS was prepared to accompany the Sydney Metro West – Western Tunneling Package Construction Noise and Vibration Management Plan (CNVMP) prepared by the Gamuda Australia Laing O’Rourke Consortium (GALC) (GALC, 2022a) as a sub-plan to the Sydney Metro West - Western Tunneling Package (WTP) Construction Environmental Management Plan (GALC, 2022b). The DNVIS was prepared in accordance with the CNVMP for the Project, as per the Minister’s Condition of approval (CoA) D43 and the requirements of the Sydney Metro Construction Noise and Vibration Standard (CNVS).

2.0 Consistency with the Approved Project

The DNVIS is largely consistent with the noise and vibration assessment approach adopted throughout the *Sydney Metro West – Westmead to the Bays Concept and Stage 1 - Environmental Impact Statement (EIS)* (Sydney Metro, 2020a). Consistency with key components of the noise and vibration assessment approach are summarised below:

- **Sensitive receptors and Noise Catchment Areas (NCAs)** – Both the Mod-2 NVIA and the DNVIS utilize the same nine NCAs as defined in the approved project. This approach has allowed for a consistent assessment of the same sensitive receptors across the project.

- Assessment Criteria and Noise Management Levels (NMLs)** – A consistent approach to calculating relevant assessment criteria and NMLs (in line with the NSW Interim Construction Noise Guideline and Noise Policy for Industry) has been adopted throughout the DNVIS, in line with the approved project. This approach has resulted in the same NMLs being adopted for all NCAs and has allowed for the implementation of appropriate mitigation measures when noise levels are predicted to exceed the NMLs at relevant NCAs.
- Plant and Equipment** – Sound power levels for the plant and equipment required to undertake work activities for each construction scenario are largely consistent between the DNVIS and the approved project. The DNVIS however contains a more accurate list of plant and equipment (and associated sound power levels), which is representative of a more in-depth noise and vibration assessment approach adopted throughout the DNVIS. Largely consistent plant and equipment (and associated sound power levels) included in each scenario results in a consistent approach to predicting noise levels at NCAs, allowing for results derived within the DNVIS to be comparable to those assessed as part of the approved project.
- Construction Scenarios** – Construction scenarios are largely consistent between the DNVIS and the approved project. There are however more construction scenarios within the DNVIS, which is representative of a more in-depth noise and vibration assessment approach adopted to assess the entire WTP. The development of largely consistent construction scenarios has enabled the DNVIS to be appropriately referenced to understand impacts associated with the updated construction methodology proposed under the CA, in line with impacts already assessed under the approved project.
- Number of Receptors with NML Exceedances** – The noise modelling results from each construction scenario are presented as ‘number of receptors with NML exceedances’. Having both the DNVIS and Mod-2 NVIA display results in this format allows for results from construction scenarios at the Clyde Dive Site within the DNVIS to be compared to those assessed at representative NCAs as part of the approved project. The number of receptors with NML exceedances for each scenario from the DNVIS and Mod-2 NVIA are presented in **Table 3-1** below.
- Implementation of Mitigation Measures** – Both the Mod-2 NVIA and DNVIS reference the implementation of the recommended noise and vibration mitigation measures as presented in Technical Paper 2 (Noise and Vibration) of the Sydney Metro West Environmental Impact Statement – Westmead to The Bays and Sydney CBD (Sydney Metro, 2020b) when exceedance of NMLs are experienced at sensitive receivers, in accordance with the conditions of approval. The DNVIS also includes key consultation activities, including ongoing consultation with affected sensitive land users, to manage noise and vibration-related impacts throughout the life of the project.

3.0 Summary of Results

The results from selected construction scenarios that most closely align to the modified construction activities proposed under the CA have been replicated from the DNVIS (SLR, 2022) and Mod-2 NVIA (SLR, 2021), respectively in **Table 3-1** below. **Table 3-1** also includes a comparison of the number of sensitive receivers with NML exceedances resulting from noted construction scenarios across both the DNVIS and Mod-2 NVIA.

Table 3-1 Noise Results Summary

Source: DNVIS (SLR, 2022), Mod-2 NVIA (SLR, 2021)

Scenario ID (DNVIS)	Scenario (DNVIS)	Description (DNVIS)	Comparable Scenario (Mod-2)	Result (DNVIS, total LW (dBA))	# Receivers with NML Exceedance (DNVIS)	# Receivers with NML Exceedance (Mod-2 NVIA)
CD.01a	Construction site establishment / Haul Roads	<ul style="list-style-type: none"> Establishing site security measures: <ul style="list-style-type: none"> Noise barriers Hoarding around the perimeter of the site Signage with site specific contact details Establishing initial temporary facilities Localised earthworks and establishing haul roads 	Enabling Works	118	0	<ul style="list-style-type: none"> Typical - 2 Peak - 22
CD.01b	Demolition of former Rosehill Station	<ul style="list-style-type: none"> Demolition and removal of the former Rosehill Station platforms 	Removal of structures	122	9	<ul style="list-style-type: none"> Typical - 4 Peak - 131
CD.02a	Establishing concrete slabs / acoustic shed	<ul style="list-style-type: none"> The GALC team intends to re-use all existing concrete slabs and hardstands except for heavy-duty structures such as heavy lifting crane and piling platforms. Construction of the Segment shed at the Clyde Dive site. 	Enabling Works	118	0	<ul style="list-style-type: none"> Typical - 2 Peak - 22
CD.02b	Establishing piling platforms	<ul style="list-style-type: none"> The GALC team intends to re-use all existing concrete slabs and hardstands except for heavy-duty structures such as heavy lifting crane and piling platforms. The GALC team will seek geotechnical advice and conduct verification to confirm these assumptions upon access into site. 	Enabling Works	113	0	<ul style="list-style-type: none"> Typical - 2 Peak - 22
CD.03	Shaft Construction (evacuation and piling)	<ul style="list-style-type: none"> Excavation of shaft to Spur line tunnel and associated piling work Transport of excavated material to Clyde MSF. 	<ul style="list-style-type: none"> Piling Excavation 	126	27	<ul style="list-style-type: none"> Typical - 11 Peak - 23 Typical - 5 Peak - 122
CD.04	Decline Structure Construction	<ul style="list-style-type: none"> Excavation and construction of the decline structure Commencing at the surface from the southern end of the site and declining to the north to meet the spur line tunnel. 	Excavation	126	31	<ul style="list-style-type: none"> Typical - 5 Peak - 122

4.0 Discussion

The number of receivers with NML exceedances presented in the DNVIS generally fall within the number of NML exceedances during typical to peak work activities presented in the Mod-2 NVIA for each representative scenario. A deviation from the results presented in the Mod-2 NVIA is expected, as the DNVIS was prepared at a later date and contains more accurate information about the specific type of plant and equipment (and associated sound power levels), and construction activities being undertaken at the Clyde Dive and Portal Structure construction site, which was not known at the time in which the Mod-2 NVIA was prepared.

As such, the DNVIS presents more representative results for the construction activities proposed under the CA when compared to those assessed under the approved project.

5.0 Conclusion

This briefing note provides a summary of noise levels from the relevant construction scenarios within the DNVIS (SLR, 2022) that relate to the construction changes proposed under the CA and aims to demonstrate that the results of the DNVIS are consistent with the overall impacts addressed as part of the approved project.

The results of the DNVIS indicate that the number of receivers with exceedances in NML are largely consistent to those presented in the approved project, and that the assessment approach undertaken in the DNVIS is consistent with the approach undertaken across the approved project.

The DNVIS contains more accurate information about the specific type of equipment, sound power levels, and construction activities being undertaken at the Clyde Dive and Portal Structure construction site not known at the time in which the Mod-2 NVIA was prepared, allowing for a more accurate summary of noise impacts for the construction activities proposed under the CA when compared to the approved project.

The implementation of recommended noise and vibration mitigation measures presented in the DNVIS would be consistent with the approved project.

6.0 References

Gamuda Australia Laing O'Rourke Consortium (2022a) *Sydney Metro West – Western Tunneling Package Construction Noise and Vibration Management Plan*.

Gamuda Australia Laing O'Rourke Consortium (2022b) *Sydney Metro West - Western Tunneling Package Construction Environmental Management Plan*. April 2022

Sydney Metro (2020a) *Sydney Metro West – Westmead to the Bays Concept and Stage 1 - Environmental Impact Statement*. April 2020

Sydney Metro (2020b) *Sydney Metro West – Westmead to the Bays Concept and Stage 1 - Environmental Impact Statement. Technical Paper 2 (Noise and Vibration)*. April 2020

SLR (2021) *Sydney Metro West Clyde Stabling and Maintenance Facility Modification Noise and Vibration Impact Assessment*. November 2021.

SLR (2022) *Sydney Metro West - Western Tunneling Package Detailed Noise and Vibration Impact Statement*. Revision 4. June 2022.

Appendix C – Clyde Dive and Portal Structure - Desktop Visual Impact Assessment

Briefing Note - Desktop Visual Impact Assessment

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Cc: Nathan Baker
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From: Thomas Buchan
Date: 22 July 2022
Subject: **Sydney Metro West Clyde Dive and Portal Structure – Planning Approval Consistency Assessment Desktop Visual Impact Assessment**

1.0 Introduction

The Sydney Metro West Project involves the construction and operation of a metro rail line around 24 kilometres long between Westmead and Hunter Street in the Sydney CBD. The key components are expected to include:

- Construction and operation of new passenger rail infrastructure between Westmead and the central business district of Sydney, including:
 - Tunnels, stations (including surrounding areas) and associated rail facilities
 - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)
- Modification of existing rail infrastructure (including stations and surrounding areas)
- Ancillary development.

A Planning Approval Consistency Assessment (CA) has been prepared to address the gap between the approved project and current construction methodologies proposed for the Clyde Dive and Portal Structure, as part of the broader Clyde Stabling and Maintenance Facility.

This desktop Visual Impact Assessment (VIA) has been prepared to accompany the CA and to assess the potential landscape and visual impacts resulting from the construction methodology changes proposed under that CA, particularly in relation to the inclusion of the acoustic shed. The acoustic shed is targeted in this VIA as it represents the only design aspect (associated with the CA) with any potential to adversely impact visual amenity beyond that already assessed for the Project.

1.1 Purpose of this Document

This report documents a desktop assessment of the landscape and visual impacts resulting from the construction methodology changes proposed under this CA, particularly in relation to the inclusion of the acoustic shed. It compares the landscape and visual impacts resulting from the changes in construction methodology proposed under the CA with the approved project. This briefing note includes the following:

- Methodology for the assessment of landscape and visual impacts
- Assessment of landscape and visual impacts from the proposed changes in construction methodology
- Changes to, or additional mitigation measures
- Conclusion

1.2 Existing Approved Project

For the purposes of the Clyde Dive and Portal Structure construction methodology CA, the approved project is considered to include all relevant Clyde Stabling and Maintenance Facility aspects documented in a) the SSI-10038 Sydney Metro West – Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (Stage 1 of the planning approval process for Sydney Metro West), b) SSI-10038-Mod-1, and c) SSI-10038-Mod-2.

1.3 Changes in Construction Methodology Proposed under the Consistency Assessment

The changes in construction methodology for the Clyde Dive and Portal Structure proposed under the CA are summarised below:

- Addition of an excavation shaft (nominally 16 metres (m) in diameter and 25 m deep)
- Addition of an underground “adit” (8 m (w) x up to 7 m (h) with a length of 8 m at a depth of 25 m)
- Addition of an acoustic shed (nominally 20 m (w) x 20 m (h) with a length of 72 m) within the approved project boundary, located above the proposed excavation shaft and underground adit. The acoustic shed will be installed on a slab at RL 11.245, and although 20 m in height is set down below ground level by approximately 4 m, such that its above ground height is roughly 16 m.
- Relocation of the tunnel portal approximately 100m south. The tunnel portal will be uncovered and involve open air excavation as per cut and cover methods being adopted across the project. The tunnel portal relocation will also result in an extension of the existing underground spur lines with the same profile geometry as outlined in the approved project, continuing to the new Dive Structure location.

The changes in construction methodology proposed under this CA for the Clyde Dive Portal and Structure construction site are presented on **Figure 1-1** below.

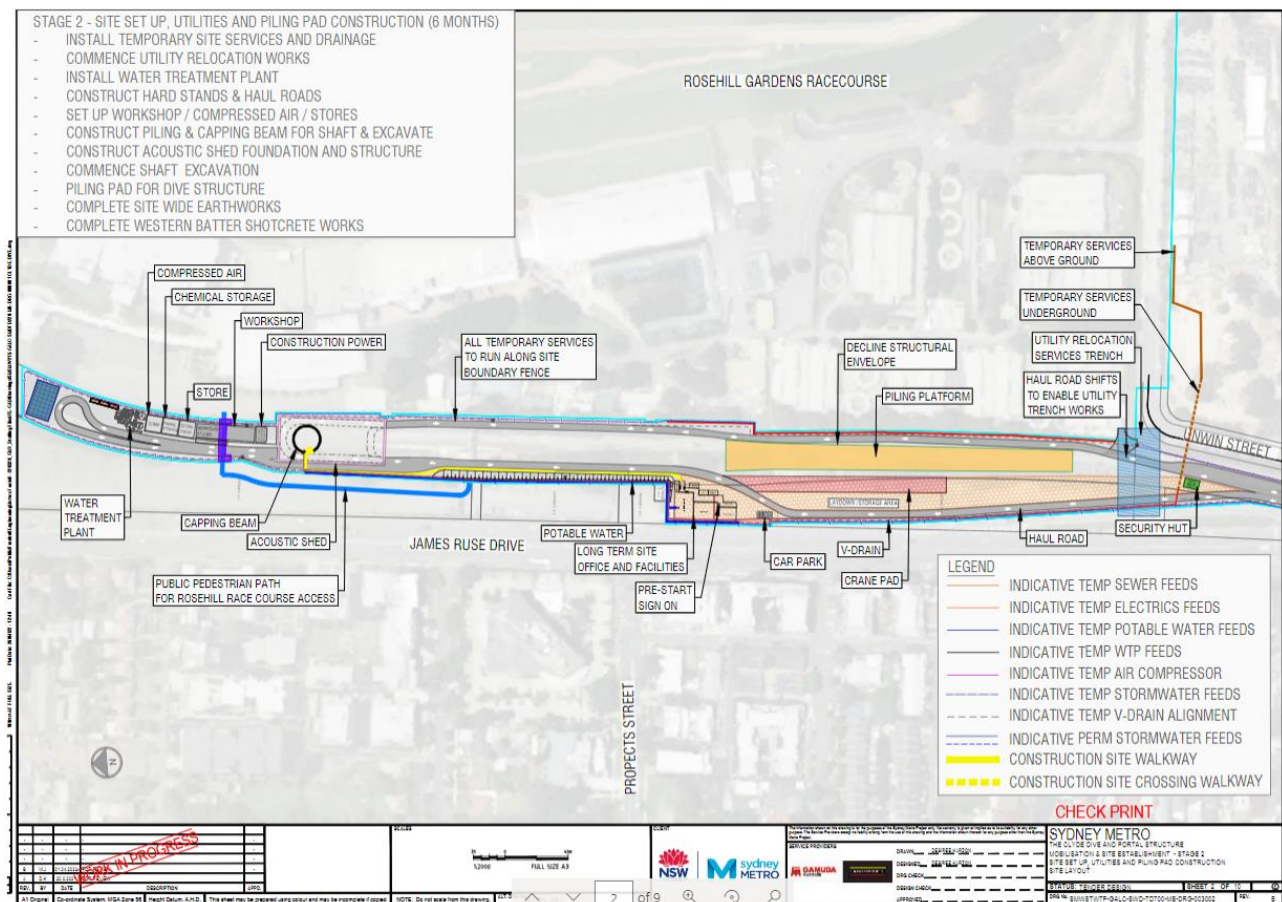


Figure 1-1 Clyde Dive and Portal Structure Construction Site

Source: GLC

1.3.1 Installation of the proposed Acoustic Shed

The installation of the acoustic shed (as proposed as a component of the construction methodology changes documented in the CA) has been designed primarily to a) reduce noise levels to nearby sensitive receivers, and b) improve acoustic performance of the shed by comparison to other acoustic sheds being implemented on the Project. The latter design aspect was required based on feedback received from a specialist acoustics consultant, advising that an above normal noise reduction performance value was required. As a result, the acoustic shed proposed under the CA will include pre-cast concrete sections to further improve its noise reducing properties. Overall, this higher performance acoustic shed is designed to mitigate noise emissions from the construction of the excavation shaft and underground adit and T-section, and other subsequent works.

The installation of the acoustic shed will allow construction activities to be undertaken for longer periods of time whilst minimising noise impacts, helping reduce critical path timeframes (when compared to timeframes if an acoustic shed was not implemented, and works could not occur for the same time period) and ultimately reducing temporary impacts from activities within the construction site. The acoustic shed will also provide screening to receivers (primarily those to the west and east of the construction site) from some of the construction equipment (i.e. cranes) as a byproduct of its installation within the construction site.

The acoustic shed is a temporary feature of the Clyde Dive and Portal Structure construction site and will be removed at the completion of construction. The existing surface levels at the proposed location of the acoustic shed is illustrated on **Figure 1-2** below.

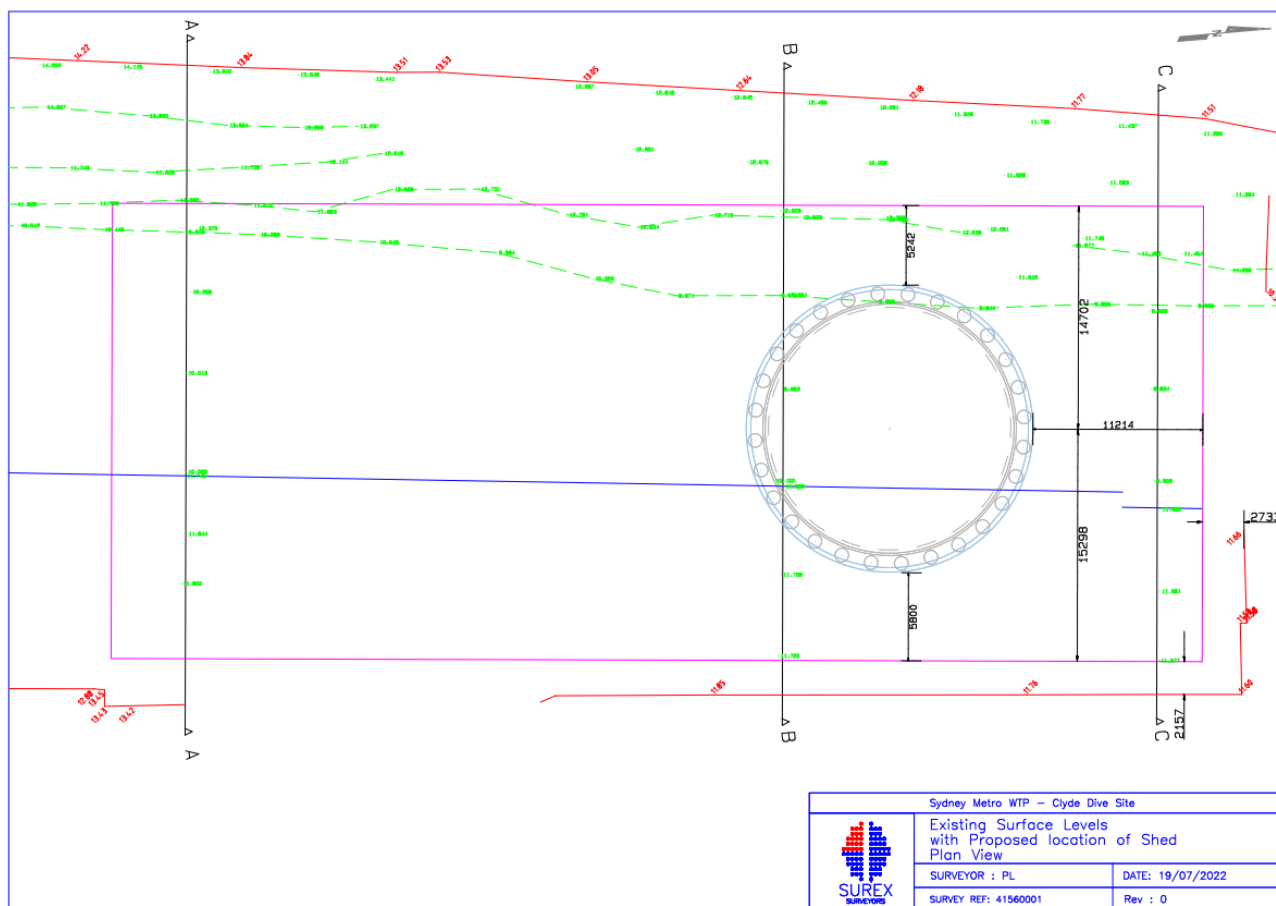


Figure 1-2 Existing Surface Levels at Proposed Location of Acoustic Shed – Plan View

Source: GLC

2.0 Assessment Methodology

This desktop VIA has been prepared in line with the existing landscape and visual assessment framework implemented within the *Westmead to The Bays and Sydney CBD (Concept and Stage 1) Environmental Impact Statement (EIS), Technical Paper 5 Landscape and Visual Impact Assessment* (Sydney Metro, 2020) and subsequent Sydney Metro West Clyde Stabling and Maintenance Facility Modification - Landscape and Visual Impact Assessment (LVIA) prepared by Iris Visual Planning + Design in November 2021 (Iris, 2021). The assessment methodology includes the following steps, which have been undertaken for this VIA:

- Identify the sensitivity of the receptor
- Describe the magnitude of change
- Assign an impact level utilising the Landscape and Visual Impact Level matrix in **Table 2.1** below.

Table 2-1 Landscape and Visual Impact Levels – Daytime

		Sensitivity				
		National	State	Regional	Local	Neighbourhood
Magnitude of Change	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

This briefing note provides an assessment of the potential landscape and visual impact of the proposed construction methodology CA and identifies if there would be increased or decreased impact from those already assessed under the EIS and subsequent SSI-10038-Mod-2.

3.0 Assessment of Impacts

3.1 Existing Assessment of Landscape and Visual Impacts

The potential landscape and visual impacts for the revised Rosehill Dive Structure (referred to as the Clyde Dive and Portal Structure in the CA) were assessed as part of the *Sydney Metro West Clyde Stabling and Maintenance Facility Modification - Landscape and Visual Impact Assessment (LVIA)* prepared by Iris Visual in November 2021.

The results of the Mod-2 LVIA (Iris, 2021) indicate that there would be a moderate adverse landscape impact on the former T6 Carlingford Line and Rosehill Railway Station due to the removal of the existing Rosehill Railway Station Footbridge and vegetation along the embankments, reducing the shade cover, amenity, and local accessibility. There would be additional visual impacts due to the additional area required for construction and vegetation removal. This would include minor adverse landscape impacts in views from the Roseville Gardens Racecourse, where the works would be near the entry and parking areas of this venue.

The landscape and visual impacts from the resultant changes in construction methodology proposed under the CA would be largely consistent with those identified within the Mod-2 LVIA (Iris, 2021), except for the proposed installation of the acoustic shed. The installation of the acoustic shed was not assessed as part of the Modification 2 LVIA (Iris, 2021) and is the primary subject of this desktop VIA.

3.2 Changes in Landscape and Visual Impact

The existing visual landscape of the Clyde Dive and Portal Structure construction site is largely consistent with Viewpoint 6 (view south from the James Ruse Drive footbridge), Viewpoint 7 (view north from the car parking areas of the Rosehill Gardens Racecourse) and Viewpoint 8 (view south from the now closed station entry near the Rosehill Gardens Racecourse) as described and assessed in the Mod-2 LVIA. A summary of the viewpoint condition, sensitivity and subsequent visual impact as assessed throughout the Mod-2 LVIA (Iris, 2021) is provided in **Table 3-1**, as well as the change in visual impact because of the CA. The existing viewpoints that have views over the Clyde Dive and Structure Portal construction site, as well as the new viewpoints undertaken to support this desktop VIA, are presented on **Figure 3.1** below.

Table 3-1 Existing Viewpoint Summary

Viewpoint	Condition	Sensitivity	Visual Impact (Mod-2)	Visual Impact (CA)
Viewpoint 6	<p>As described in the Mod-2 LVIA, this elevated view is characterised by large areas of surface carparking and James Ruse Drive. To the west (right of view) are residential and commercial areas of Rosehill, including larger medium density residential and hotel developments in the background. To the east (left of view) the vegetation along the rail corridor containing the former T6 Carlingford Line and Rosehill Railway Station.</p> <p>This viewpoint will also have views of acoustic shed and other elements within the Clyde Dive and Portal Structure construction site.</p>	Local	Minor adverse	Moderate adverse
Viewpoint 7	<p>As described in the Mod-2 LVIA, this view towards the former T6 Carlingford Line includes site perimeter fencing with blue shade cloth, screening the view to ground level construction activity within the site. This view includes several large trees including figs to the north (centre of view) and large existing trees along the rail embankment to the west (left of view).</p> <p>Construction activities within the northern-most portions of the Clyde Dive and Portal construction site can already be seen. Based on the location of viewpoint, there will be no views of the proposed acoustics shed.</p>	Local	Moderate adverse	No change
Viewpoint 8	<p>As described in the Mod-2 LVIA, this view includes the former Rosehill Railway station platforms and footbridge in the fore and middle ground. The cutting and vegetation along the former rail corridor encloses this view to the west (right of view). Some medium density residential and hotel buildings can be seen to the west of James Ruse Drive.</p> <p>This viewpoint will also have views of acoustic shed and other elements within the Clyde Dive and Portal Structure construction site.</p>	Local	Moderate adverse	No change

A site inspection was undertaken to support this desktop VIA at three locations along James Ruse Drive, facing south east, east, and north east towards the proposed acoustic shed location within the Clyde Dive and Portal Structure construction site. A summary of the condition, sensitivity and subsequent visual impact resulting from the installation of the acoustic shed is provided in **Table 3-2**.

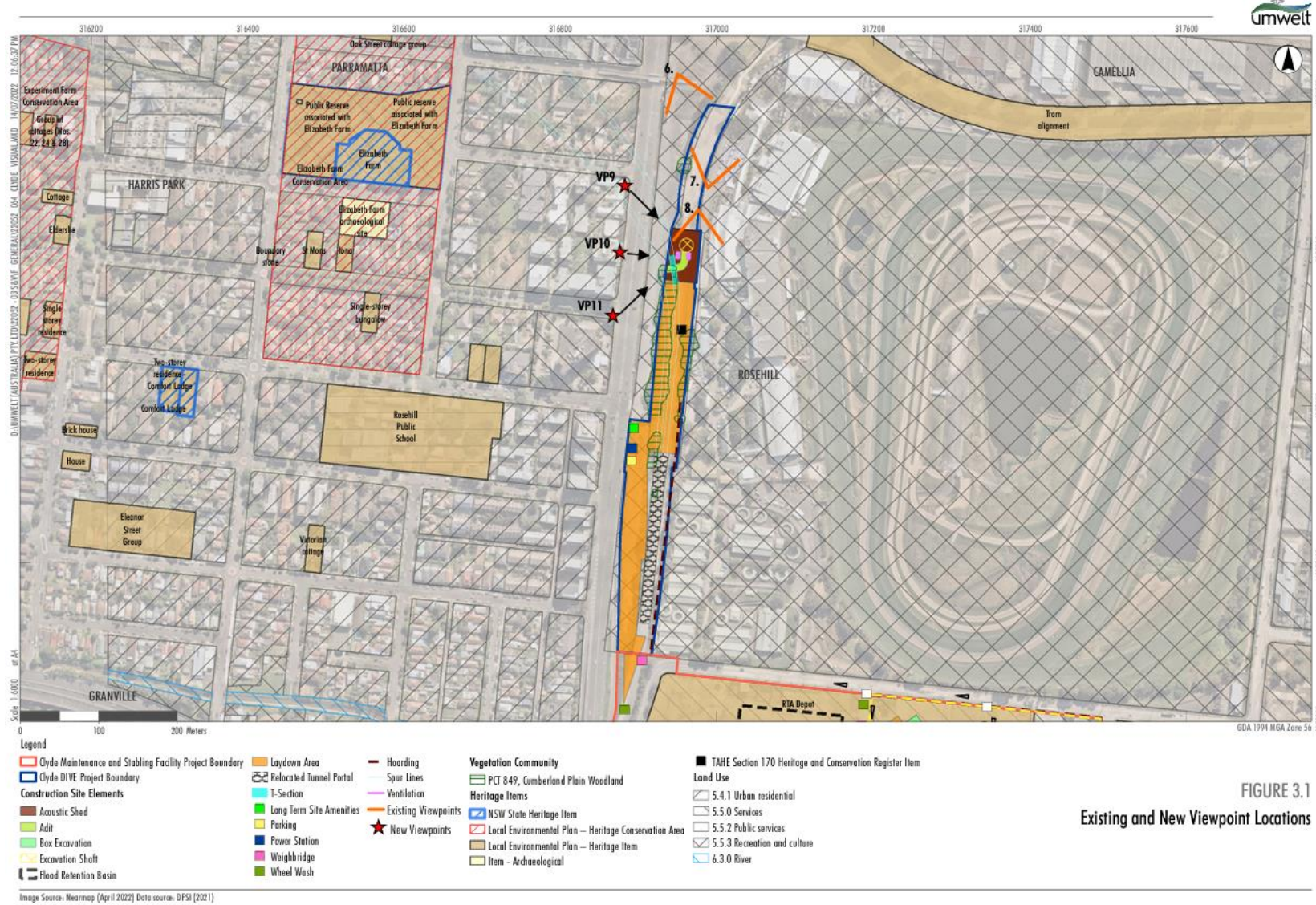


FIGURE 3.1
Existing and New Viewpoint Locations

Figure 3-1 Existing and New Viewpoint Locations

Source: Mod-2 LVIA (Iris, 2021)

Table 3-2 New Viewpoint Summary

Viewpoint	Condition	Sensitivity	Visual Impact
Viewpoint 9	Characterised primarily by the six-lane wide James Ruse Drive, facing south east towards the construction site. View to the south (right of view) includes a hotel on the corner of Hope Street and James Ruse Drive, with large residential apartments further south along James Ruse Drive. View to the north (left of view) includes residential properties on the corner of Hope Street and James Ruse Drive, with additional residential properties further along James Ruse Drive.	Local	The inclusion of the acoustic shed would result in a considerable reduction in visual amenity and a moderate adverse visual impact.
Viewpoint 10	Characterised primarily by the six-lane wide James Ruse Drive, facing east towards the construction site. View to the south (right of view) include large residential apartments along James Ruse Drive. View to the north (left of view) includes a hotel on the corner of James Ruse Drive, with additional residential properties further along James Ruse Drive.	Local	The inclusion of the acoustic shed would result in a considerable reduction in visual amenity and a moderate adverse visual impact.
Viewpoint 11	Characterised primarily by the six-lane wide James Ruse Drive, facing north east towards the construction site. View to the south (right of view) include a large tree obscuring the view of a hotel, with a large block of apartments further south along James Ruse Drive. View to the north (left of view) include large apartments on the corner of Weston Street and James Ruse Drive, with large residential apartments further south along James Ruse Drive.	Local	The inclusion of the acoustic shed would result in a considerable reduction in visual amenity and a moderate adverse visual impact.

A visual impact rating has been assessed as **moderate adverse** for all three new viewpoints with the inclusion of the acoustic shed, as there will be a considerable reduction in visual amenity at a local sensitivity level. This rating is consistent with the visual impact rating for viewpoints impacted by acoustic sheds in the EIS Technical Paper 5 LVIA (Sydney Metro, 2020).

4.0 Mitigation

Implementation of existing mitigation measures presented in the Sydney Metro West - Western Tunneling Package (WTP) Construction Environmental Management Plan prepared by the Gamuda Australia Laing O'Rourke Consortium (GALC) (GALC, 2022a) and more specifically the Sydney Metro West - WTP Visual Amenity Management Plan (VAMP) (GALC, 2022b) would continue as required, including the following:

- LP1 - Where feasible and reasonable, the elements within construction sites would be located to minimise visual impacts (for example storing materials and machinery behind fencing).
- VP2 - The design and maintenance of construction site hoardings would aim to minimise visual amenity and landscape character impact.
- VP3 - Graffiti would be removed promptly from hoardings and any other aspects of construction sites.
- VP4 - All structures (including acoustic sheds or other acoustic measures, site offices and workshop sheds) would be finished in a colour which aims to minimise their visual impact, if visible from areas external to the construction site. This finish is to be applied to all visible fixtures and fittings (including exposed downpipes).

- VP5 - Lighting of construction sites would be orientated to minimise glare and light spill impacts on adjacent receivers.

In addition, the reuse of hessian/shadecloth screening with Aboriginal artwork on the western façade of the acoustic shed is being considered for implementation to reduce impacts to visual amenity resulting from the installation of the acoustic shed. This approach is currently implemented across other Sydney Metro West construction sites, helping ensure consistency in managing impacts to visual amenity across the Project. An example of the screening which is being considered for implementation at the Clyde Dive and Portal Structure construction site is provided in **Figure 4-1** below.

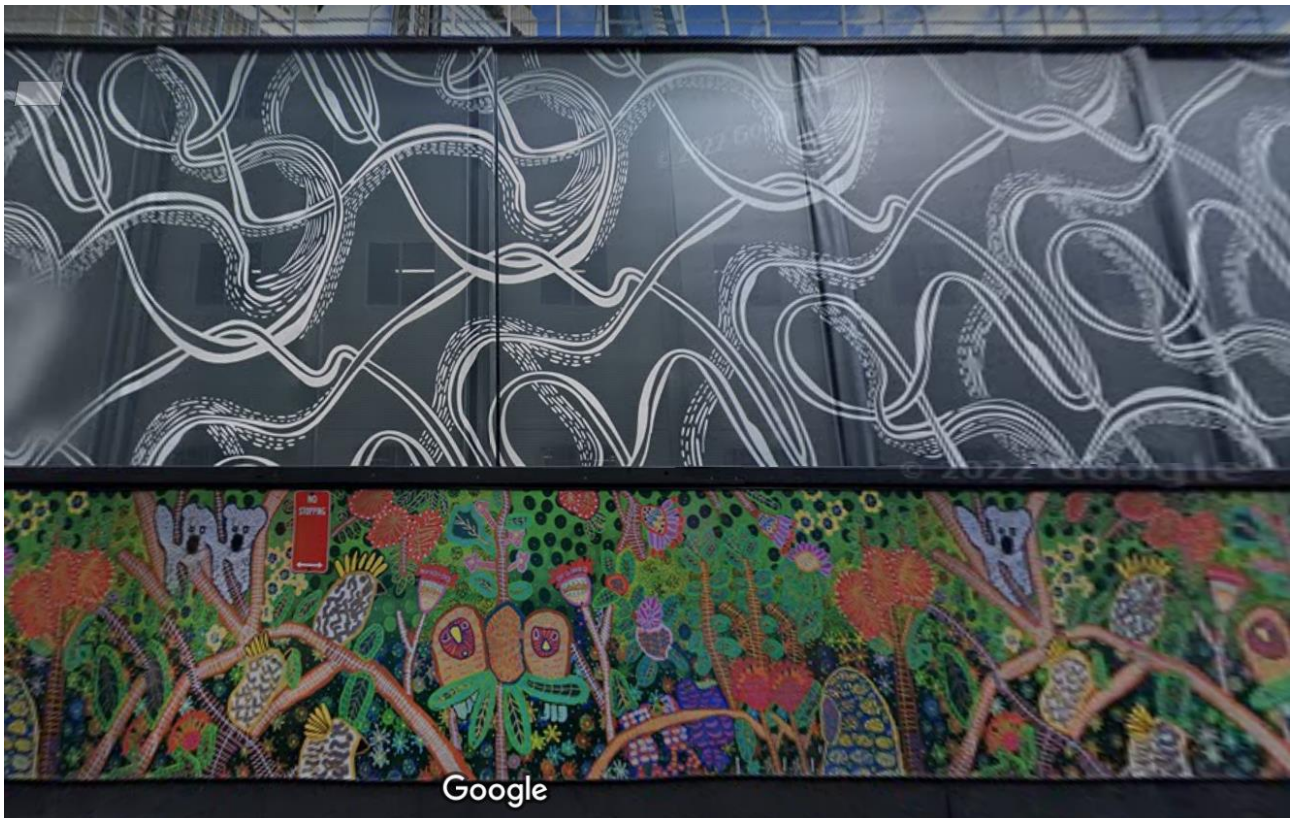


Figure 4-1 Example of Shadecloth Screening

5.0 Conclusion

The changes in construction methodology including the installation of an acoustic shed proposed under the CA would generate a minor change to the landscape and visual impacts identified for the Clyde Dive and Portal Structure construction site when compared against the approved project. This change is associated with an increase in visual impacts (i.e. a further reduction in amenity) at Viewpoint 6 from **minor adverse** to **moderate adverse**. The significance of this change is subjective however commensurate to the extent of potential impacts and is consistent with the level of visual impact at other Project-related sites where an acoustic shed is required.

A **moderate adverse** visual impact is expected at all three new viewpoints assessed in this VIA with the inclusion of the acoustic shed, as there will be a considerable reduction in visual amenity at a local sensitivity level, consistent with the visual impact rating for viewpoints impacted by acoustic sheds in the EIS Technical Paper 5 LVIA (Sydney Metro, 2020).

The above mentioned impact ratings (although relevant to note in this VIA) are however consistent with the approved Project, and are generally consistent with existing impacts at the site and impacts at other sites where an acoustic shed is required.

The implementation of existing visual amenity mitigation measures presented in the Sydney Metro WTP CEMP and Sydney Metro WTP VAMP will continue as required. Alternative coating of the acoustic shed (by comparison to raw concrete) and temporary vegetative screening (if practical) will also be explored as additional mitigation measures and will be implemented if considered reasonable and feasible to further reduce landscape and visual impacts. Regardless of their implementation, material changes to the impact ratings documented in this VIA as a result of mitigation are unlikely to occur, such that moderate adverse residual impacts are anticipated.

6.0 References

Gamuda Australia Laing O'Rourke Consortium (2022a) *Sydney Metro West - Western Tunneling Package Construction Environmental Management Plan*. April 2022.

Gamuda Australia Laing O'Rourke Consortium (2022b) *Sydney Metro West – Western Tunneling Package Visual Amenity Management Plan*. April 2022.

Iris Visual (2021) *Sydney Metro West Clyde Stabling and Maintenance Facility Modification - Landscape and visual impact assessment*. November 2021

Sydney Metro (2020) *Westmead to The Bays and Sydney CBD (Concept and Stage 1) Environmental Impact Statement (EIS), Technical Paper 5 Landscape and visual impact assessment*. April 2020