BESIX Watpac

Construction Traffic Management Plan

N217

BR COP

16 August 2021

Project overview

Project Site Address:
Hickson Road
Barangaroo
NSW 2000

Project Commencement Date:
12 March 2021

BESIX Watpac State Division Address:
Level 24, 44 Market Street
SYDNEY
NSW 2000

BESIX Watpac ABN:
71 010 462 816

Document Control

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A	24/05/21	Submission for SM Review	[redacted] / Contractor's Representative
B	05/07/21	Updated where marked. Submission for Review	[redacted] / Contractor's Representative
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BESIX Watpac Approvals

Name	Role & Title	Signature	Date
[redacted]	**Issuer** Traffic Support Consultant	[redacted]	16/08/21 16/08/21
[redacted]	**Reviewers** Senior Project Engineer Technical Manager Project Manager	[redacted]	 16/08/21 16/08/21 16/08/21
[redacted]	**Checker** / Senior Project Manager	[redacted]	16/08/21
[redacted]	**Approver** / Project Director	[redacted]	16/08/21

Note: A controlled copy of the Construction Traffic Management Plan (CTMP) will be distributed to the Sydney Metro Principal's Representative, Independent Certifier (IC) and other nominated stakeholders, and it will be made available to all BR COP employees and subcontractors in soft copy format through the project document control system.

The CTMP associated sub-plans and procedures, when printed, will be uncontrolled and it will the respons bility of each user to confirm the currency of the plan through the project document control system.

Acronym and Definitions

Acronym	Term and/or Definitions
AS/NZS	Australian Standards/ New Zealand Standards
BCA	Building Code of Australia
BR-CODD	Barangaroo 'Construct Only Delivery Deed'
BR-COP	Barangaroo 'Construct Only Package' (also various documents refer to: BZZ Contractor / STME)
CEMP	Construction Environmental Management Plan
COP	Construct Only Project
CMP	Contract Management Plan
CTMF	Construction Traffic Management Framework
CTMP	Construction Traffic Management Plan
GSMoP	General Specification Management of the Project
iNSW	Infrastructure NSW (https://www.infrastructure.nsw.gov.au/projects-nsw/barangaroo/)
NSMS	The BESIX Watpac certified National Safety Management System
OPLINC	Online Planned Incident System (ROL application system)
PS	Particular Specification
ROL	Road Occupancy Licence
SMCSW	Sydney Metro City & Southwest (the overall program of works, which Barangaroo Station is part of)
SWMS	Safe Work Method Statement
SZA	Speed Zoning Authorisation
TCG	Traffic Co-ordination Group
TCP	Traffic Control Plan
TCS	Traffic Control Signal (traffic lights)
TfNSW	Transport for New South Wales (https://www.transport.nsw.gov.au)
TfNSW - ASA	*TfNSW - Assets Standards Authority (https://www.transport.nsw.gov.au/industry/asset-standards-authority)*
TfNSW - SM	*TfNSW - Sydney Metro (https://www.sydneymetro.info)*
TfNSW – P&P	*TfNSW – Planning and Programs (former RMS, CTMP approver)*
TfNSW – CJM	*TfNSW – Customer Journey Management*
TfNSW - TMC	*TfNSW – Transport Management Centre (ROL approver)*
TfNSW – CJP	*TfNSW – Customer Journey Planning (CTMP endorser)*
TMP	Traffic Management Plan
TTLG	Traffic and Transport Liaison Group
VMS	Variable Message Sign (portable or permanent)
WHS	Work Health and Safety

Note: Refer to BR CODD, and to PS (Section 8) and GS (Section 8) for further definitions

Terms and Definitions

Glossary	Definitions and Responsibilities
Contractor	Particular Specification (PS) must be read as a reference to the "BR Contractor" as defined in the BR-CODD
Contractors Activities	Particular Specification and General Specification must be read as a reference to the "BR Contractor's Activities" as defined in the BR-CODD
Crisis Event	an event that may have an impact on the community, commuters, environment, personnel or subcontractors or has attracted or can reasonably be expected to attract the attention of the media, the Minister for Transport, a local Member of Parliament, local Authority or the local community. This includes emergencies, incidents or crises unrelated to the Contractor's Activities that may be deemed to be caused by the Contractor's Activities due to locality.
Design Documentation	Means the "Final Design Documentation" as defined in the BR-CODD.
Emergency Event	A situation in which there is an unacceptable risk, to the health and wellbeing of occupants, staff, or the general public, which needs intervention by staff or emergency services to control, limit escalation, suppress or address the risk and return to normal operations.
Heavy Vehicles	Truck and dogs, concrete agitators, most cranes and semi or flatbed trucks. All these vehicles currently use the road network and operate within road rules and requirements. Vehicles that operate outside current conditions are considered over dimensioned: see Section 3.2
Inspection and Test Plan	Inspection and test plans prepared and implemented by the Contractor in accordance with the requirements in AS/NZS ISO 9001 Quality Management systems – Requirements.
Interface Work	Any activities undertaken by an Interface Contractor which interface with or affect, or are affected by, the Contractor's Activities, the Project Works or the Temporary Works.
Long Term	For more than one shift, installed on one day/night and remains in place for weeks or months but is removed on completion of the project or that specific piece of work, e.g. signage
Network Assurance Committee	The committee with approval responsibility for assurance delegated from the TfNSW Network Assurance Committee (TNAC).
Running Tunnel	All underground spaces through which the rolling stock travels, excluding Station Trackway.
Short Term	For one shift only, work may return the next day/night, but it is set-up and packed-up entirely in one shift, e.g. cones and signs for a lane closure
Station	Particular Specification and General Specification must be read as a reference to the "Barangaroo Station".
Station Precinct	In respect of Station, the area comprising the Station Plazas and the Streets.

Note: Refer to BR CODD, and to PS (Section 8) and GS (Section 8) for further definitions

Contacts

Stakeholder	Name	Contact Details
City of Sydney Council		02 9265 9333
Infrastructure NSW		9216 5700
TMC		131 700
EPA pollution hotline		131 555
SafeWork NSW		131 050
Fire and Rescue NSW		1300 729 579
Emergency		000

Additional contacts information please refer to the Project Community Communications Strategy and Business Management Plan.

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1 Introduction

1.1 Background

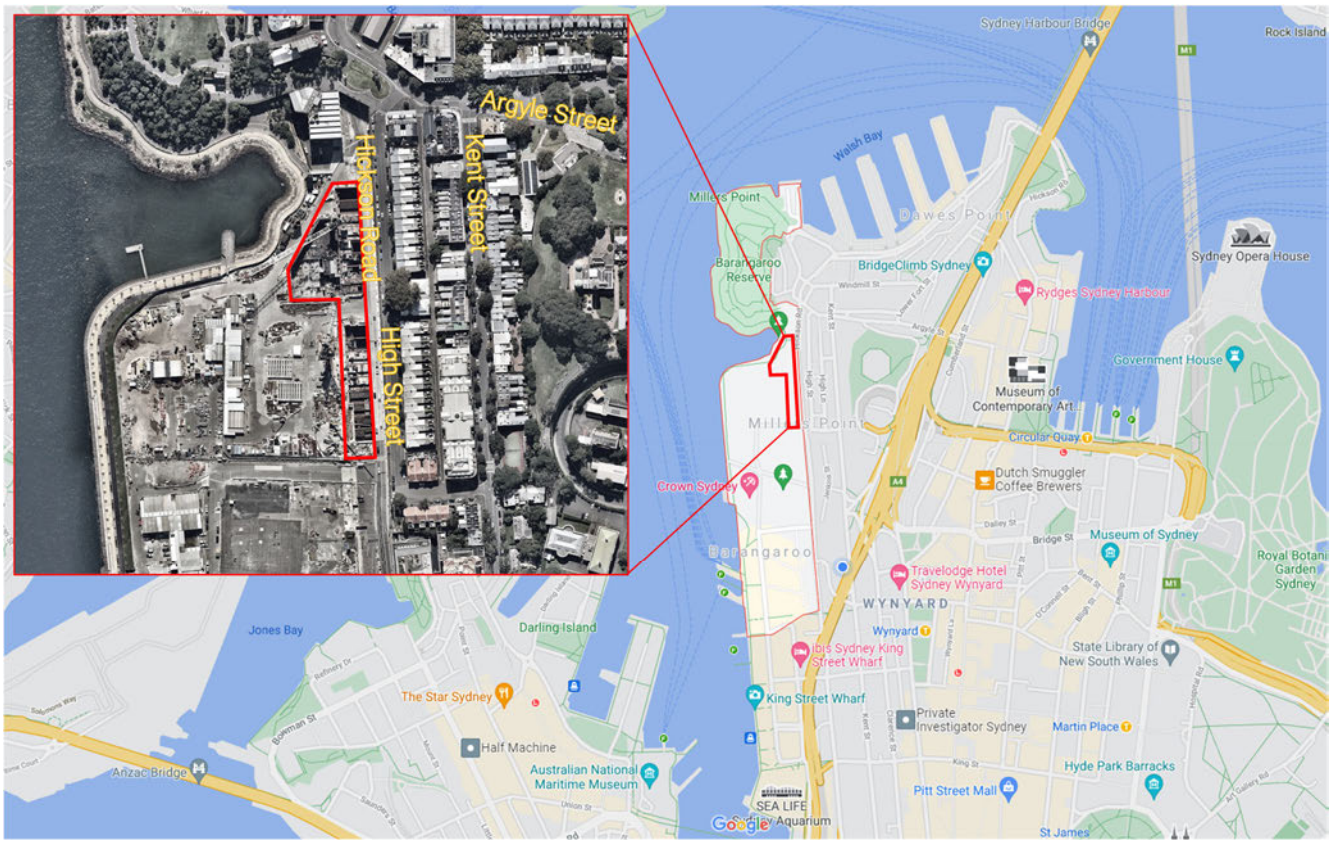
Sydney Metro is Australia's biggest public transport project.

Sydney Metro City & Southwest will connect with Sydney Metro North West (operational since 2019) from Chatswood through to Bankstown, delivering 30 kilometres of new metro rail, including a new crossing beneath Sydney Harbour, new railway stations in the lower North Shore and CBD, and the upgrade and conversion of the T3 line between Sydenham and Bankstown stations.

In 2024, Sydney will have 31 metro railway stations and a 66-kilometre standalone metro railway system with an ultimate capacity for a metro train every two minutes in each direction.

BESIX Watpac will deliver the new Sydney Metro Barangaroo Station (location shown in Figure 1), including pedestrian connections and improvements to the public domain. Barangaroo Station will connect Sydney Metro City & Southwest to the Walsh Bay Arts and Culture precinct as well as providing easy access to the development's public, residential, commercial and entertainment areas and the new Barangaroo ferry hub. It services the residential areas at Millers Point, Walsh Bay and future residents of Barangaroo, providing high quality public transport access to the latest destination in Sydney.

Figure 1: Overview of Construction Site Location



Base sources: Google Maps and Nearmap

The Barangaroo Station Contract (March 2021 until August 2023) is a Construct Only Project (COP). BESIX Watpac is responsible for obtaining relevant approvals and delivering the project.

This CTMP has been prepared to address the relevant requirements of the General Specification Management of this Project (GSMoP), Particular Specification, Baseline Conditions of Approval and all

applicable guides and standards referenced in the Deed. A list of the requirements and applicable guides and standards is provided in Section 1.5. A GSMoP compliance table is provided in Appendix H.

The CTMP and all subsequent stage specific detailed TMPs will also be prepared in accordance with the City of Sydney Standard Requirements for Construction Traffic Management Plans, which is included in Appendix A.

The principles and methods BESIX Watpac will use to safely manage vehicular, cyclist and pedestrian traffic during the Barangaroo Station construction are detailed in this CTMP.

Any changes made to this CTMP would be tabled to the Traffic Control Group (TCG) and managed through the approval process outlined in this CTMP.

1.2 Local Context

Barangaroo Station is located within the road reserve of Hickson Road, between the Dalgety Road/ Argyle Place overbridge (to the north) and the High Street stairs (to the south).

Hickson Road is classified as a Regional Road between Napoleon Street (to the south) and the Sydney Harbour Bridge (to the north). The road becomes a local road southeast of Sydney Harbour Bridge and links to George Street in the centre of the Sydney CBD.

Between Napoleon Street and the Windmill Street overbridge, the road is under the control of Infrastructure NSW (formerly Barangaroo Delivery Authority). Outside this area, the City of Sydney is the responsible road authority.

The road was added to an expanded 40km/h area in August 2019 that covers Sydney CBD, given the high pedestrian volumes.

On-street parking along Hickson Road has temporarily been removed between Watermans Quay (to the south) and the Windmill Street overbridge to facilitate various construction works along the road, including Barangaroo Metro.

There are three bus routes (311, 324 and 325) that use Hickson Road adjacent to the site that operate between Walsh Bay to the north and Sydney CBD (Town Hall), with services extending to Watsons Bay, via Kings Cross further east. The nearest bus stops are currently located on Hickson Road either side of Towns Place.

Since 13 April 2021, pedestrian access along Hickson Road between Dalgety Road overbridge and Watermans Quay has been temporarily removed for the construction works. Pedestrians are directed to use the recently opened foreshore boardwalk and shared path further west.

As a result of the ongoing construction works along Hickson Road, there are no dedicated bicycle lanes, with cyclists required to ride in a mixed traffic arrangement.

1.3 Overview of Construction Activities

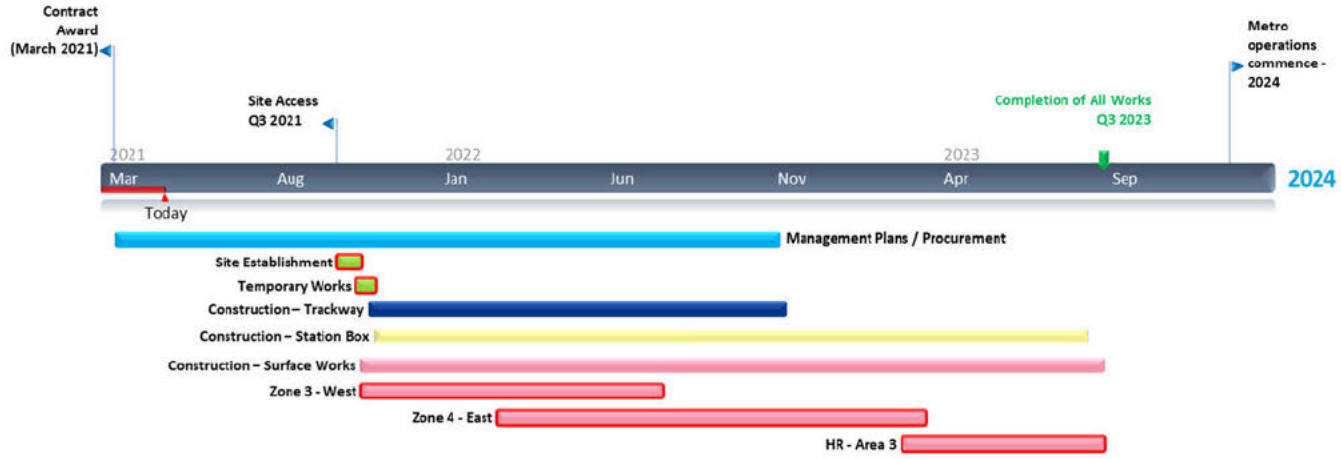
A summary of the works is provided in Table 1 and the indicative construction timeframe provided in Figure 2.

Table 1 ***Summary of Construction Activities***

Stage	Description of Construction Activities
Station Works	A fit-out of the underground station structural "cavern" (provided by others) including: • A northern entrance that is accessible from Hickson Road • Provision for a future southern station entrance • Primary & secondary structural works • Fit-out of two Metro station platforms including facilities, seats, signage, gate lines & ticketing • Services including Mechanical, Fire, Electrical & Hydraulic • Vertical transportation systems including lifts, escalators & stairs

Stage	Description of Construction Activities
	• Provision for rail infrastructure, tunnel infrastructure, communication systems, control systems and other Station elements
External Civil Works	In addition to the Station fit-out, the following civil work will take place: • Roadways, cycle lanes, kerbs, signage & pavements • Fencing, planting, landscaping & drainage • Street & pedestrian lighting • Bus facilities • Taxi and 'kiss and ride' parking • Bicycle parking & storage • Demolition • Waterproofing • Stormwater • Services • Northern Shaft Backfill • Landscaping

Figure 2: Indicative Construction Timeframe



1.4 Traffic Management Objectives and Targets

BESIX Watpac acknowledges the safety of road users and the effective management of traffic is vital to successful day-to-day activities during construction. This CTMP seeks to ensure the certainty of the delivery of GSMoP prescribed road user requirements including provision of a safe environment for workers and the travelling public and minimising impacts on the road network.

The strategies identified in this CTMP address the GSMoP and CTMF: Traffic management objectives and targets includes:

- Constraints and risks
- Potential road network impacts and associated mitigation and management, e.g. development of a TMP
- Organisation and responsibilities
- Management process tools
- Describe the controls and measures being used
- Specific community/ stakeholder consultation process and community relations strategies
- Auditing, inspections and monitoring
- Obtaining relevant approvals, e.g. road occupancy licences
- Unplanned incidents.

1.5 Authors of the CTMP

This CTMP has been prepared and reviewed by engineers who hold the Transport for NSW (TfNSW) Prepare a Works Zone Traffic Management Plan accreditation. Details of the accredited engineers are as follows:

- [redacted] Card No. 0052374421
- [redacted] Card No. 0052374425.

1.6 References

In preparing this report, reference has been made to the following:

- inspections of the site and its surrounds
- Australian Road Rules
- Australian Standard 1742.3-2009 Traffic control devices for works on roads
- Australian Standard 1742 Parts 1 to 14, Manual of uniform traffic control devices (as required)
- AGTM 02-08 Guide to Traffic Management Part 2: Traffic Theory
- AGTM 06-07 Guide to Traffic Management Part 6: Intersections and Crossings – General
- AGRD 04-09 Guide to Road Part 4: Intersections and Crossings – General
- General Specification Management of the Project (MS-GS-MP-2)
- TfNSW Traffic Control at Worksites Manual Ver 6
- TfNSW Delineation Manual March 2008
- TfNSW Road Safety Audit Technical Direction TD2003/RS03, Version 2 – August 2005
- TfNSW Road Occupancy Manual
- TfNSW Regulatory Signs Guide
- TfNSW VMS Policy - Technical Directions TDT 2002/11 and TDT2005/02A
- TfNSW equipment specification P3074A
- TfNSW equipment specification FAS/4
- TfNSW equipment specification PTS/3
- R141 Pavement Marking
- R142 Retro Reflective Raised Pavement Markers
- R3351 Road Marking Paint
- R3353 Glass Beads
- R3354 Adhesives for RRPM Installation
- R3357 Thermoplastic Road Marking Material
- R3359 Profile Thermoplastic Road Marking Material
- Relevant TfNSW (previously RMS) Technical Directions and Guide updates
- SI/TCS/8 Installation of traffic light signals
- Sydney Metro CSW Construction Traffic Management Framework (CTMF)
- CJP Guide to Traffic and Transport Management for Special Events
- TfNSW Supplements to Australian Standards and AustRoads..

2 Values, Objectives, Targets and Input

2.1 Values

The traffic and transport management principles to be applied to the Works will ensure:

- The provision of a safe environment for road users, pedestrians, cyclists and workers
- Any impact on road users and asset operation is kept to a minimum
- Access is maintained for the local community, transport operators, (including over-dimensional load movements) and commercial developments
- Road users, local businesses, Local Councils, Emergency Services, stakeholders and local communities are regularly informed in relation to changed traffic conditions
- There is sufficient advance warning of changes to normal traffic conditions.

2.2 Objectives

BESIX Watpac recognises that the effective management of construction impacts on the road network is critical to the success of the Works. BESIX Watpac gives the utmost consideration to the needs of road users, not only by providing safe environments but by minimising impacts on the road network. This CTMP provides direction on the controls to be applied and demonstrates how BESIX Watpac will conform to the contractual requirements and the requirements of CJP, TfNSW, Infrastructure NSW, City of Sydney and stakeholders. The main road safety and traffic and transport management objectives to be applied are:

- Ensure road users are given due consideration during the Works
- Maximise the safety for the workers, by isolating work areas from traffic flows, applying low exposure work methods and the installation of appropriate traffic control
- Provision of a safe environment for road users through the installation of a high standard of traffic controls, which effectively warn, inform, guide and that comply with the best practice, TfNSW requirements/ guides and the Australian Standards
- Minimise disruption to traffic operation, road users, pedestrians, cyclists and access to adjoining properties (private and public)
- Maintain the road network functionality
- Plan all works to effectively minimise road occupancy, avoid potential impacts and minimise conflict points on the existing road network
- Implement traffic control operations that minimise delays to road users
- Limit obstructions and restrictions, and when required, provide alternatives to maintain access for local community, transport operators (buses) including over-dimensional load movements and commercial developments
- Implement and maintain environmental controls to suppress dust and prevent debris deposits on the road network
- Actively liaise with key stakeholders including TfNSW, Infrastructure NSW, City of Sydney, emergency service agencies, transport operators and local community to ensure they are informed about proposed changes to the road network
- Management of complaints in accordance with the Community Communications Strategy and Business Management Plan prepared by BESIX Watpac
- Plan works to allow for effective emergency services access for response.

2.3 Targets

The road safety and traffic and transport management targets are as follows:

- No roadwork related crashes during construction (including work site personnel)

- No injuries to road users (including pedestrians) moving through or around the site operations
- Maintain effective and efficient operation of the road network as per GSMoP requirements.

2.4 Inputs

When developing this CTMP the following was considered:

- Statutory obligations and Codes of Practice
- Applicable specifications, standards and guides
- Information from Line-Wide and other interface contractors received through ongoing interface meetings.

Reference has also been made to the following in developing this CTMP:

- Project Agreement/s
- General Specification Management of the Project (GSMoP)
- Construction Traffic Management Framework (CTMF)
- Project approvals and associated environmental documents
- Project constraints – managerial and physical
- BESIX Watpac policies and procedures.

2.5 CTMP Development and Review Process

This CTMP will be finalised in consultation with CJP, P&P, Infrastructure NSW, City of Sydney to comply with the Project Deed, GSMoP and the Environmental Documents. The CTMP will be submitted for review and approvals through the process in Figure 5.

All future revisions to this CTMP will then be coordinated and authorised by BESIX Watpac, in consultation with the metro representative and other affected stakeholders.

This CTMP will be maintained in the nominated web-based document management system used for the Works. Throughout the life of the Project and as required, this CTMP will be reviewed and updated accordingly, based on outcomes from debriefs and reviews within the BESIX Watpac team, with relevant stakeholders, e.g. emergency services, Infrastructure NSW and the City of Sydney. All consultation will be recorded in the Consultation Register (Appendix G). This CTMP will be reviewed and updated (if required) in accordance with the GS and PS.

Notwithstanding who has developed content within this CTMP, all activities related to traffic and transport management will be controlled by this CTMP.

2.5.1 Plan Relationship

This CTMP is a sub-plan of the Project Management Plan but operates as the master document in a set of plans and drawings (see Figure 3) dealing with the safe and effective management of traffic during construction. This CTMP is what the CTMF (Section 3.3) calls a *Contract Wide CTMP.* To avoid confusion, this Project will have one CTMP and several detailed TMPs (TMPs are what the CTMF (Section 3.3) calls a *site specific CTMP*), as outlined below.

Figure 3: Relationship between the Various Plans

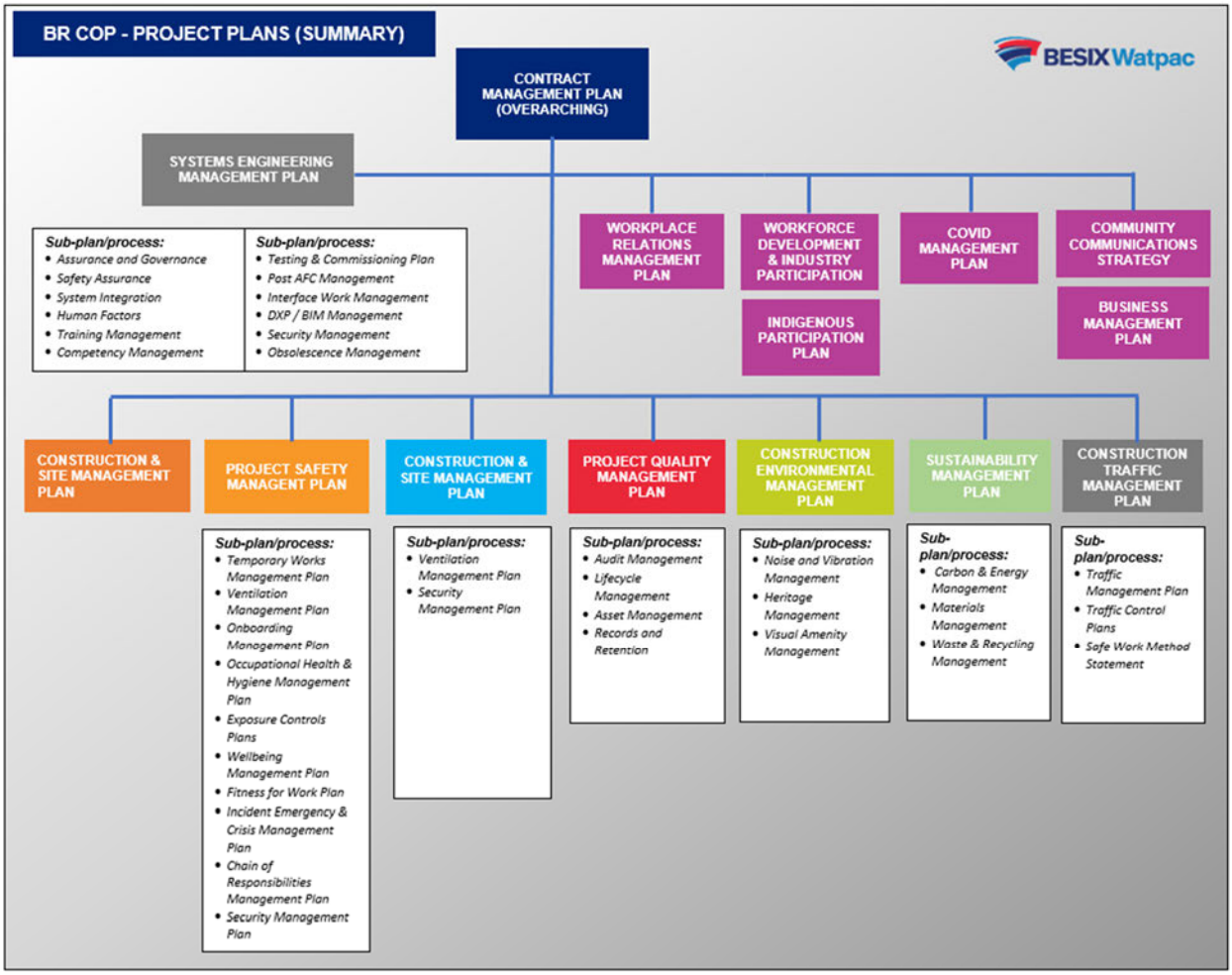
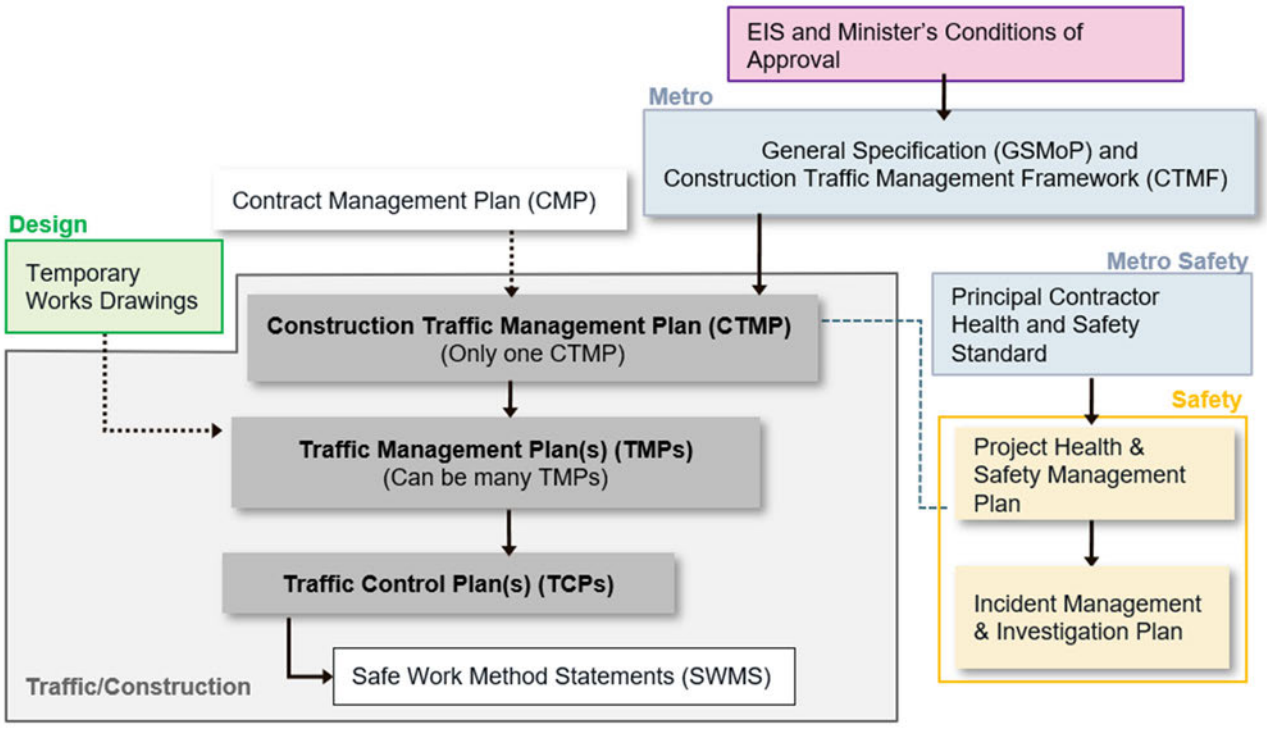


Figure 4: Relationship between the Various Documents



2.5.2 Traffic Management Plans (TMPs)

TMPs (site specific CTMPs in Section 3.3 of the CTMF) detail the specific road safety and traffic management measures that will be applied whilst undertaking construction works, for example a complete road closure or traffic deviation. The TMPs are based on the principles and strategies of this CTMP, and the obligations under the Project Deed, environmental approvals, GSMoP and the requirements of relevant road authorities and other stakeholders. TMPs will be approved as shown in Figure 5.

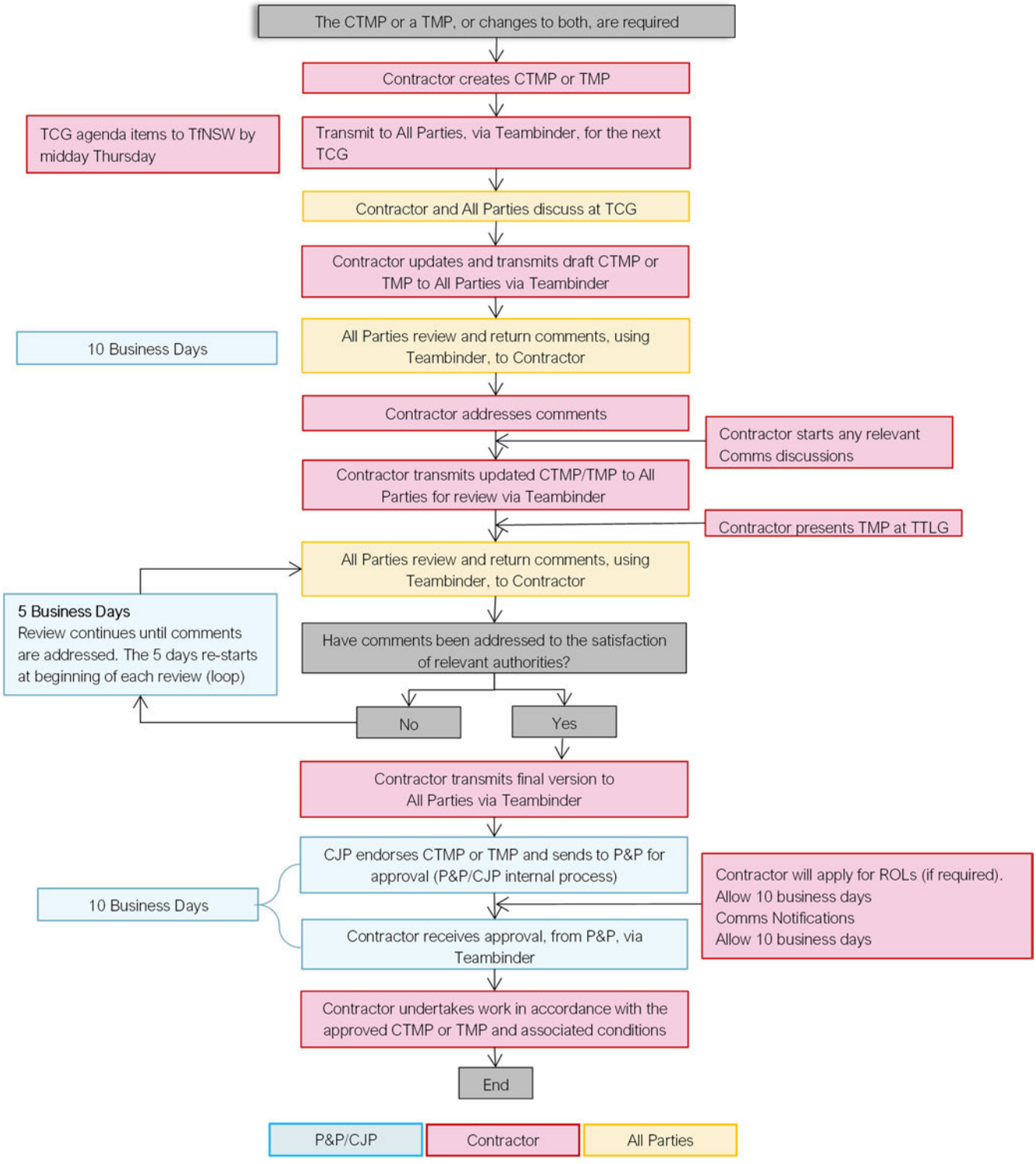
TMPs will be discussed, reviewed and finalised in consultation with TfNSW, Infrastructure NSW, City of Sydney and the Metro Project at the fortnightly TCG meeting. The TMPs will take into consideration the oversize/ out of hour specific deliveries from BESIX Watpac and other interface contractors. TMPs will generally include:

- Overview of the construction activities and traffic management requirements
- A description of how traffic management will be established
- A description of traffic management during construction
- A description of traffic management for specific construction events (e.g. full road closure)
- Traffic management measures/ devices that will be implemented
- An analysis of resultant traffic conditions and impacts analysis (as required)
- Details of stakeholder consultations.

A list of the likely TMPs is provided below and includes major road configuration changes or one-off specific activities:

- Site Establishment Phase 1 and Road Works Stage 1 – Early Site access and Station Box Area surface works West Side
- Road Works Stages 2 and 3 - Station Box Area surface works East Side
- Road Works Stage 4 and 5 – Station Box Area surface works Hickson Road final layout
- Road Works Stages 6 to 8 – Northern Shaft Area Surface Works
- Northern Shaft Noise Enclosure Removal.

Figure 5: CTMP and TMP Approval Process



2.5.3 Traffic Control Plans (TCPs)

TCPs are detailed in Section 6.2, with an overview TCP provided in Appendix D. Detailed TCPs will be prepared for the detailed TMPs by the traffic control contractor who will be implementing the road works traffic schemes.

2.5.4 Traffic-Related Temporary Works Drawings

Traffic-related temporary works drawings are detailed plans of changes to roadways that are required to facilitate construction. These drawings include details of any required drainage, horizontal and vertical alignments, carriageway cross sections, lane configuration, intersection treatments, property access modifications, environmental controls, pavement, lines and sign posting, TCPs, safety barriers and roadside furniture.

Traffic-related temporary works drawings will be developed as part of the detailed TMPs for the road staging.

2.5.5 Processes

Processes are instruction documents that detail how particular activities are to be carried out during the Works. Specific processes will be developed for traffic management activities as the need arises during the Project, including, but not limited to:

- Preparation of traffic control plans
- Lane closure/ road occupancy and roadwork speed limit submissions (ROLs and SZAs)
- Inspecting traffic control arrangements

When approved, these processes are given to relevant construction team members, and specific training sessions, e.g. tool box and pre-start briefs will be conducted.

2.5.6 Safe Work Method Statements (SWMS)

All high risk construction work undertaken for the Works will be under approved SWMS(s).

BESIX Watpac's subcontractors will prepare SWMS(s) in consultation with their workers, relevant functional managers and BESIX Watpac, and implement the SWMS before the related work starts to ensure the issues relating to safety are appropriately addressed. The provisions for working on or adjacent to roadways, and the traffic control measures to be applied will be incorporated where necessary within the SWMS.

2.5.7 Environmental Management System

The environmental management system for the Project is described in the Construction Environmental Management Plan.

2.6 Legislation

This section describes the guidelines and legislation that are relevant to this CTMP. These are critical in setting the framework that this CTMP will sit in, and in defining the key organisations that have delegated authority regarding the management of traffic associated with or affected by the Works.

Key legislation and regulations of relevance to this CTMP are described below:

- Roads Act 1993 – Section 138 of the Roads Act 1993 requires that a person obtain the consent of the appropriate roads authority for the erection of a structure, or the carrying out of a work in, on or over a public road, or the digging up or disturbance of the surface of a public road. If the applicant is a public authority, the roads authority must consult with the applicant before deciding whether or not to grant consent or concurrence.

BESIX Watpac will, as per the GSMoP, comply with any traffic direction or instruction given by NSW Police, a relevant Authority or the metro representative in respect of any traffic and transport management.

2.7 Policies

BESIX Watpac policies will be made available on request. All Project personnel, including subcontractor employees, will be made aware of these policies through the induction process and the policies are available on the site offices. The processes and activities described in this CTMP and subsequent TMPs will support these policies.

2.8 Constraints

Constraints are those issues (contractual, regulatory, physical or social) that define the environment and conditions under which the works must be undertaken. The road safety and traffic management constraints are defined by:

- the Project approvals
- requirements of road authorities and other stakeholders
- traffic/ transport legislation
- technical standards and guidelines.

A list of the various technical specifications, standards and guidelines identified as being applicable to the Project are included in Section 1.6 of this Plan.

2.9 Risks

BESIX Watpac will manage the risks associated with traffic management by ensuring that no activity commences onsite that has an impact on traffic without an approved TCP (for short term works) and/ or TMP (for long term work) for the site. Relevant Construction Managers will ensure that project staff are aware of the requirements of this CTMP and that work on-site occurs as required by this CTMP, detailed TMPs, TCPs and/or ROLs.

BESIX Watpac will identify the risks and develop strategies (if required) for traffic safety and management by using some or all of the following measures:

- Undertake road safety audits
- Surveillance and monitoring of processes (confirming safety assessments and plans)
- Training and evaluation of competency of personnel (including inductions)
- Assessment and inspection of equipment or controls (i.e. field safety inspections)
- Introduction of additional hold or witness points as required
- Auditing of system and process (i.e. document and process audits).

The issues and control measures nominated by BESIX Watpac will be periodically reviewed and updated to ensure that the nominated risk controls are implemented.

BESIX Watpac will identify and analyse the Works major traffic and transport related safety risks (Appendix F). Additional minor assessments will be conducted to identify the potential road safety and traffic management risks associated with relevant portions of the works.

Identification of these risks will require input from stakeholders including construction team members; P&P; CJP; emergency service agencies; transport agencies; Infrastructure NSW and the City of Sydney.

2.10 Program and Construction Hours of Operation

Site establishment works are due to commence in August 2021, with project completion expected in August 2023 (refer to schedule in Appendix B).

The majority of construction works would be undertaken between the following standard construction hours or in accordance with other hours included in the Construction and Site Management Plan (CSMP):

- 7.00 am to 6.00 pm Monday to Friday
- 8.00 am to 1.00 pm Saturday
- No works on a Sunday or public holiday.

It is noted that Line-Wide and other interface contractors are permitted to work 24 hours, seven days. As detailed in the SEMP, BESIX Watpac will conduct regular interface meetings with these contractors. The Interface Manager will lead coordination of the interfaces exercising collaborative approach to plan and manage the works to the contracted milestones and proactively manage design and constructability interfaces with best for project outcomes. BESIX Watpac will require details of any oversize deliveries, including dimensions and dates from Line-Wide and/ or other interface contractors.

To maximise vertical handling efficiency in the northern shaft following the 1A portion handover (triggering shared use of the gantry crane between BESIX Watpac and Line-Wide), provision has been made for night shift traffic control and gantry crane operation to service the requirements of all contractors until the cavern wall is infilled and materials handling via the northern shaft is no longer required.

Oversize vehicle movements outside of standard construction hours associated with works (materials deliveries and other truck movements) would occur via access and egress directly to the construction site (Appendix C).

In general, construction materials to the surface level and the station box will be delivered during the day where practical and feasible, any materials delivered to the surface level after hours will be done so in accordance with the Out of Hours Works Protocol, including implementing strategies in consultation with the City of Sydney and NSW Environment Protection Authority to mitigate potential impacts from such night-time deliveries. There is no major spoil haulage as most of the spoil has been removed during the TSE (previous) contract.

Works would need to be undertaken outside standard construction hours in accordance with the Out of Hours Works Protocol to reduce inconvenience to road users and ensure the safety of construction workers and the public. These would include activities such as:

- Traffic management, set-up and traffic switches
- Utility relocations and connections (where the relocation is close to traffic)
- Use of construction compounds to support out of hours works.
- Station box materials deliveries (through shark's fin and PODs)

Other works that would also be undertaken outside standard daytime construction hours without any further approval would include any of the following circumstances:

- Delivery of materials to the tunnel portals and the platform level of the station via the Northern Shaft noise enclosure will be done so in accordance with CoA E48
- Works which are determined to comply with the relevant Noise Management Level at the nearest sensitive receiver in accordance with the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009)
- The delivery of oversized plant, structures and materials that the police or other authorities determine require special arrangements to transport along on public roads
- Where emergency works are to ensure the safe operation of the activity or to avoid the loss of lives or property, or to prevent environmental harm
- Where agreement is reached with affected receivers.

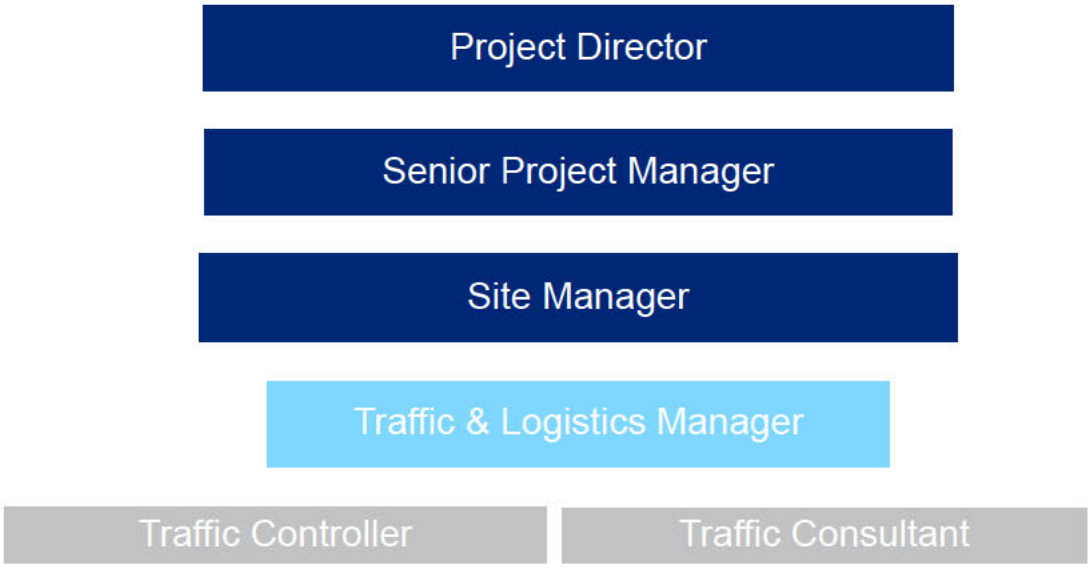
Out of hours work may also be undertaken where permitted by the NSW Environment Protection Authority in an approved Environment Protection Licence.

2.11 Organisation and Responsibilities

Traffic management (includes pedestrian and cyclists) will be installed and managed by the BESIX Watpac construction team and appointed traffic control company, with technical advice provided by Traffic Consultant.

The traffic related position and its responsibilities are outlined below in Figure 6.

Figure 6: ***Traffic Management Team Structure***



2.11.1 Traffic Management Team

BESIX Watpac's approach to successfully managing the construction traffic process is to have a Traffic Management team that includes a Site Manager (SM), Traffic and Logistics Manager (TLM) from BESIX Watpac, with technical support from Traffic Consultant (TC). The team includes members with more than 10 years' experience managing construction projects that required extensive traffic management.

The team will focus on the road safety and traffic management activities during construction. The SM and TLM will be available at all times on a mobile phone. The responsibilities of the traffic management team are listed below:

- Manage the planning, development, implementation, revisions, and approvals with the relevant authorities and stakeholders (where required) of the Construction Traffic Management Plan (CTMP), Traffic Management Plans (TMPs) and Traffic Control Plans (TCPs) (TC and Traffic Control Company [TCC])
- Advise construction engineers to ensure all traffic management measures are planned in accordance with the GSMoP, best practice, including all relevant safety regulations and standards (TLM)
- Liaise closely with the communications and community relations team regarding traffic planning, community information initiatives, event planning, ministerial inquiries, community and stakeholder information and complaints, and stakeholder access needs (TLM)
- Advise construction personnel to ensure all traffic management measures are planned in accordance with possible requirements of relevant stakeholders (TLM)
- Liaise, generate and maintain a productive relationship with the TfNSW, CJP, Local Council, emergency service agencies and other stakeholders on traffic and incident related issues (TLM and TC)
- Attend and present at TCG and TTLG meetings (TLM and TC as required)

- Advise the team to facilitate delivery of Temporary Works Drawings, in accordance with the relevant standards (SM and TLM)
- Monitor and evaluate the ongoing effectiveness of traffic management activities of the Project and where necessary suggest to the Construction Team corrective actions to rectify any deficiencies (TLM and TC)
- Manage the Project's road safety audit process and assist the construction team to implement resultant corrective actions and maintain detailed records (TLM and TC)
- Advise the Construction team on any issues raised as part of the Short and Long Term Traffic Management Inspections (TLM and TC)

2.11.2 Short Term Traffic Control – Subcontractor Traffic Control Company

Short term traffic control (includes pedestrian and cyclist management) will be managed by the construction team with technical advice provided by the Traffic Consultant. Actual layouts will be installed by the Traffic Control Company. The Traffic Control Company will be required to supply the personnel described in Table 2.

Table 2 Roles and Responsibilities of Short Term Traffic Control Subcontractor

Role	Responsibility
Shift Supervisor	• Organise and manage all traffic control and traffic control crews for that day/night shift • Pre-start brief all team members before work begins, every shift • Ensure all teams have TCPs, ROLs, SZAs and relevant safety equipment with them and in working order • Liaise and advise CJM/ TMC of ROLs and SZAs for day or night works • Inspect and rectify issues across all traffic control set-ups, every shift • Obtain and keep current a TfNSW Traffic Controller Card, a TfNSW Implement Traffic Control Card and a TfNSW Prepare Work Zone Traffic Management Card as a minimum • Investigate unplanned incidents and workplace incidents and action items raised in a timely manner • Prepare necessary reports, and maintain incident records and inspections logs. • Discipline staff as required • Organise and maintain vehicles and plant to a high standard of cleanliness and safety • Enforce and adhere to all OHS policies, guidelines and requirements of the Project • Ensure all dockets and paperwork is correct and complete • Assist with the planning, development, implementation and revisions of TCPs • Any other items as directed by BESIX Watpac
Team Leader	• Team Leader also performs the role of Traffic Controller (see below) • Install and remove traffic control, including speed zones, in strict accordance with a Traffic Control Plan, and all relevant Guides and Manuals • Carry out maintenance of their own traffic control devices, signage, delineation and other equipment as required • Relocate traffic control plant, such as but not limited to portable VMS, trailer-mounted arrow boards, vehicle mounted arrow boards, crash cushions, flashing beacons and vehicle mounted attenuators • Obtain and keep current a TfNSW Traffic Controller Card, an TfNSW Implement Traffic Control Card and an TfNSW Prepare Work Zone Traffic Management Card as a minimum
Traffic Controller	• Install and remove traffic control, including short term speed zones, in strict accordance with a Traffic Control Plan, and all relevant Guides and Manuals and/or as directed by the Team Leader • Carry out maintenance of all traffic control devices, signage, delineation and other equipment as directed by Team Leader • Obtain and keep current a TfNSW Traffic Controller Card and a TfNSW Implement Traffic Control Card • Provide traffic control related assistance if directed, at incident sites, including direction from emergency services, e.g. Police

2.11.3 Construction Personnel and Responsibilities

BESIX Watpac and its subcontractors are responsible for all construction activities, construction personnel and their traffic and transport management responsibilities. Functional managers and their staff provide support for all construction activities and their traffic management related responsibilities are also described in Table 3.

Table 3 Roles and Responsibilities of Key BESIX Watpac Personnel with Respect to Traffic

Role	Responsibility
Project Director/ Project Manager	• Support the delivery of the road safety and traffic management objectives • Support the principles and requirements of this CTMP • Provide direction and support to the TM to enable effective planning of temporary traffic management arrangements • Review and authorise relevant plans and processes • Ensure all construction team members receive the appropriate training
Site Manager	• Allocate field resources as required • Support the delivery of the road safety and traffic management objectives • Assist with the implementation of this CTMP • Ensure relevant field team members receive the appropriate training
Traffic and Logistics Manager	• Deliver the road safety and traffic management objectives outlined in this CTMP and TMPs. • Assist with planning all work activities to identify the required traffic management arrangements to facilitate the works • Actively participate in the implementation of actions to mitigate, future occurrences of unplanned incidents • Organise and directs engineers to undertake fortnightly long and short term traffic management inspections
Site Supervisor	• Manage required traffic control measures and resources during every shift • Undertake daily inspections of short term traffic control • Install and maintains long term traffic control layouts, e.g. signs and barriers
Community Relations Manager	• Represent the Project for all community and stakeholder issues • Consult stakeholders for traffic, pedestrian and bike planning issues • Prepare and distribute changed traffic condition information to road users, transport operators, active transport groups and local communities • Work with the Project Area Manager on the resolution of traffic complaints and stakeholder enquiries
WHS Manager	• Represent the Project for all safety and health matters • Develop guidelines, rules and policy for Project Safety • Conduct inspections of Traffic Control Subcontractor in respect to safety • Prepare toolboxes, inductions to address Project traffic and/or transport issues • Review and approves SWMS to the minimum requirements of the Working near Live Traffic Knowledge Document • Conduct task observations of worksite set-ups

3 Over-Dimensional Vehicles, Heavy Vehicles and Chain of Responsibility

3.1 Chain of Responsibility (CoR) - HVNL

The Chain of Responsibility (CoR) is a concept used in the Heavy Vehicle National Legislation (HVNL) to place legal obligations on particular parties in the supply chain of a heavy vehicle with a gross vehicle mass (GVM) of more than 4.5 tonnes – not just the operator of the vehicle or the driver of the vehicle.

Besix Watpac's Project Health & Safety Management Plan (PHSMP), Chain of Responsibility (CoR) - HVNL has been developed to ensure any party in the CoR who has the capacity to influence and control the transport activity is responsible for the safety of transport activities dependant on their capacity to control, eliminate or minimise the risk.

At a minimum, the CoR Plan addresses the requirements of:

- Section 13 of the Sydney Metro Principal Contractor Health and Safety Standards Version 5
- Section 2.10.17 of the General Specification Management of the Project (MS-GS-MP-2).

3.2 Over-Dimensional Vehicles

The movement of Over-Dimensional Vehicles (intrastate) is managed and controlled by the TfNSW Special Permits Unit, through the issuing of permits (https://www.rms.nsw.gov.au/business-industry/heavy-vehicles/road-access/restricted-access-vehicles/oversize-overmass/index.html).

All over-dimensional vehicles utilised on the project will be procured through specialist delivery sub-contractors and will abide by the permits obtained from the TfNSW Special Permits Unit. "Special permits for oversize and over mass vehicles and loads", (2007) document outlines the various operating restrictions and conditions.

Some permits may also require coordination with the NSW Police, and this will be coordinated by the specialist delivery sub-contractors. OSOM movements will not occur on local roads, where practical.

For the day-to-day operation of the Barangaroo Station construction, all short term traffic control will aim to minimise the impact on the existing road network by:

- Considering the movement of heavy vehicles and over-dimension loads when developing Traffic Control Plans
- Avoiding unnecessary traffic control operations so as not to disrupt traffic flows
- Liaising with NSW Police, permit authority and operators, and provide up-to-date information of any obstructions that may impact on movement of over-dimension vehicles.

Traffic Controllers will effectively co-ordinate the movement of over-dimensional vehicles into the site and compounds. Traffic Controllers must wear high visibility clothing with trousers fitted with double-reflective stripes or reflective boot covers in accordance with AS 4602. Adequate traffic controllers will be allocated per shift to cover breaks. Illuminated wands are provided to traffic controllers for any night shifts.

3.3 Heavy Vehicles

The following are identified by Sydney Metro to mitigate heavy vehicle risks:

- Implement Construction Traffic Management Plans that include:
  - » Public and vulnerable road user safety
  - » Site access and egress
  - » Traffic calming and traffic controllers
  - » Road safety audit

- Risk-assess haulage routes and surrounding land uses (e.g. schools and school zone times)
- Mandate heavy vehicle safety features above minimum legal requirements
- Training for drivers to improve driver behaviour, competency and route awareness
- Implementation of public awareness campaigns.

All Heavy Vehicle Operators, including prime contractors, sub-contractors and owner-drivers, will be assessed and selected, as part of the procurement and pre-qualification processes, to ensure they meet the minimum requirements set out in the Sydney Metro Principal Contractor Health and Safety Standard Version 5 and the Project's CoR - HVNL. The requirements of the standard apply to all levels of the supply chain, including sub-contractors and suppliers.

Subcontractor pre-qualification will include undertaking compliance assurance assessment of sub-contractors as to their competency, capacity, qualifications, training, expertise, systems and processes in place to ensure compliance with the HVNL and CoR provisions and their relevant compliance history as a minimum. Heavy Vehicle Operators will need to demonstrate a safety and compliance history and current fleet safety standards.

Drivers (including prime contractors, sub-contractors or suppliers of any tier) will not be incentivised or based on the number of, or speed in which, deliveries are made or in such a way that would result in a breach of the HVNL. BESIX Watpac will ensure that the safe delivery of plant, equipment, materials and people is the overriding priority in all vehicle movements.

All Heavy Vehicle Operators (prime contractors and/or sub-contractors) engaged for major delivery contracts (e.g. concrete/aggregates delivery, steel, precast, plant transportation) will be accredited or are in the process of gaining accreditation under the relevant accreditation scheme such as the National Heavy Vehicle Accreditation Scheme (NHVAS) Maintenance Management or equivalent TruckSAFE accreditation.

Heavy vehicles will meet the requirements specified in the Sydney Metro Principal Contractor Health and Safety Standard (Version 5).

A heavy vehicle is as per the TfNSW definition: any vehicle over 4.5 tonnes GVM (Source: https://www.rms.nsw.gov.au/business-industry/heavy-vehicles/registration/index.html)

4 Transport Impact Management

4.1 Construction Traffic

4.1.1 Heavy Vehicle Routes

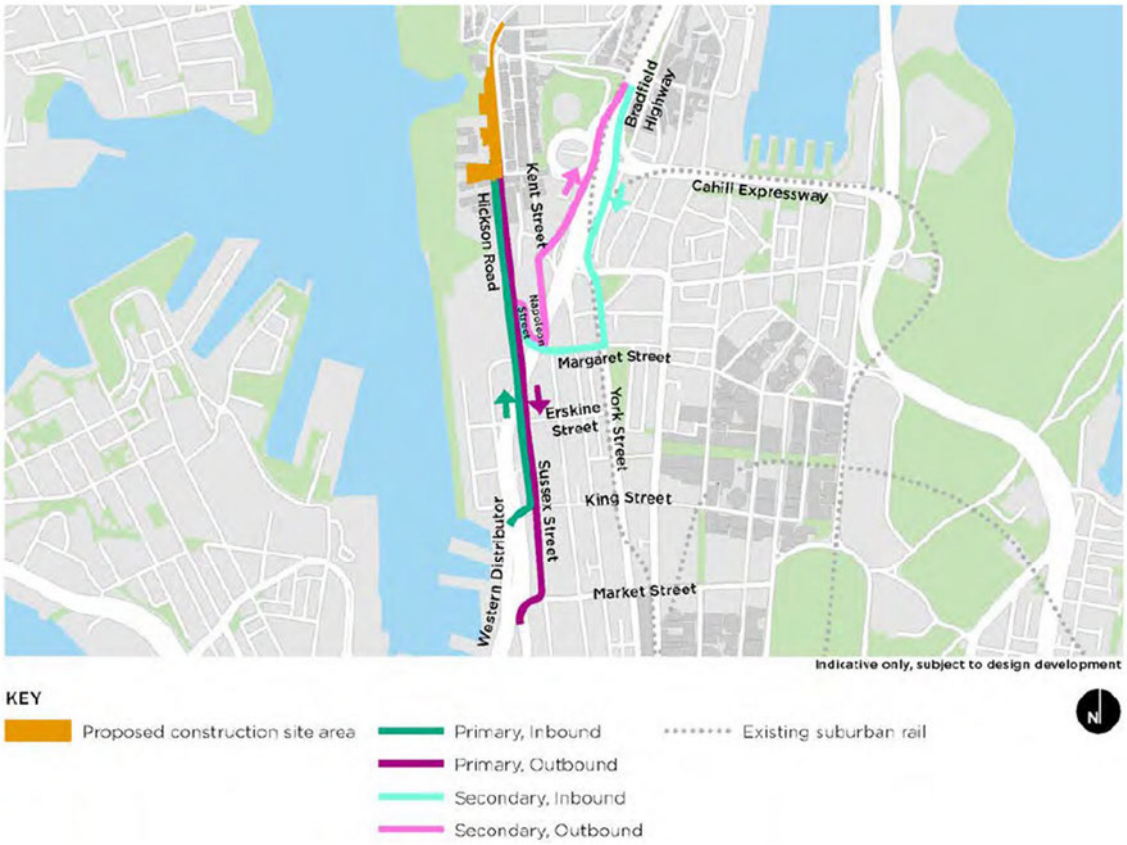
Delivery truck routes to and from the construction site were developed in-line with the GSMoP and the Metro Project EIS (Figure 7), with the view to minimising impacts to local streets while maximising use of state and regional roads. These are proven approach and departure routes that have and continue to be used by many construction sites around Barangaroo over the last 10 years as the area has transformed.

All trucks undertaking deliveries to the site are classed as general access vehicles (as defined by P&P and shown in Figure 8). These include rigid trucks, truck and dog trailers and semi-trailers. All routes have been checked against P&P's minimum vertical clearances of 4.6 metres (Figure 9).

The City of Sydney Standard Requirements for CTMPs states that truck and dog trailers and semi-trailers are only permitted on Local Roads if approval is obtained from the City's Construction Regulation Unit for a one-off occasion.

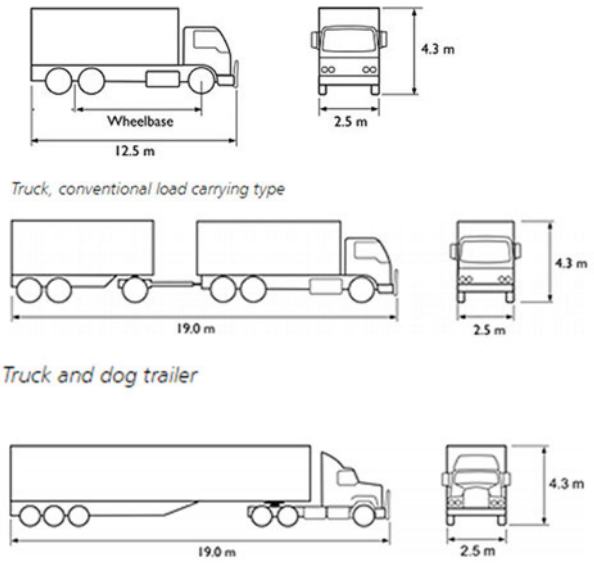
Anything outside of general access is considered an OSOM and will be managed by P&P's OSOM approval system, though the routes used will not differ from those used by the general access vehicles (unless P&P OSOM approval states otherwise).

Figure 7: Approved Truck Approach and Departure Routes



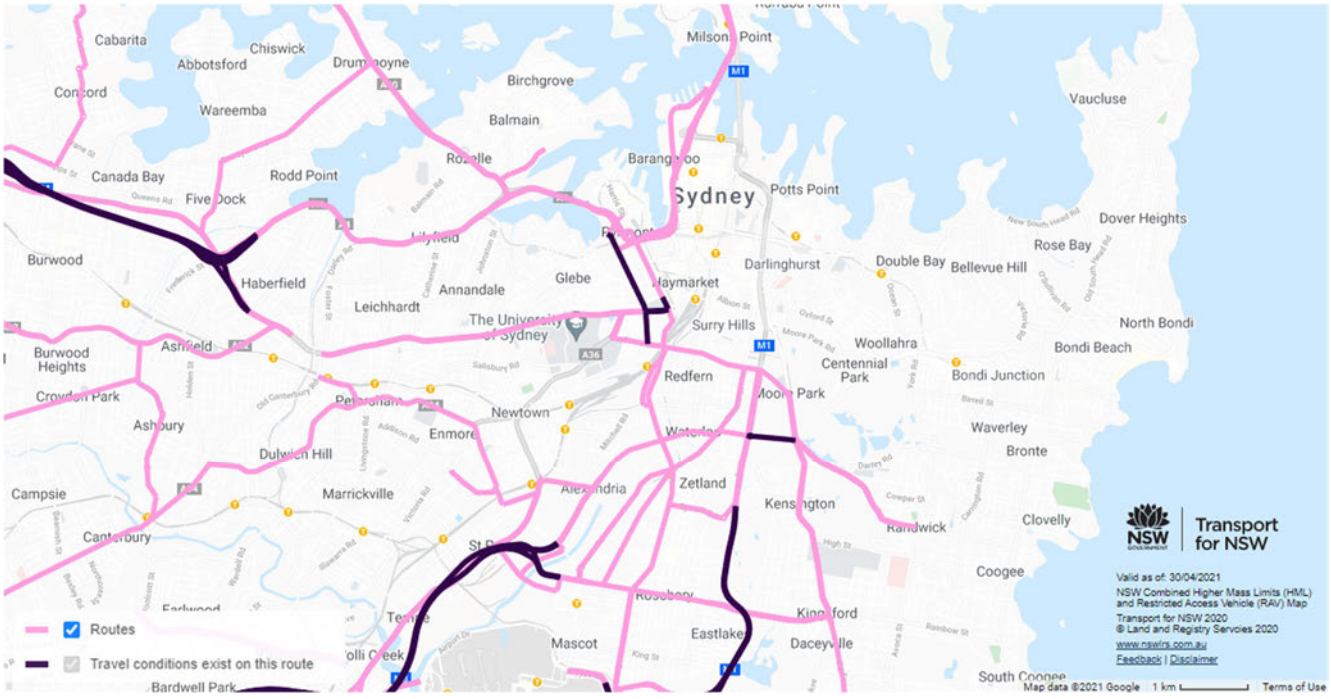
Source: Chatswood to Sydenham Environmental Impact Statement – Technical Paper 1: Traffic and Transport, May 2016

Figure 8: General Access Heavy vehicles



Source: https://roads-waterways.transport.nsw.gov.au/business-industry/heavy-vehicles/road-access/general-access-vehicles.html

Figure 9: Minimum 4.6 metre Vertical Clearance



Source: https://roads-waterways.transport.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map/index.html

4.1.2 Construction Vehicle Volumes

A comparison of the EIS and BESIX Watpac construction vehicle movements at the site for the station construction phase is summarised in Table 4. The EIS anticipates up to 10 light vehicles per hour (6:00am to 7:00am and 10:00am to 4:00pm) and 24 heavy vehicles per hour (10:00am to 3:00pm). BESIX Watpac expects to generate lower volumes (averaged) across the typical day.

Table 4 Anticipate Light and Heavy Construction Vehicles per hour (averaged)

Time	EIS Light Vehicles	BESIX Watpac Light Vehicles	EIS Heavy Vehicles	BESIX Watpac Heavy Vehicles
6:00am-10:00am	2-10	3	2	2
10:00am-3:00pm	10	5	24	9
3:00pm-7:00pm	2-10	5	2	2
7:00pm-6:00am	2	2	6	6

All deliveries will be pre-booked and managed through Veyor (or similar), a web and app-based software tool that allows truck drivers to book a timeslot for loading/ delivery areas and receive real-time notifications. The software also allows BESIX Watpac to track actual vehicle arrival and departure times. Software add-ons that BESIX Watpac may also utilise include Driver Induction, Chain of Responsibility, Driver ETA Tracking, Exclusion Zones and Work Permits Scheduling and Plant Inspection Checklist.

4.1.3 Swept paths

Swept path analysis for the largest design vehicles has been completed at select locations approaching the site to verify suitability of the approach and departure routes. Select swept paths are provided in Appendix E, which show the largest vehicles that can manoeuvre along the routes. It is noted that any one-off use of semi-trailers will require traffic management at intersections, including stop/ go traffic control. Detailed swept path analysis for the various road staging arrangements will accompany detailed TMPs to be prepared prior to the commencement of each major road change.

4.1.4 Heavy Vehicle Drivers Code of Conduct

Purpose and Objectives

This Heavy Vehicle Driver Code of Conduct aims to minimise the impacts of construction traffic on transport networks and adjoining properties. The purpose of this Code is to clearly define and detail acceptable behaviour for all heavy vehicle drivers operating in connection with the Works including BESIX Watpac materials supply and subcontract drivers.

Responsibilities of Drivers

- Drivers are to follow ALL rules and regulations required by law including:
  - » Hold a current and appropriate licence for the vehicle they are operating
  - » Comply with all speed limits
  - » Obeying posted (road) load limits
  - » Comply with all road works speed limits
  - » Obey construction traffic signs and devices
  - » DO NOT allow vehicles to be overloaded
  - » Drivers must have appropriate PPE when entering the work site
- Drivers are to practice safe driving and behaviour which includes, but is not limited to:
  - » Driving in a manner that is appropriate with road and weather conditions
  - » Not operating any machines whilst fatigued or under the influence of drugs and/or alcohol.
- Drivers must behave in a professional manner at all times.
- Drivers must adhere to routes nominated by BESIX Watpac for each specific construction activity and they must not use roads if their weight is over the posted load limit.

- Routes passing schools and childcare centres should be avoided during school zone periods (08:00-09:30 and 14:30-16:00). These locations and times will be identified and confirmed by BESIX Watpac during planning of the work and communicated to all drivers.
- Drivers should only park or wait in approved roadside lay-bys or hard shoulders as directed by BESIX Watpac (these will be agreed with the P&P, Infrastructure NSW and Local Councils). Do not queue at worksite gates or on any public road.
- Drivers parking are to engage the park brake and leave the vehicle in gear. Never leave the vehicle with the engine running. Drivers leaving their vehicle must wear appropriate PPE (site standard).
- Vehicles must not transfer dirt or debris onto public roads. If any materials are deposited on the roads, the BESIX Watpac Supervisor must be contacted immediately.
- Drivers will follow all procedures (and the direction of those who implement them) related to vehicle call-up/ site access.
- If approached by individuals with enquiries about the Works, drivers are not to engage with the individual beyond providing them with the community information hotline number, referred in the contacts section.
- As a courtesy to individuals who may be impacted by driver behaviour, drivers will:
  - Not use compression braking where noise is likely to adversely impact on residents
  - Ensure that there is no littering
  - Remain calm and courteous when in contact with other members of the public
  - Maintain trucks in good working order and a clean and tidy condition
  - Not block residential driveways or any other access points.

4.1.5 Dilapidation Survey

BESIX Watpac will prepare (or have prepared by a subcontractor) Dilapidation Survey reports for affected local roads, within a reasonable distance of the project scope boundaries (to be confirmed with relevant stakeholders), likely to be used by construction traffic prior to commencement of construction.

The survey will investigate a pre-determined table of affected roads and consider, but be not limited to, the following:

- Kerb and gutter (likely to be within a vehicle/s path)
- Speed humps
- Existing vegetation
- Street furniture
- Any existing damage to road pavement or road furniture
- Existing potholes/pavement damage
- Cracking and rutting
- Any existing structures
- Any existing damaged items.

The final report will include a written survey, photos and/ or video of each road and be supplied to City of Sydney, Infrastructure NSW and P&P.

4.2 General Traffic

Hickson Road has historically always had one traffic lane in each direction adjacent to the site. Two-way traffic will be retained across all road staging arrangements as illustrated in overview plans provided in Appendix C. These road staging plans, including access to the northern shaft and traffic signal changes will be detailed further as part of stage specific TMPs. The staging of the road works is necessary to allow the entire road reserve to be upgraded, whilst always retaining one traffic lane in each direction. A brief description of the road staging is provided below and will be developed further as part of the detailed TMPs:

- Site Establishment Phase 1 (west portion of site) – establish the site amenities compound using existing Gate 4 (future road c), whilst the TSE contractor occupies the remainder of the site
- Site Establishment Phase 2 (west and east portion of site) – commence early works in the west and east portions of the site and use new gates to access the southeast and northeast work areas, whilst the TSE contractor occupies the remainder of the site
- Traffic Stage 1 – Refers to the initial construction works with current traffic arrangement, which will allow the construction working area on west side of Hickson road and live traffic along the east side

Figure 10: Traffic Stage 1 Works Typical Section

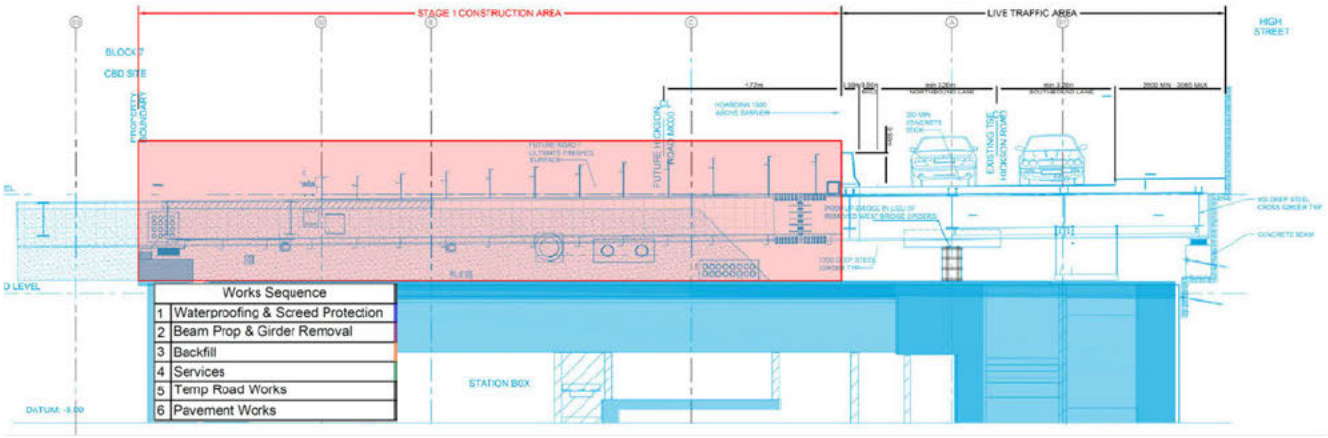
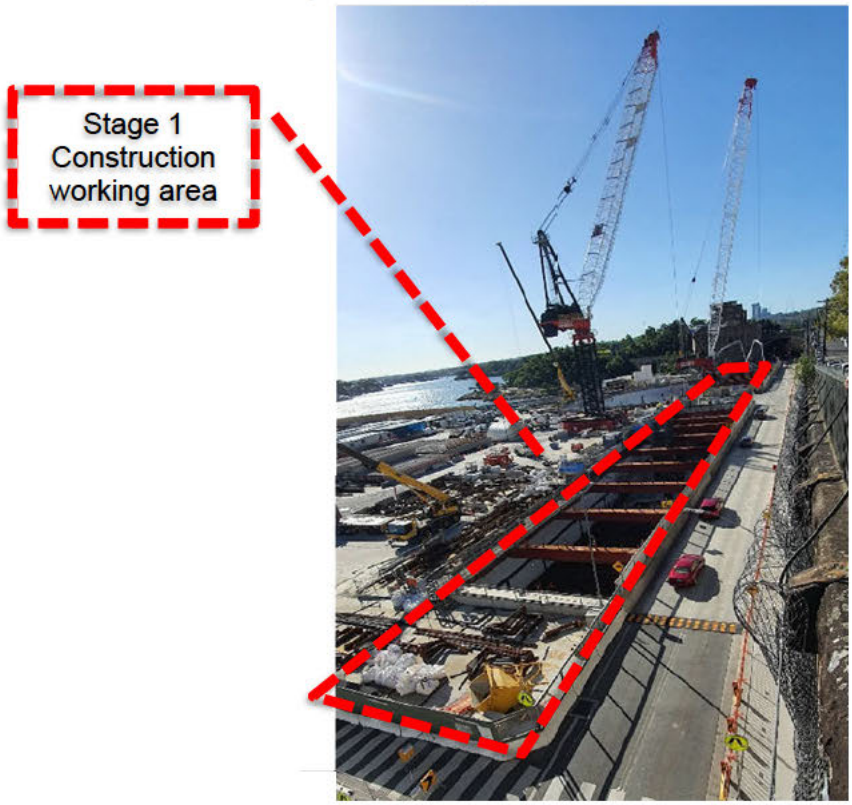
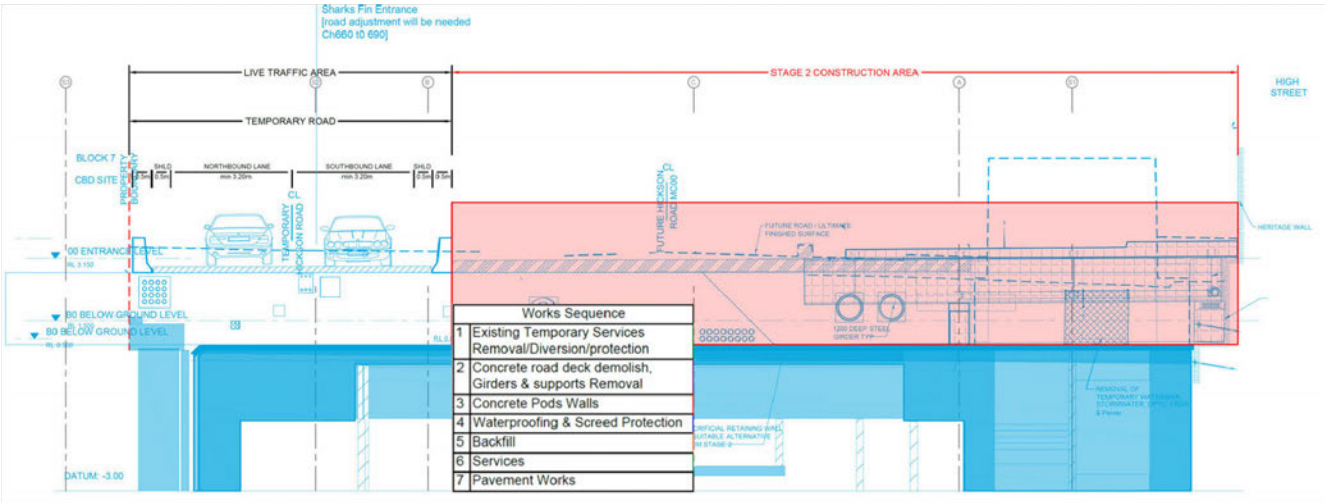


Figure 11: Current Traffic Configuration for Stage 1 Works



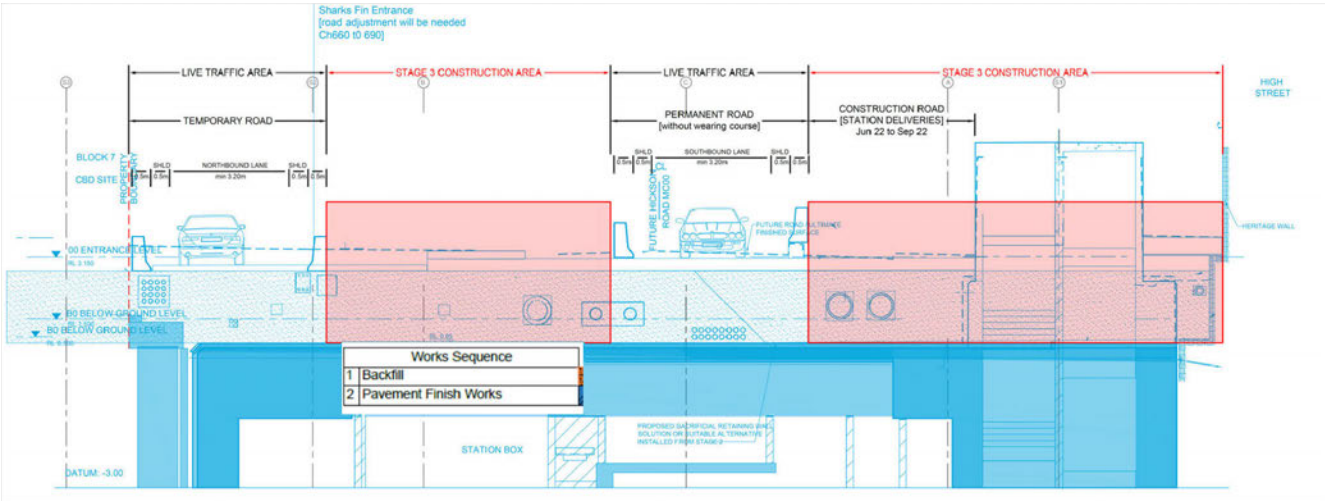
- Traffic Stage 2 – Marks the first traffic switchover from east (stage 1) to west (this stage), which will allow the construction working area on east side of a temporary road Hickson and live traffic shifted to west side (first alignment shift adjacent to main site)

Figure 12: Traffic Stage 2 Works Typical Section



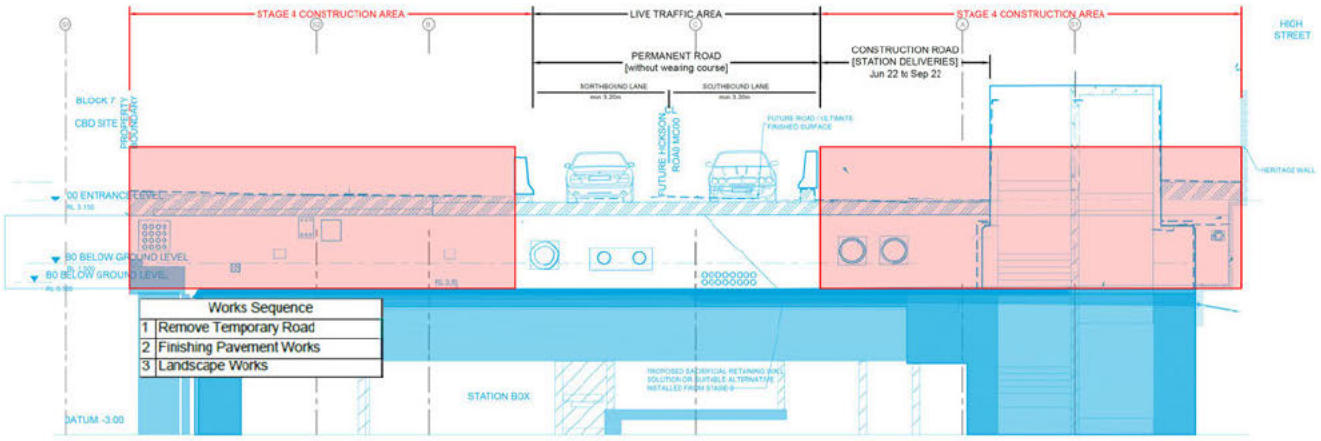
- Traffic Stage 3 – Marks the second traffic switchover, which will allow the construction working area to be split into two for the road works interface between temporary and permanent to be completed. Northbound traffic will be provided on west side of road reserve and southbound traffic between the split compounds (second alignment shift adjacent to main site). Note that this stage, if required, will be performed during a reasonable short duration. The final lane width for this arrangement and any additional emergency/ breakdown response strategies required will be agreed with TfNSW as part of the detailed TMP that covers this stage.

Figure 13: Traffic Stage 3 Works Typical Section



- Traffic Stage 4 – Marks the third traffic switchover, which will allow to complete and finish the construction works on both sides (east and west) of Hickson road and live traffic will be in final road alignment running on the base coarse layer (third alignment shift adjacent to main site)

Figure 14: Traffic Stage 4 Works Typical Section



- Traffic Stage 5– This stage will have the same traffic arrangement as the previous (no traffic switchover), but the construction working area will be located at the northern shaft noise enclosure, where the shaft will be backfilled and the enclosure removed in the end. The live traffic will be on west side (current arrangement adjacent to the shaft enclosure)

Figure 15: Current Traffic Configuration for Stage 5 Works (Northern Shaft)

The next traffic stages follow the same strategy as described above (Stage 1 to 4), with the main difference being the duration of each of the following stage, which will be significantly shorter.

- Traffic Stage 6 – Marks the fourth traffic switchover from west location (stage 5) to east (this stage), which will allow the construction working area on west side of a temporary Hickson road and live traffic shifted to east side (first alignment shift adjacent to shaft enclosure)

- Traffic Stage 7 – Marks the fifth traffic switchover, the work compound split into two adjacent to current shaft enclosure, northbound traffic on west side of road reserve and southbound traffic between the split compounds (second alignment shift adjacent to shaft enclosure)

- Traffic Stage 8 – Marks the sixth and final traffic switchover, the work compounds on east and west side of road reserve adjacent to current shaft enclosure and traffic in between in final road alignment (third alignment shift adjacent to shaft enclosure). To note that will be in this stage that the final asphalt wearing coarse layer will be placed for the whole of the road works.

Any proposal to restrict traffic flow in either direction will be analysed as part of the detailed TMPs and in consultation with the relevant stakeholders. The Traffic Control Signal plan for the temporary signals that provides access to the northern shaft noise enclosure will also require updates to facilitate the road stages. These updates and subsequent approvals will occur as part of stage specific TMPs and prior to any traffic signal changes.

The reliable and efficient operation of the state road network is vital to Sydney. AS 1742.3 Section 2.3.2 (b), states that work schedules should be arranged to minimise:

- Disruption of established traffic movements and patterns
- Interference with traffic at peak movement periods, night, weekends, holiday periods and special events
- Interference with public transport services.

BESIX Watpac will pursue the minimisation of delays to the extent that it does not compromise the safety of workers or road users.

Condition of Approval E78 states: "***The Proponent must undertake supplementary analysis and modelling as required by the TTLG to demonstrate that construction and operational traffic can be managed to minimise disruption to traffic network operations, public including changes to and the management of pedestrian, bicycle and public transport networks transport services…***".

If works (e.g. long term temporary lane or road closures) affect traffic flow or lane geometry, BESIX Watpac will apply the appropriate traffic modelling/ analysis. This could include intersection and network analysis along any proposed detour routes or mid-block capacity analysis. Outputs from modelling (where required) will be provided as part of the detailed TMPs.

4.3 Parking

The construction works will have no further impact to on-street car parking supply, noting that car parking along Hickson Road has already been temporarily removed between Watermans Quay and the Windmill Street overbridge. On-street car parking will be reinstated following the completion of the construction works in 2023.

BESIX Watpac will have a site office at 25 Hickson Road, Barangaroo, which has around 15 parking spaces to be shared by the building users as part the provisions of the contract. Additional parking is expected within the construction site, therefore limiting any impact on on-street car parking on the surrounding road network. It is noted that the vast majority of on-street car parking is ticketed and time-restricted which discourages all day parking. There are three (ticketed) public car parks near the site at Barangaroo Reserve (5 Towns Place), Barangaroo Point (25B Hickson Road) and Bond One (20 Windmill Street, accessed via Hickson Road)which are available for use by construction workers if required.

Given the site's proximity to high frequency and broad coverage public transport services, workers will be encouraged to use the public transport when travelling to and from the site, with appropriate tool/ equipment drop-off arrangements available.

4.4 Buses

Existing bus services (311, 324 and 325) will continue to operate along Hickson Road during the construction period. The construction works will not impact any bus stops. Sydney Buses will be advised of any necessary temporary lane or road closures with the view for such closures to occur out of bus operating hours (e.g. at night), where practical.

Overall, the construction works are not anticipated to have a notable impact to existing bus services, with specific impacts of proposed road realignment works to be assessed as part of the detailed TMPs.

4.5 Active Travel

4.5.1 Pedestrians

BESIX Watpac recognises the importance of considering all road users, and will identify pedestrian needs by considering the:

- Impact of construction works on existing pedestrian footways
- Number of pedestrians and their activity: office, retail, residential, school or recreational
- Origin and destination points of the pedestrians and their desired travel path
- The needs of vulnerable pedestrians: elderly, vision impaired, disabled, prams and trolleys
- Proximity of pedestrian generating developments including: schools, retail and commercial development, and bus stops/layovers
- Requirements of the GSMoP.

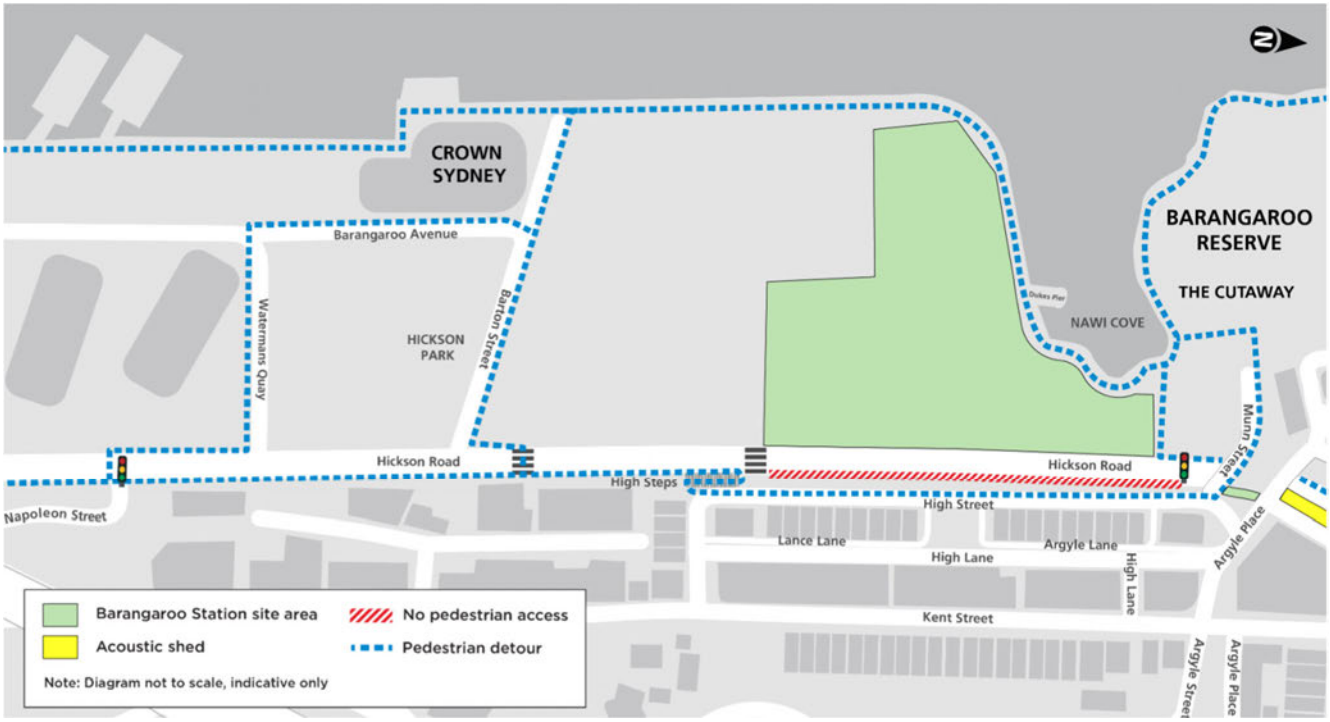
Since mid-April 2021, pedestrian access has been temporarily removed along Hickson Road, adjacent to the site. This has been made possible by the opening of pedestrian access along the foreshore, linking Barangaroo South and Barangaroo Reserve to the north (see Figure 16). Alternatively, pedestrians can use the stairs between Hickson Road and High Street at the southern end of the construction site.

BESIX Watpac will retain the footpath closure along Hickson Road for the duration of the construction works. This would separate construction activities and pedestrian movements, although is reliant on the foreshore access being retained throughout the construction works.

BESIX Watpac will retain existing 'Footpath Closed' signs, directional signs and position traffic controllers at footpath closure points to guide pedestrians around the closure, manage pedestrian and vehicle interaction and prevent pedestrians entering the footpath closure.

BESIX Watpac will advise the TTLG, CJP and the relevant road authority (P&P, City of Sydney and/ or Infrastructure NSW) prior to any changes to pedestrian access and facilities along Hickson Road.

Figure 16: Hickson Road Footpath Closure



Source: sydneymetro.info

4.5.2 Cyclists

Bicycle access will continue to be provided along Hickson Road in a mixed traffic arrangement. Alternate access is available along the foreshore and is encouraged to be used, particularly by less experienced cyclists.

Where the project implements traffic management, consideration will be given to cyclists, as per the GSMoP and by considering:

- Number of cyclists using the road
- Type of cycling activity: school children, recreational, commuter, utility, touring or sport training
- Origin and destination points of the cyclists, and the connectivity of their routes
- Needs of vulnerable cyclists, such as young children
- Proximity of cyclist generating developments, such as schools, public transport terminals and the travel speed of cyclists.

Cyclist movements (along with other road users) at and around work locations will be addressed in the detailed TMPs and/ or TCPs as required.

4.5.3 Summary

On this basis, the construction works are not anticipated to have notable impact to pedestrians and cyclists. Specific impacts of any footpath, lane or road closures will be assessed as part of detailed TMPs.

4.6 Property Access

There are no property accesses along Hickson Road, adjacent to the site. As such, the works will not have any impact to property accesses.

4.7 Nearby Construction Sites

BESIX Watpac will plan works to reduce the impact on the road network.

Major works are currently occurring at Barangaroo South and planned to occur at Central Barangaroo, located adjacent to the Station site. These works are expected to occur during the Station contracts. As such, BESIX Watpac will liaise with all nearby construction contractors to reduce cumulative impact wherever possible and ensure synergy in communications.

BESIX Watpac is required to maintain the existing 9 metre access road into Block 6 and to construct a new 9 metre access at the location of Road D from 1 February 2023, as part of providing access to the Block 7 construction contractor.

Interface meetings will be regularly held with all parties that have work sites on Hickson Road, with Infrastructure NSW responsible for the coordination of works and providing permits for works along Hickson Road.

4.8 Special Events

The CJP defines a special/ major event (in traffic management terms) as any planned activity that is wholly or partially conducted on a road, requires multiple agency involvement, requires special traffic management arrangements and may involve large numbers of participants and/ or spectators. Major events generally attract crowds in excess of 30,000 people.

In 2003, the NSW Government published “The Guide to Traffic and Transport Management for Special Events” regarding the organising, managing and controlling of special events. This guide was developed in consultation with the NSW Premier’s Department; CJP, P&P, Local Government Association, numerous Local Councils, NSW Police Force and the events industry.

CJP has the ultimate responsibility for road safety and traffic management of the road network. CJP is responsible for the assessment and coordination of special events, in consultation with event organisers, NSW Police, Infrastructure NSW and Local Councils.

4.8.1 Role of BESIX Watpac

There are expected to be several scheduled special events during the construction works. Infrastructure NSW maintains a booking calendar for events and planned works along Hickson Road and within Barangaroo area. BESIX Watpac has the 2021 calendar for all events and planned road works and will coordinate with Infrastructure NSW and relevant organisers/ contractors to manage the cumulative transport impacts.

BESIX Watpac acknowledges considerable planning is required to successfully move large volumes of people in an efficient manner to minimise disruption to normal transport patterns.

BESIX Watpac (as per the GSMoP) will openly and actively participate in regular forums, and communicate and cooperate in the management process with the CJP, Infrastructure NSW, event organisers and relevant project members and clients as required.

4.8.2 Classes of special events

Special/ major events are generally categorised based on the potential disruption to traffic and transport systems, and the disruption to the non-event community. The four broad categories are generally as follows:

- **Major** – is an event that impacts major traffic and transport systems and there is significant disruption to non-event community. For example: an event that affects a principal transport route, or one that reduces the capacity of the main highway through a country town.
- **Minor** – is an event that impacts local traffic and transport systems and there is low scale disruption to the non-event community. For example: an event that blocks off the main street of a town or shopping centre but does not impact a principal transport route or a highway.
- **Local** – is an event with minimal impact on roads and negligible impact on the non-event community. For example: an on-street neighbourhood Christmas party.
- **Police Controlled** – is an event that is conducted entirely under police control (but is not a protest or demonstration). For example: a small march conducted with a police escort.

5 Licences and Permits

5.1 Local Authority Road Occupancy Permits

For local roads, a road/ lane occupancy licence will be granted by either Infrastructure NSW or City of Sydney, depending on who is responsible for the affected road. Infrastructure NSW is responsible for Hickson Road between Napoleon Street and the Windmill Street overbridge.

BESIX Watpac will obtain the necessary permits from these authorities prior to conducting any works on local roads.

Works that will require Infrastructure NSW (or City of Sydney, if outside the Infrastructure NSW area) approval include:

- Stop/ slow operations on Hickson Road
- Pedestrian management
- Temporary lane or road closure application
- OSOM deliveries.

Infrastructure NSW (and City of Sydney, where applicable) has the power to revoke the approvals at any time for breaches of the associated conditions.

It is understood that changes or proposed amendments to the public domain may require the relevant TMP and/ or TCP to be submitted to Infrastructure NSW and the City of Sydney, including possible referral to the Pedestrian, Cycling and Traffic Calming Committee. Council's Local Traffic Committee procedures and timings will be obtained and followed as required.

5.2 TfNSW Permits

5.2.1 Road Occupancy Licence

An ROL is a licence granted to occupy a portion of the road network, e.g. one lane of two for a set time over a set number of days. BESIX Watpac will obtain the necessary ROLs from TMC prior to conducting any works on roads.

The three specific areas of approval will include:

- Development works within the road reserve and/ or any changes to existing infrastructure
- Temporary or permanent installation and/ or change of any regulatory traffic control device on a road
- Road closures, occupation of the road network to conduct works, and the associated installation of temporary traffic control devices.

The road authorities responsible for roads affected by the Project include City of Sydney, Infrastructure NSW and TfNSW. BESIX Watpac will liaise with these authorities and stakeholders (as required) during construction.

BESIX Watpac acknowledges that a Road Occupancy Licence (ROL) scheme applies on all state roads and understands the benefits of managing the cumulative impact of delays at separate and multiple work sites (multiple works sites in this case means sites in addition to Barangaroo Metro). CJM, TMC and CJP will be responsible for advising of conflicts with ROL approvals given to other projects.

Consequently, except in the case of an emergency, or when directed by Police or Emergency Services, BESIX Watpac will obtain an ROL, following internal processes, prior to the commencement of any short term works which:

- Slows, stops or otherwise delays traffic
- Diverts traffic from its normal course along the road carriageway, including lane closures, turning restrictions, detours and diversions, or

- Occupies any portion of a local road that is normally available as a trafficable lane.

An emergency is defined (by the GSMoP) as an unforeseen event, which requires urgent attention to protect life or property or an occasion when emergency services (Police, Fire Brigade, Ambulance or State Emergency Services) take control of a portion of the road network. BESIX Watpac role in emergency events is detailed in Section 7.3 Incident Management.

Obtaining an ROL and/or SZA approval for short term works on state and regional roads (or near traffic signals) will follow the existing TMC process. However, if a local road requires a lane closure, the City of Sydney or Infrastructure NSW approval processes will be followed (Section 5.1).

BESIX Watpac acknowledges that all road occupancies, despite the hours of operation stated in Section 2.10, will be subject to the specific period of operation stated on the approved licence.

The ROL Application (with a TCP) will be submitted to TMC, who have the responsibility for processing and approving ROLs, through the OPLINC system. TMC will be provided at least 10 working days to process and then either grant or reject application. Minor changes to an ROL application (to obtain approval) will occur within the 10-day period. All road occupancy requests will comply with all road safety and traffic management principles, objectives and targets outlined in this CTMP.

To obtain extensions, BESIX Watpac will submit an extension ROL through OPLINC. If the original lane closure and road occupancy submission is to be altered or changed, (e.g. change to times, TCP or proposed occupancy, work type etc.), a new ROL submission will be submitted.

BESIX Watpac will ensure the validity of approved lane closures and road occupancies and will regularly monitor the expiry dates. BESIX Watpac will maintain a database, which will contain details of road occupancy approvals to assist with this process.

Generally, TMC will apply conditions to the approvals, which may include:

- Maximum traffic stoppage times and maximum queue lengths
- Maximum travel time delays
- Measures to provide information to road users
- Records detailing the date and time of the road occupancy, and the location of all signs, and any other relevant information associated with the traffic control, must be kept.

CJM/ TMC/ CJP has the power to revoke the approvals at any time for breaches of the associated conditions.

5.2.2 Works Authorisation Deed

BESIX Watpac will take ownership of the temporary traffic signals along Hickson Road from the TSE contractor. As part of the WAD process, BESIX Watpac will require approvals for any modifications to the signals or for the removal of the signals and make good. Approvals are required from P&P (Network & Safety) and CJM (Network Operations), the latter responsible for managing and approving any new, modified or removal of traffic signals.

5.3 Roadwork Speed Limits

Temporary roadwork speed limits, both short and long term, are one of many traffic controls that may be implemented to manage the speed of traffic approaching and passing through and/or past the work sites.

BESIX Watpac acknowledges that roadwork speed zones must be logical and credible, as well as enforceable. When considering the use of a roadwork speed zone, BESIX Watpac will adopt the principles outlined in AS1742.3, which state that roadwork speed zones must:

- Only be used where they are self-enforcing or will be enforced
- Not be used alone but with other traffic control signs and devices
- Not be used in place of more effective traffic controls

- Only be used while road work is in progress or where lower standard road conditions exist
- Meet clearance and lane width requirements of Australian Standard 1742.3.

BESIX Watpac does not propose to change the current 40km/h speed zone arrangement along Hickson Road. Any proposed speed reduction will be in accordance with AS1742.3, TfNSW TCAWS Manual Ver 6 and SZA.

To reinforce the 40km/h speed zone, BESIX Watpac in conjunction with P&P and CJP will conduct regular reviews of the speed limit signage and if deemed necessary consult with the NSW Police representative to obtain enforcement of the speed zone, particularly during working hours.

5.4 Authority Limitations

Generally, the responsibility for implementation, coordination, and compliance with the relevant authority approvals remains with BESIX Watpac and specifically, the Construction Team. The authority's granting of the approval does not:

- Constitute approval by the relevant authority of any actions that relate to traffic safety, occupational health and safety, or environmental issues and management
- Relieve BESIX Watpac or any person of their responsibility for compliance with legislation, regulations, or established operational procedures
- Change any management accountability or responsibility.

6 Traffic Control Devices

Traffic control devices are all signs, traffic signals (permanent and temporary), road markings, pavement markers, traffic islands, road safety barriers and/or other devices placed or erected to regulate, inform, warn and/or guide road users. The function of any traffic control device is to:

- promote orderly traffic flow
- protect workers and motorists
- regulate traffic (assign right of way, and indicate regulations in force)
- warn road users of hazards or regulatory controls ahead (in particular they also warn of temporary hazards that could endanger road users or workers at roadwork sites)
- guide traffic (e.g. guide signs to inform road users of directions to destinations, identify routes, and pavement markings to guide the travel path of vehicles).

Signs and road markings are an important aspect of road safety and traffic management. Regulatory signs control specific traffic movements; warning signs give advance notice of traffic hazards; road markings (and pavement markers) provide delineation and reinforce signage; and guide signs give advance guidance and advice of routes and destinations which assist all drivers to make clear, early decisions.

The aim of signposting is to:

- Warn and inform road users of conditions ahead
- Guide and control road users to safely negotiate the road ahead
- Ensure the signs and their structures are not a hazard in themselves
- Provide drivers with sufficient information to ensure no surprises along their path of travel
- To provide data in a controlled and consistent way to avoid information overload.

BESIX Watpac recognises the value of providing road users with timely, clear and consistent messages and will ensure all signs, road markings, barriers and devices installed during the construction of the Project are:

- Assessed for use in accordance with the appropriate TfNSW guidelines and/or Australian Standard/s
- Manufactured and installed in accordance with the requirements of the Australian Standard/s
- Installed in accordance with the relevant guides and standards
- Not contradictory to existing signs or markings
- When no longer required, covered or removed
- Regularly maintained and repaired / replaced when damaged or lose reflectivity (for signs).

All signposting installed throughout the Project will comply with the requirements outlined in the TfNSW Traffic Control at Worksites Manual, TfNSW Delineation Manual, AUSTROADS Guide to Traffic Engineering Practice, Part 8 – Traffic Control Devices and the relevant parts of AS1742.3.

All road safety barrier systems installed throughout the Project will comply with the relevant parts of AS1742.3 and AS/NZS3845.

6.1 Project Signage Requirements

In addition, to the signposting requirements stipulated in the TfNSW's TCAWS Manual Ver 6 and the Australian Standards, BESIX Watpac will be applying the following sign posting parameters:

- The size of signs used on the Project will be Type A or B depending on location constraints
- Consideration will be given to the installation of short-term signs on permanent posts with secure covers, where works occur in the same location on a regular basis
- All non-standard road and directional signs (not gate or project specific signs) will be submitted to P&P for approval. It is not expected there will be a large number of non-standard signs required, regardless

P&P should provide a sign design, (for BESIX Watpac to manufacture) within 10 working days of receiving the request.

BESIX Watpac will conduct detailed reviews of all short- and long-term signage with the aim to ensure a clear and concise message is given to approaching road users, without creating sign clutter.

6.2 Traffic Control Plans (TCPs)

Traffic Control Plans are diagrams that illustrate the signs, road markings and devices that will be installed to warn traffic (including pedestrians), and guide it around or past, or if necessary, through the work site or temporary hazard, for example contra-flow utilising opposing carriageways. All TCPs will be developed with the aim of:

- **Warning** drivers of changes to the usual road conditions,
- **Informing** drivers about changed conditions,
- **Guiding** drivers through the work site, and
- **Safety** for workers, motorists, pedestrians and cyclists.

The installation of home-made or non-standard traffic signs will not be permitted.

Standard TCPs

Standard TCPs may be adopted directly from the TfNSWs TCAWS Manual. However, the standard TCPs will be modified on-site; to suit site conditions. Where modifications are necessary, they made and shown clearly on the TCP by a suitably qualified person (TfNSW White Card Holder). Where possible, all TCPs will be prepared using computer aided software, which will provide a clear, concise, and consistent format. The aim is to avoid the use of deficient TCPs, remove the inconsistency of overlapping or adjoining TCPs, and give due consideration to the road principles.

Develop site-specific TCPs

Site specific TCPs have been developed for both long and short-term works, examples of which are in Annexure D in accordance with the principles and measures outlined in this CTMP, AS1742.3 – 2009, TfNSW's Traffic Control at Worksites Manual (TCAWS) Version 6.

Long-term TCPs are temporary arrangements that will be in place for a period longer than one shift (a shift is approximately 10-12 hours). Likely TCPs for long-term works are Logistics Lane Operations TCP.

Short-term relates to a temporary arrangement that will be applied for one (1) shift where normal operating conditions are reinstated after all temporary traffic management devices are removed from the roadway. Short-term TCPs will be installed as required to facilitate construction activities such as surveying and geotechnical activities, site deliveries, service investigations, maintenance activities, delivery operations, pedestrian or cyclist controls and/or removing and installing line marking.

NOTE: TMC requires a TCP to be submitted with each ROL application, they are also required, if requested by the Independent Certifier and/ or Principal's Representative, as per Section 2.11.2 of the GSMoP (MS-GS-MP-2). This section also states: "The Contractor must provide copies to the Principal's Representative of any traffic control plans, approved and endorsed by relevant Authorities." As the relevant authorities DO NOT approve and endorse TCPs it is understood the responsibility of the drawing, managing and implementing the TCP remains with the Successful Contractor.

Provide Safe Clearances to Work Areas

Maintaining a safe environment for workers is critical. BESIX Watpac will follow the minimum clearance requirements from a trafficable lane to work as specified in the TfNSW TCAWS Manual Ver 6 and AS1742.3 and outlined below:

- Within 1.2m: 40 km/h
- Between 1.2m and 3m: 60 km/h
- Between 3m to 6m: 80 km/h

The work area clearances stated above are the minimum requirements for short term work or work under traffic control. Any temporary road safety barriers required on this Project will be selected and installed in accordance with Austroad Guides, TfNSW's 'Safety Barrier Products Accepted for use on Classified Roads' document and the manufacturer's specifications.

6.3 Variable Message Signs (VMS)

During construction, BESIX Watpac will utilise portable and permanent VMS to provide advanced warning and changed traffic condition information. The use of VMS and the appropriate message(s) will be incorporated within the detailed TMPs and/ or site-specific TCPs.

6.3.1 Permanent VMS

CJM/ TMC and CJP are responsible for the management of permanent VMS and will control what messages will appear before work begins and during work. It is understood that messages related to the project (advance warning or otherwise) are second to incident response messages and that the decision to display the appropriate messages remains with CJM/ CJP.

6.3.2 Portable (trailer mounted, temporary) VMS

BESIX Watpac will coordinate and deploy portable VMS (senior and junior boards) to allow as much advance warning as possible, as well as set CJM/ TMC/ CJP agreed and approved messages in accordance with the TfNSW VMS Policy and, as required, in line with the GSMoP. VMS devices utilised on the Project will comply with TfNSW specifications.

6.4 Flashing Arrow Signs (FAS)

FAS are mainly used when closing traffic lanes and conducting mobile traffic control operations.

When stipulated by the TCP, BESIX Watpac will implement FAS in accordance with AS1742.3 and the TfNSW TCAWS Manual Ver 6. Where applicable, FAS will comply with the RMS equipment requirements FAS/4 and be controlled by a trained sub-contractor traffic controller.

6.5 Portable Traffic Signals (PTS)

There is currently no need to utilise portable traffic signals for any long term works on this Project.

In the extremely rare case there becomes a need, for PTS, their use will be stipulated by a site-specific TCP, Section 3.5.4 of AS 1742.3, and the TfNSW TCAWS Manual Ver 6, TCP 43 and after discussions at the TCG.

All portable traffic signals used will comply with the TfNSW equipment specification PTS/3 and be operated by a trained sub-contractor traffic control team member and monitored by the Construction Team.

6.6 Temporary Traffic Signals

There is currently a temporary traffic signals set up on Hickson Road at the north end of the work site to facilitate access between the work site and northern shaft noise enclosure compound set up below the two overbridges (Dalgety Road and Windmill Street). These temporary traffic signals will remain in place until the northern shaft noise enclosure is removed. BESIX Watpac will take ownership of the temporary traffic signals from the TSE contract and will be responsible for any modifications or eventual removal of the signals when no longer required. As detailed in Section 5.2.2, approvals are required from P&P Network & Safety, CJM Network Operations and potentially City of Sydney Local Traffic Committee.

7 Inspections, Reporting, Audits and Incident Management

7.1 Traffic Control Inspections

The aim of regular traffic control inspections is:

- to provide a safe environment for workers and road users,
- monitor compliance against the Traffic Control Plan or drawing
- identify safety hazards in order to implement corrective solutions.

This process details the type, frequency, responsibility and checklists for short term and long term inspections.

Inspections of the temporary traffic controls (both short and long term) will be conducted during construction focusing on monitoring compliance against the TCP and identifying safety hazards, to enable implementation of corrective solutions.

The sub-contractor traffic control company will conduct short term traffic control inspections (in accordance with the TfNSW TCAWS Manual Ver 6. Long term traffic control inspections (Conduct Long Term Traffic Management Inspection) will be undertaken BESIX Watpac and Traffic Consultant. The type, frequency and responsibility of inspections are summarised in Table 5.

Table 5 Traffic Control Inspections

Inspection	Responsibility	Frequency
Pre-start Brief	BESIX Watpac Traffic and Logistics Manager	Before works start check approved TCPs, ROLs and SZAs are onsite
Short term traffic control inspections (day and night)	Traffic Control Sub Contractor Team Leader	As per TfNSW TCAWS Manual Ver 6
Long term traffic control inspections (day and night)	BESIX Watpac / Traffic Consultant, as required	Each stage, at least once per fortnight; moving to every two months once site is fully operational for at least 3 months

Where traffic control deficiencies are identified through these inspections, the relevant TMPs, TCPs or subordinate documentation will be amended, as required, by BESIX Watpac and their relevant subconsultants.

If issues, deficiencies and improvement opportunities are identified relevant to this CTMP or subsequent TMPs, they will be amended as required by Traffic Consultant.

7.2 Traffic Control Road Safety Audits (RSA)

AUSTROADS defines a road safety audit as a formal examination of a future road or traffic Project or an existing road, in which an independent, qualified auditor(s) reports on the roads crash potential and safety performance. There are various types of audits conducted, from feasibility audits through to pre-opening audits. Audits are conducted to assess the safety of existing roads and temporary long term traffic arrangements implemented for roadwork.

All Project RSAs, of long-term traffic management, will be conducted in accordance with the AUSTROADS Road Safety Audit Guide, RMS Guidelines for Road Safety Audit Practices 2011, TfNSW Technical Direction TD 2004/RS01 – Accident Reduction Guide Part 2: Road Safety Audits and Sydney Metro Principal Contractor Health and Safety Standard Version 5.

An audit will be conducted by two suitably qualified, independent, road safety and traffic engineering auditors. The lead auditor will have Road Safety Auditor Level 3 Certification, have undergone road safety audit training and received certification under the Institute of Public Works Engineering Australia (IPWEA) Accreditation Scheme. The other auditor will be, at least, highly experienced in traffic management. Desktop audits, of TMPs only require one lead auditor with a Road Safety Auditor Level 3 Certification.

BESIX Watpac will manage the Project's road safety audit program in coordination with the Quality Manager. The responsibility for and frequency of audits is summarised in Table 2.

Table 6 Traffic Control Road Safety Audits

Inspection	Responsibility	Frequency
Desktop audit of TMPs	BESIX Watpac to engage a qualified, independent audit team	Any new (not updated or amended) TMPs. Responses to the RSA will be included in the TMP
Temporary (long term) traffic arrangement	BESIX Watpac to engage a qualified, independent audit team	Within one week of each stage of major traffic change
		One month into each stage of major traffic change

The following methodology will be applied on this Project when conducting the road safety audits:

- Hold a commencement meeting between auditors and BESIX Watpac. P&P will be invited but not required.
- Review relevant documents (including plans, previous audits)
- Auditor to conduct site inspections during the day and night, noting deficiencies and hazards
- Assess the inspection findings in accordance with relevant practices, guides and current standards
- Prepare a concise audit report, which includes a table detailing the deficiencies identified
- BESIX Watpac provides a response to the audit findings in consultation with the Construction Team, and
- Where necessary, the Construction Team programs necessary actions to rectify deficiencies.

BESIX Watpac will also apply this methodology and provide feedback to any road safety audits that are conducted by TfNSW or other stakeholders.

Where traffic control deficiencies are identified through these inspections, the relevant TMPs, TCPs or subordinate documentation will be amended, as required, by the Traffic Control Company.

If issues, deficiencies and improvement opportunities are identified relevant to this CTMP or subsequent TMPs, they will be amended as required.

Copies of Road Safety Audits can be supplied to the TTLG upon request.

7.3 Incident Management

7.3.1 Incident Reporting

The Site Manager/ WHS Coordinator shall ensure that all incidents and illnesses occurring in or around the site, involving BESIX Watpac personnel, subcontractors, Interface Contractors visitors or passers-by, are reported. Incident reporting and notification is to be in accordance with the relevant section of the Project Health and Safety Management Plan.

7.3.2 Emergency Response and Incident Management

An Incident, Emergency and Crisis Management Plans will be developed for the Barangaroo Metro Station Project, to align with Sydney Metro Principal Contractor Health and Safety Standard (SM-20-00039714).

These Plans will be discussed during all site inductions, and the specific emergency response plans will be displayed on the site noticeboard and posted in the site induction room.

7.4 Reporting

BESIX Watpac will report to Sydney Metro, the TTLG, TCG and other stakeholders on all traffic and transport management issues as they relate to the project work. The content of these reports will be as follows:

Monthly Reporting

BESIX Watpac will report to Sydney Metro and other relevant stakeholders, via the TTLG, on all traffic and transport management issues on the road networks and traffic and transport operations that relate to the project works

Fortnightly Reporting

The Traffic Manager will provide a schedule of pending and approved road occupancy licences to the TCG on a weekly look ahead basis, running from Monday to Sunday. The forecast schedule will contain full details on locations and timing of all proposed road occupancies for the following week and be submitted by close of business each Wednesday of the preceding week or on a day mutually agreeable to all.

Immediate Reporting

The Traffic Manager will contact the metro representative and CJP (a phone call) on any unplanned incidents having a negative impact of the regular flow of traffic on the road network in close proximity to the Works. The Traffic Manager will also contact the relevant Construction Manager/ Director.

This includes incident categories such as:

- Unplanned motor vehicle accidents
- Breaches of any ROL conditions of approval
- Impacts to the regular operation of public vehicles, cyclists or pedestrians from construction traffic.

8 Consultation and Communication Strategy

8.1 Stakeholder and Community Engagement

The Project will engage and inform community and stakeholders in a constructive and transparent process. Details of BESIX Watpac commitment to community consultation are described in the Community Communications Strategy (CCS) and Business Management Plan (BMP). The CCS describes the overall community engagement objectives, guiding principles, delivery and issues management approach. It also describes the communication tools and protocols for the project.

The Stakeholder and Community Engagement Manager may attend the Traffic and Transport Liaison Group (TTLG) to ensure that community risks, concerns and feedback are considering all at stages of traffic management planning for the project, and that all relevant stakeholders are engaged and consulted appropriately.

A list of identified stakeholder groups is provided in the CCS and the project communications database (Consultation Manager). The summary of traffic and transport stakeholders are listed in Table 7.

BESIX Watpac will consult with relevant stakeholders on the project Traffic and Transport Liaison Group (TTLG), see Section 8.2.

Table 7 Project Traffic Stakeholders

Stakeholder	Interest
Affected Landholders and Community Stakeholders (see CCS and Consultation Manager for complete list of landholders)	High
Local Government Authorities	
City of Sydney Council	High
Infrastructure NSW	High
Road User Groups and Service Providers	
Private road users	High
NRMA	Low
Bicycle NSW and Bicycle Network	Medium
Transport NSW	High
State Transit	High
Bus and Coach Association	Medium
NSW Taxi Council	Medium
Freight and logistics industry incl Australian Trucking Association	Medium
Utility Providers	Medium
Emergency Services: NSW Police Force, NSW Ambulance Service, NSW Fire and Rescue	High

8.1.1 Notification to Emergency Services

Emergency service agencies provide a vital service to the community, and they need to have up to date information about changed traffic conditions and potential delays they may experience throughout the road network. BESIX Watpac will ensure all emergency service agencies are regularly consulted, through the fortnightly Emergency Services Meeting (chaired by CJP), about proposed changed traffic conditions.

8.1.2 Community Notification Channels

The TM representatives in conjunction with the BESIX Watpac Community Relations Manager, CJP and P&P will distribute changed traffic condition information as per Table 8. The CCS describes wider project communications.

Table 8 Community Notification Channels

Tool	Purpose	Frequency	Responsibility
Information on Live Traffic website/app	Driver information	Ongoing as per major traffic changes and incidents	CJM/ TMC and Watpac to assist in providing content
Static road user signposting	Information signage at the location of the traffic change to give advice to road users and pedestrians (including vulnerable pedestrians) on alternate paths and their duration.	At least 7 days prior to the change	BESIX Watpac
Variable Message Signs (VMS)	Electronic variable message sign to provide advanced notice to road users of major traffic changes.	At least 7 days prior to the change	CJP and Watpac in joint planning
Community signage	Advise community and stakeholders of construction activities no later than five days before works or changes, including any changes to footpaths, cycle ways or bus stops	At least 5 days before the change	BESIX Watpac
Project website	Relevant information about the construction activities will be placed on the Metro website.	As required	Sydney Metro
Advertisements	Advertisements in local newspapers prior to significant traffic changes, detours and traffic disruptions, to notify of events and announce project milestones. Depending on size, publications will include Sydney Morning Herald, Daily Telegraph and local newspapers	At least 5 days prior to the proposed change	CJP undertakes major event transport advertising – noted any project advertising must work in appreciation of wider activities. Otherwise BESIX Watpac.
Radio advertising	Changes likely to cause delays of 10 or more minutes on four leading radio stations in the days leading to a significant traffic change.	As required	
Meetings with individual groups, e.g. local schools	To discuss project activities including work in progress or upcoming work, including potential traffic issues	As required	BESIX Watpac in liaison with Metro
Community updates/ newsletters	Quarterly project newsletter for all project stakeholders	Quarterly or as per conditions of approval	BESIX Watpac to provide content and illustrations to print and distribute
Letterbox notifications	Notification letters to inform local residents and businesses affected by changes to road network and traffic conditions	At least 5 days prior to change	BESIX Watpac
Traffic alert email	Communication to transport authorities, operators and emergency services to advise of traffic changes including road or lane closures and detours	5 to 7 days prior to the change	BESIX Watpac in liaison with CJP communications
Community information line (1800 171 386)	1800 number allows access to project team during construction hours with message service after hours. Number to be publicised on all communication materials	N/A	BESIX Watpac in liaison with Sydney Metro
BESIX Watpac contact email address	Allows communication with the Project team. Email address to be publicised on all communication materials	N/A	BESIX Watpac

8.1.3 Training and Awareness

As stated in the CEMP and PHSMP, all construction personnel, sub-contractors and consultants will receive training and be informed of their environmental and community obligations during their project induction, ongoing toolbox talks and specific training.

All construction personnel will undergo a general Project induction prior to commencing work with the Project. This will include a traffic component to reinforce potential impacts and responsibilities relating to traffic management.

Ongoing toolbox talks will highlight the specific mitigation measures for activities being undertaken in each work area. These will include site-specific briefings for relevant personnel and will cover all measures outlined in the relevant SWMS and environmental sub-plans.

8.1.4 Coordination of Information

A cooperative and coordinated approach between BESIX Watpac, the TTLG, and CJP will enable the public to receive timely and accurate information relating to the Works.

It is noted the major Sydney transport spokespersons are CJP. In consultation with the CJP and Sydney Metro communications team, the BESIX Watpac Project Communications team will develop protocols and procedures in accordance with mutually agreed public information objectives.

All information to be released to the community must be approved by the metro representative prior to its distribution or publication in accordance with the timeframes for review and approval as outlined in the CCS. The metro representative will be informed immediately of any changes to information previously provided to the public.

8.2 Traffic and Transport Liaison Group (TTLG)

Sydney Metro has established a Traffic and Transport Liaison Group (TTLG) for the Project. BESIX Watpac will be a member of the TTLG and will act as the authorised representative for the Project in matters related to traffic and transport. BESIX Watpac will provide the following information relating to the Works, to the group, to assist the group to meet its Terms of Reference:

- Traffic operations, including changes in regulatory traffic controls
- Community concerns and comments or feedback
- Impacts on road-based transport operations
- Issues related to pedestrians and cyclists or mobility impaired road users
- Communication strategies and actions to be taken (in consultation with Stakeholder and Community Engagement Manager)

A member of the BESIX Watpac Project Communications Team will attend TTLG meetings (where relevant) to discuss and provide input regarding:

- Community and other stakeholder concerns, comments or feedback
- Communication strategies and actions to be taken
- Cumulative impacts with other adjacent major projects.

If required, relevant construction personnel will be available to attend TTLG meetings to discuss any specific and/or technical matters that may arise. The TTLG is not a forum to obtain approval/s.

8.3 Traffic Control Group (TCG)

Sydney Metro has established a Traffic Control Group (TCG) for the Project. It is chaired by CJP and administered by Sydney Metro. The TCG members meet fortnightly.

The TCG will debate, discuss and agree on any and all traffic and transport related issues. It is the TCG where decisions and changes will be made on TMPs and any other project wide traffic and transport related issues. The TCG is not a forum to obtain approval/s but does assist in approvals facilitation.

Appendix A
City of Sydney Standard Requirements for CTMP

APPENDIX A

The City of Sydney
Standard Requirements for Construction Traffic Management Plan

The Applicant or contractor undertakes to follow and abide by the following requirements at all times during the demolition, excavation and construction works for Barangaroo Station Construct Only Package

1. Details of routes to and from site and entry and exit points from site – site specific

2. Details of roads that may be excluded from use by construction traffic i.e. roads with load limits, quiet residential streets or access/turn restricted streets – site specific

3. The approved truck route plan shall form part of the contract and must be distributed to all truck drivers.

4. All vehicles must enter and exit the site in a forward direction (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

5. Trucks are not allowed to reverse into the site from the road (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

6. The Applicant must provide the City with details of the largest truck that will be used during the demolition, excavation and construction.
   NOTE: No dog trailers or articulated vehicles (AV) to be used (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

7. Oversize and over-mass vehicles are not allowed to travel on Local Roads (unless approval for a **one-off occasion** is obtained from the City's Traffic Operations Unit). Requests to use these vehicles must be submitted to the National Heavy Vehicle Regulator (NHVR) 28 days prior to the vehicle's scheduled travel date. For more information please contact the NHVR on 1300 696 487 or www.nhvr.gov.au.

8. No queuing or marshalling of trucks is permitted on any public road.

9. Any temporary adjustment to Bus Stops or Traffic Signals will require the Applicant to obtain approval from Transport for NSW (TfNSW) prior to commencement of works.

10. All vehicles associated with the development shall be parked wholly within the site. All site staff related with the works are to park in a designated off street area or be encouraged to use public transport and not park on the public road.

11. All loading and unloading must be within the development site or at an approved "Works Zone".

12. The Applicant must apply to the City's Traffic Works Co-ordinator to organise appropriate approvals for Work Zones and road closures.

13. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for partial road closures.

14. The Applicant must apply to TfNSW's Transport Management Centre for approval of any road works on State Roads or within 100m of Traffic Signals and receive an approved Road Occupancy Licence (ROL). A copy of the ROL must be provided to the City.

15. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for temporary driveways, cranes and barricades etc.

16. The Applicant must comply with development consent for hours of construction.

17. All Traffic Control Plans associated with the CTMP must comply with the Australian Standards and TfNSW's Traffic Control At Work Sites Guidelines.

18. Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - **the vehicles already on the road have right-of-way.**

19. Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. **at all times the pedestrians have right-of-way on the footpath not the trucks**.

20. Physical barriers to control pedestrian or traffic movements need to be determined by the City's Construction Regulations Unit prior to commencement of work.

21. The Applicant must obtain a permit from the City's Construction Regulation Unit regarding the placing of any plant/equipment on public ways.

22. The Applicant must apply to the City's Building Approvals Unit to organise appropriate approvals for hoarding prior to commencement of works.

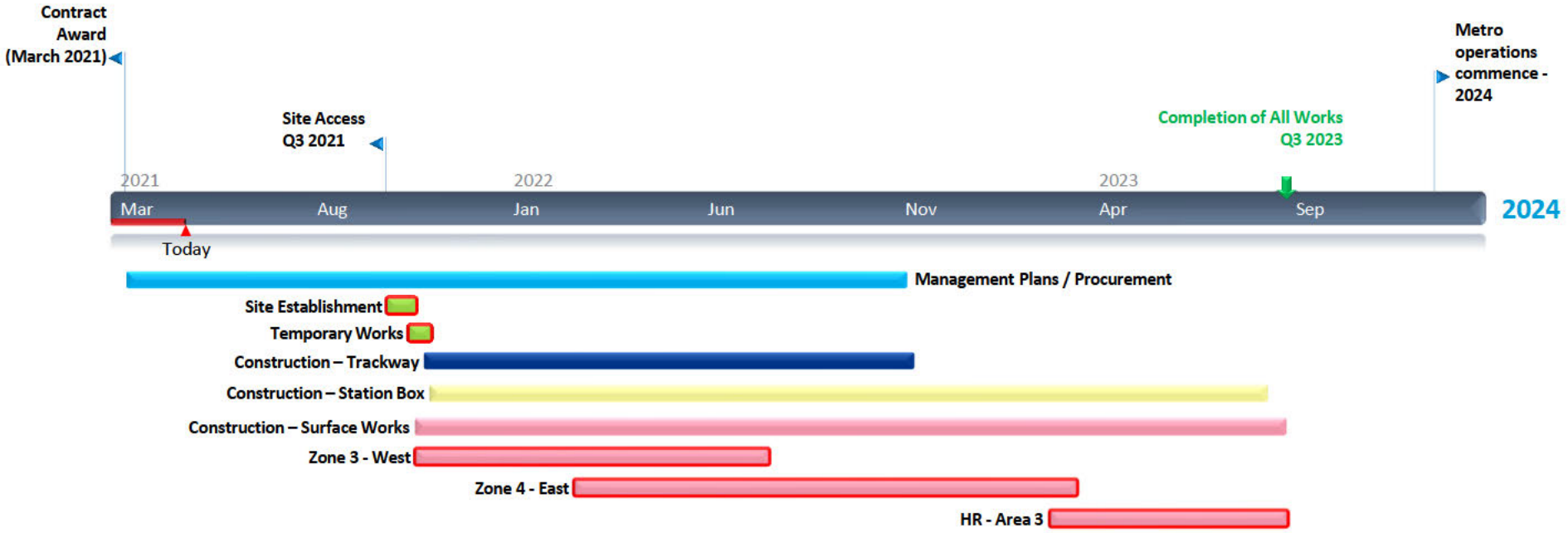
23. The CTMP is for the excavation, demolition and construction of building works, not for road works (if required) associated with the development. Any road works will require the Applicant or the contractor to separately seek approval from the City and/or TfNSW for consideration. Also WorkCover requires that Traffic Control Plans must comply with Australian Standards 1742.3 and must be prepared by a Certified Traffic Controller (under TfNSW regulations).

24. Please note that the provision of any information in this CTMP will not exempt the Applicant from correctly fulfilling all other conditions relevant to the development consent for the above site.

Appendix B
High Level Construction Program

Barangaroo Station

Contract Program Key Dates



Appendix C
Construction Site Layout and Staging Overview

PHASE 1:
EARLY SITE ACESS
FROM 1 AUGUST 2021
TO 31 AUGUST 2021

BESIX WATPAC COMPOUND & SUB-CONT. AMENITIES

TSOM 100 sqm

BR CONTRACTOR CONSTRUCTION SITE

G4

WASHDOWN AREA

BR VEHICLE ACCESS

TSE CONTRACTOR CONSTRUCTION SITE

Temp. Water Treatment Plant

Temp. Substation

TSE CONTRACTOR

G1

GATE MANAGED BY TSE CONTRACTOR

G2

TSE CONTRACTOR CONSTRUCTION SITE

Crossover Cavern

Existing Hickson Road

G3

TSE CONTRACTOR CONSTRUCTION SITE

Northern Shaft

Existing Hickson Road

High Street

Heritage wall to High Street

LEGEND:

STAGING ZONES:
- POSSESSION UNTIL 1/01/22
- POSSESSION UNTIL 1/02/23
- POSSESSION UNTIL 23/12/23

PEDESTRIAN ACCESS:
- PEDESTRIAN ACCESS
- FENCE / HOARDING
- PERSONNEL SITE ENTRY
- UNDERCOVER PERSONNEL ACCESS
- OPEN PERSONNEL ACCESS
- STAIR ACCESS TO STATION BOX
- EMERGENCY ASSEMBLY POINT
- FIRST AID ROOM

CONSTRUCTION VEHICLE & MATERIAL:
- CONSTRUCTION VEHICLE ACCESS
- SITE GATE
- Gx GATE NUMBER
- WD RUMBLE GRIDS / WASHDOWN BAYS
- SLAB OPENING AT SURFACE LEVEL
- SLAB OPENING BELOW SURFACE LEVEL
- VERTICAL MATERIAL HANDLING

EARLY SITE ACCESS:
- BESIX WATPAC CONSTRUCTION SITE
- TSE CONSTRUCTION SITE
- CONSTRUCTION WORKER ACCESS TO CROSSOVER CAVERN

Sydney Metro City & South West

Barangaroo

Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
BR COP - SITE ESTABLISHMENT - PHASE 1

DWG #: SE - 001
REV #: A
DATE #: 24/05/2021

BESIX Watpac

PHASE 2:
EARLY SITE ACCESS
FROM 1 SEPTEMBER 2021
TO 14 OCTOBER 2021

NOTE:

ADDITONNAL SUBCONTRACTOR'S AMENITIES WILL BE SETUP IN THE CROSSOVER CAVERN FOR STAGE 2 DURATION

BESIX WATPAC COMPOUND & SUB-CONT. AMENITIES

TSOM 100 sqm

BR CONTRACTOR CONSTRUCTION SITE

G4

WASHDOWN AREA

BR VEHICLE ACCESS

TSE CONTRACTOR CONSTRUCTION SITE

Temp. Water Treatment Plant

PLANT YARD

LAYDOWN AREA

BR CONTRACTOR CONSTRUCTION SITE

WASHDOWN AREA

Temp. Substation

sydney METRO OFFICE

G1

GATE MANAGED BY TSE CONTRACTOR

WASHDOWN AREA

G6

G2

G5

Existing Hickson Road

High Street

Heritage wall to High Street

BR CONTRACTOR CONSTRUCTION SITE

Crossover Cavern

Existing Hickson Road

G8

Turnstile access to Northern Shaft

BR CONTRACTOR CONSTRUCTION SITE

Northern Shaft

Temp. stairs Surface to B6

Hoist Surface to B6

LEGEND:

STAGING ZONES:
- POSSESSION UNTIL 1/01/22
- POSSESSION UNTIL 1/02/23
- POSSESSION UNTIL 23/12/23

PEDESTRIAN ACCESS:
- PEDESTRIAN ACCESS
- FENCE / HOARDING
- PERSONNEL SITE ENTRY
- UNDERCOVER PERSONNEL ACCESS
- OPEN PERSONNEL ACCESS
- STAIR ACCESS TO STATION BOX
- EMERGENCY ASSEMBLY POINT
- FIRST AID ROOM

CONSTRUCTION VEHICLE & MATERIAL:
- CONSTRUCTION VEHICLE ACCESS
- SITE GATE
- Gx GATE NUMBER
- WD RUMBLE GRIDS / WASHDOWN BAYS
- SLAB OPENING AT SURFACE LEVEL
- SLAB OPENING BELOW SURFACE LEVEL
- VERTICAL MATERIAL HANDLING

EARLY SITE ACCESS:
- BESIX WATPAC CONSTRUCTION SITE
- TSE CONSTRUCTION SITE
- CONSTRUCTION WORKER ACCESS TO CROSSOVER CAVERN

Sydney Metro City & South West

Barangaroo

Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
BR COP - SITE ESTABLISHMENT - PHASE 2

DWG #: SE - 002
REV #: A
DATE #: 24/05/2021

BESIX Watpac

PHASE 3:
FROM 15 OCTOBER 2021
TO 31 DECEMBER 2021

Meeting r.
Meeting r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Change r.
Change r.
Change r.
Change r.
Change r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
WC WC
WC WC
WC WC
SC off
SC off
SC off
SC off
SC off
SC off
SC off
SC off
SC off
SC off

TSOM
100 sqm

LAYDOWN AREA

G4
WASHDOWN AREA
G7
GATE MANAGED BY TSE CONTRACTOR
TSE CONTRACTOR CONSTRUCTION SITE

10kPa Pedestrian Bridge
Temp. Water Treatment Plant
Perm. penetration 5000x5400mm Surface to B2
Temp. stairs Surface to B0
Retractable loading platform 8500x3200mm on B1
Temp. penetration 5300x6200mm Surface to B3
Temp. Substation
PATHWAY MAINTAINED AT ALL TIME REFER TO ROAD STAGING

PLANT YARD
Waste Recycling Area (10x10m)
LAYDOWN AREA
WASHDOWN AREA
WASHDOWN AREA
WASHDOWN AREA
ACCESS TO BLOCK 6 MAINTAINED AT ALL TIME REFER TO ROAD STAGING
G1
G5
G6
G2
2No.Man-Material Hoists in Public Lift Shafts Surface to B3

sydney METRO
OFFICE

Existing Hickson Road
Existing Hickson Road
Crossover Cavern
G3
Turnstile access to Northern Shaft
Northern Shaft
Temp. stairs Surface to B6
Hoist Surface to B6

High Street
Heritage wall to High Street

LEGEND:

STAGING ZONES:
- POSSESSION UNTIL 1/01/22
- POSSESSION UNTIL 1/02/23
- POSSESSION UNTIL 23/12/23

PEDESTRIAN ACCESS:
- PEDESTRIAN ACCESS
- FENCE / HOARDING
- PERSONNEL SITE ENTRY
- UNDERCOVER PERSONNEL ACCESS
- OPEN PERSONNEL ACCESS
- STAIR ACCESS TO STATION BOX
- EMERGENCY ASSEMBLY POINT
- FIRST AID ROOM

CONSTRUCTION VEHICLE & MATERIAL:
- CONSTRUCTION VEHICLE ACCESS
- SITE GATE
- Gx GATE NUMBER
- WD RUMBLE GRIDS / WASHDOWN BAYS
- SLAB OPENING AT SURFACE LEVEL
- SLAB OPENING BELOW SURFACE LEVEL
- VERTICAL MATERIAL HANDLING

EARLY SITE ACCESS:
- BESIX WATPAC CONSTRUCTION SITE
- TSE CONSTRUCTION SITE
- CONSTRUCTION WORKER ACCESS TO CROSSOVER CAVERN

Sydney Metro City & South West
Barangaroo
Construct Only Package

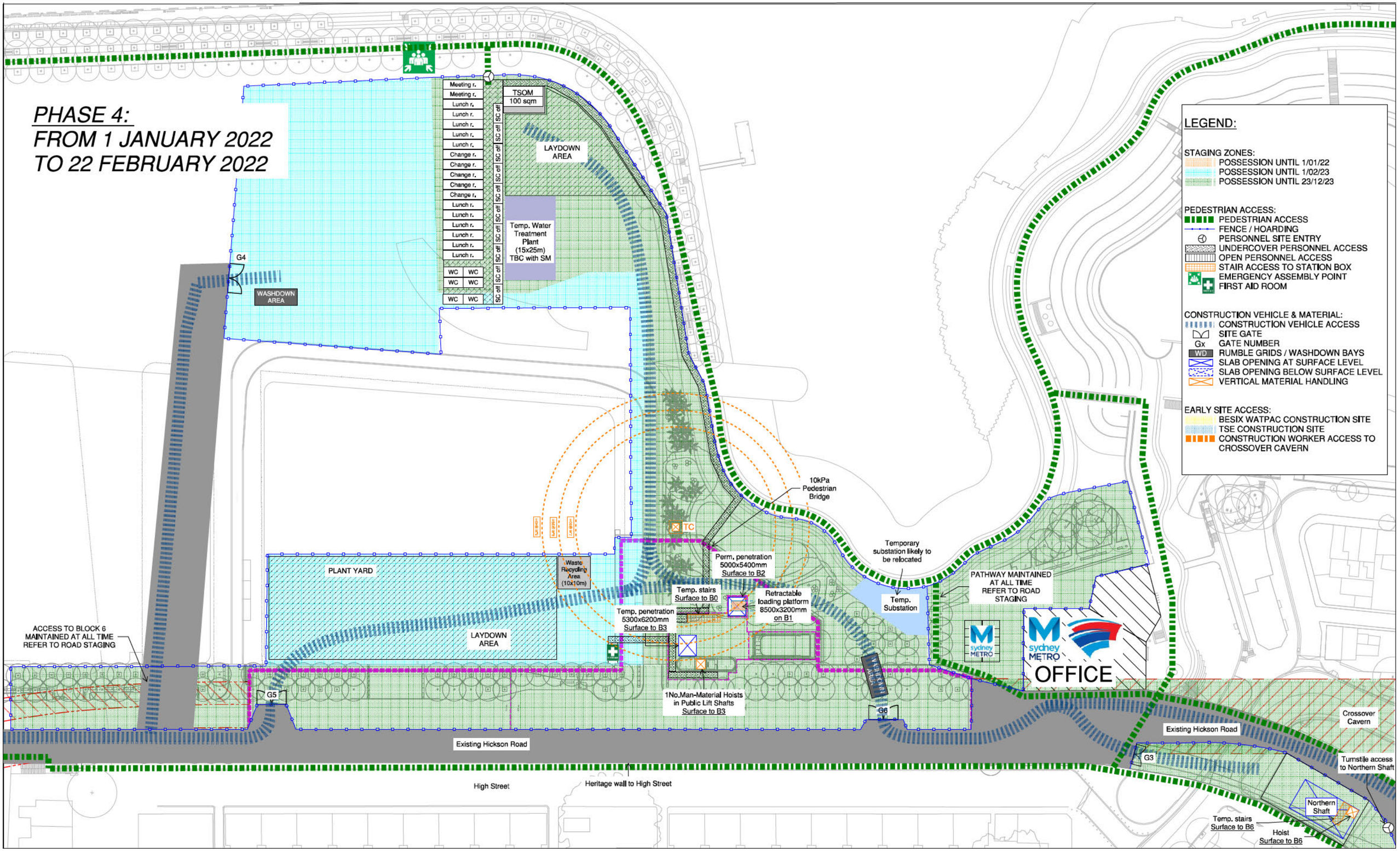
NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
BR COP - SITE ESTABLISHMENT - PHASE 3

DWG #: SE - 003
REV #: A
DATE #: 24/05/2021

BESIX Watpac

PHASE 4:
FROM 1 JANUARY 2022
TO 22 FEBRUARY 2022



LEGEND:

STAGING ZONES:
- POSSESSION UNTIL 1/01/22
- POSSESSION UNTIL 1/02/23
- POSSESSION UNTIL 23/12/23

PEDESTRIAN ACCESS:
- PEDESTRIAN ACCESS
- FENCE / HOARDING
- PERSONNEL SITE ENTRY
- UNDERCOVER PERSONNEL ACCESS
- OPEN PERSONNEL ACCESS
- STAIR ACCESS TO STATION BOX
- EMERGENCY ASSEMBLY POINT
- FIRST AID ROOM

CONSTRUCTION VEHICLE & MATERIAL:
- CONSTRUCTION VEHICLE ACCESS
- SITE GATE
- Gx GATE NUMBER
- WD RUMBLE GRIDS / WASHDOWN BAYS
- SLAB OPENING AT SURFACE LEVEL
- SLAB OPENING BELOW SURFACE LEVEL
- VERTICAL MATERIAL HANDLING

EARLY SITE ACCESS:
- BESIX WATPAC CONSTRUCTION SITE
- TSE CONSTRUCTION SITE
- CONSTRUCTION WORKER ACCESS TO CROSSOVER CAVERN

Sydney Metro City & South West

Barangaroo

Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
BR COP - SITE ESTABLISHMENT - PHASE 4

DWG #: SE - 004
REV #: A
DATE #: 24/05/2021

BESIX Watpac

PHASE 5:
FROM 23 FEBRUARY 2022
TO 31 JANUARY 2023

Meeting r.
Meeting r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Change r.
Change r.
Change r.
Change r.
Change r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
WC WC
WC WC
WC WC
SC off
SC off
SC off
SC off
SC off
SC off
SC off
SC off
SC off
SC off

TSOM
100 sqm

LAYDOWN AREA

Temp. Water Treatment Plant (15x25m) TBC with SM

G4

WASHDOWN AREA

10kPa Pedestrian Bridge

TC

Temporary substation likely to be relocated

Perm. penetration 5000x5400mm Surface to B2

Retractable loading platform 8500x3200mm on B1

PLANT YARD

Waste Recycling Area (10x10m)

LAYDOWN AREA

Temp. penetration 5300x6200mm Surface to B3

Temp. Substation

PATHWAY MAINTAINED AT ALL TIME REFER TO ROAD STAGING

ACCESS TO BLOCK 6 MAINTAINED AT ALL TIME REFER TO ROAD STAGING

G5

G6

sydney METRO

OFFICE

1No.Man-Material Hoist in Public Lift Shafts Surface to B3

1No.Builders Lift Surface to B3

Hickson Road

G10

WASHDOWN AREA

2nd Emergency Exit Surface to B1

G10

WASHDOWN AREA

G8

Emergency Exit Surface to B1

Existing Hickson Road

Crossover Cavern

G3

Turnstile access to Northern Shaft

PATHWAY MAINTAINED AT ALL TIME REFER TO ROAD STAGING

Shaft serviced by mobile crane Surface to B1

Penetration approx 2.7x3.2m B1 to B3

Penetration Surface to B1

5t jib crane on 00

High Street

Heritage wall to High Street

5t jib crane on 00

Penetration Surface to B1

Penetration approx 2.4x3.2m B1 to B3

Shaft serviced by mobile crane Surface to B1

Northern Shaft

Temp. stairs Surface to B6

Hoist Surface to B6

LEGEND:

STAGING ZONES:
- POSSESSION UNTIL 1/01/22
- POSSESSION UNTIL 1/02/23
- POSSESSION UNTIL 23/12/23

PEDESTRIAN ACCESS:
- PEDESTRIAN ACCESS
- FENCE / HOARDING
- PERSONNEL SITE ENTRY
- UNDERCOVER PERSONNEL ACCESS
- OPEN PERSONNEL ACCESS
- STAIR ACCESS TO STATION BOX
- EMERGENCY ASSEMBLY POINT
- FIRST AID ROOM

CONSTRUCTION VEHICLE & MATERIAL:
- CONSTRUCTION VEHICLE ACCESS
- SITE GATE
- Gx GATE NUMBER
- WD RUMBLE GRIDS / WASHDOWN BAYS
- SLAB OPENING AT SURFACE LEVEL
- SLAB OPENING BELOW SURFACE LEVEL
- VERTICAL MATERIAL HANDLING

EARLY SITE ACCESS:
- BESIX WATPAC CONSTRUCTION SITE
- TSE CONSTRUCTION SITE
- CONSTRUCTION WORKER ACCESS TO CROSSOVER CAVERN

Sydney Metro City & South West

Barangaroo

Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
BR COP - SITE ESTABLISHMENT - PHASE 5

DWG #: SE - 005
REV #: A
DATE #: 24/05/2021

BESIX Watpac

PHASE 6:
FROM 1 FEBRUARY 2023
TO 30 MAY 2023

Meeting r.
Meeting r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Change r.
Change r.
Change r.
Change r.
Change r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
Lunch r.
WC WC
WC WC
SC off
TSOM
100 sqm
Temp. Water Treatment Plant (15x25m) TBC with SM
10kPa Pedestrian Bridge
10kPa Pedestrian Bridge
Temporary substation likely to be relocated
Temp. Substation
WASHDOWN AREA
1No.Builders Lift Surface to B3
G6
Hickson Road
High Street
Heritage wall to High Street
OFFICE
HICKSON ROAD MAINTAINED OPEN AT ALL TIME REFER TO ROAD STAGING
Crossover Cavern
G3
Turnstile access to Northern Shaft
Northern Shaft
Temp. stairs Surface to B6
Hoist Surface to B6

LEGEND:

STAGING ZONES:
- POSSESSION UNTIL 1/01/22
- POSSESSION UNTIL 1/02/23
- POSSESSION UNTIL 23/12/23

PEDESTRIAN ACCESS:
- PEDESTRIAN ACCESS
- FENCE / HOARDING
- PERSONNEL SITE ENTRY
- UNDERCOVER PERSONNEL ACCESS
- OPEN PERSONNEL ACCESS
- STAIR ACCESS TO STATION BOX
- EMERGENCY ASSEMBLY POINT
- FIRST AID ROOM

CONSTRUCTION VEHICLE & MATERIAL:
- CONSTRUCTION VEHICLE ACCESS
- SITE GATE
- Gx GATE NUMBER
- WD RUMBLE GRIDS / WASHDOWN BAYS
- SLAB OPENING AT SURFACE LEVEL
- SLAB OPENING BELOW SURFACE LEVEL
- VERTICAL MATERIAL HANDLING

EARLY SITE ACCESS:
- BESIX WATPAC CONSTRUCTION SITE
- TSE CONSTRUCTION SITE
- CONSTRUCTION WORKER ACCESS TO CROSSOVER CAVERN

Sydney Metro City & South West

Barangaroo

Construct Only Package

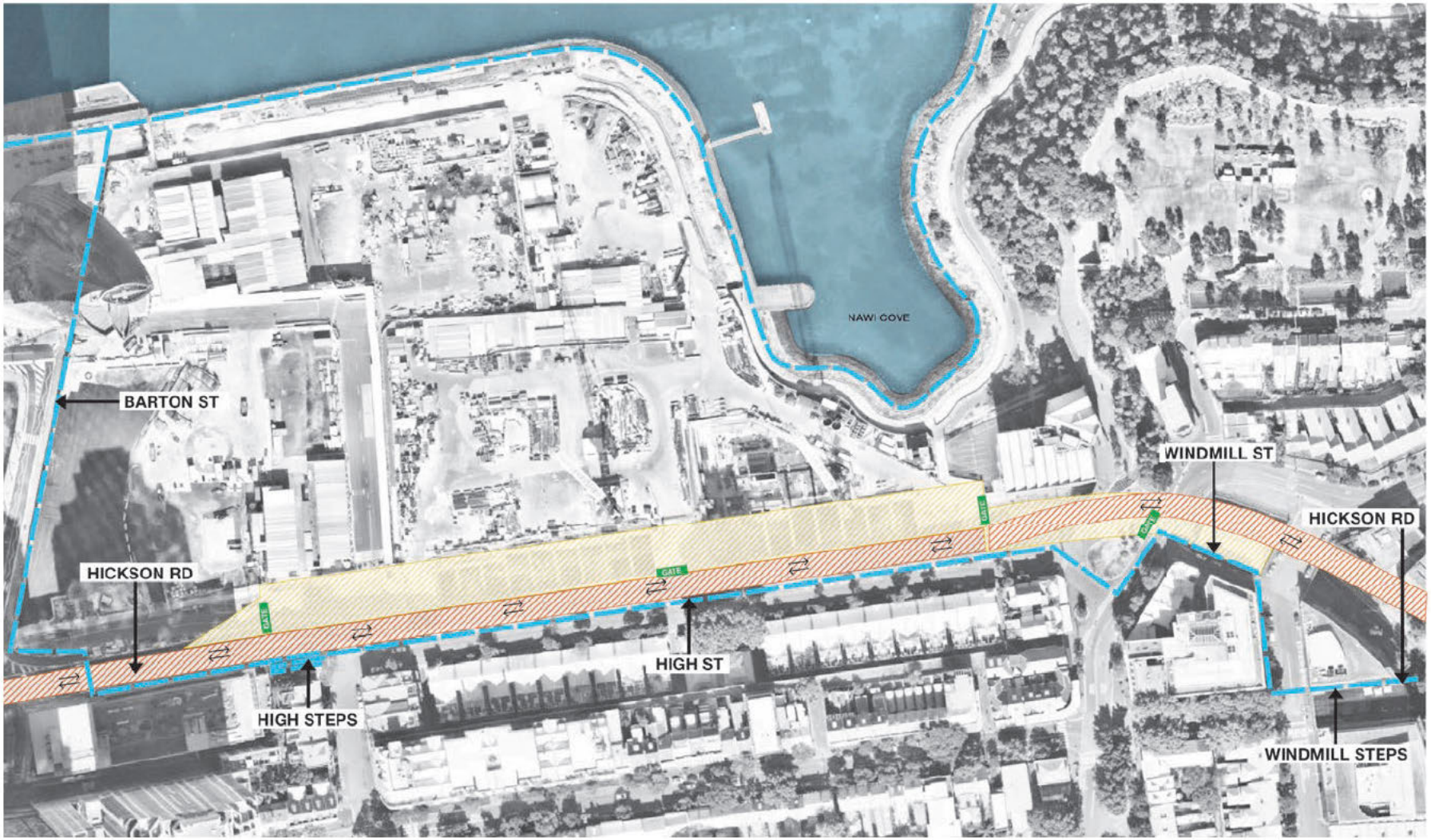
NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
BR COP - SITE ESTABLISHMENT - PHASE 6

DWG #: SE - 006
REV #: A
DATE #: 24/05/2021

BESIX Watpac

STAGE 1



Sydney Metro City & South West

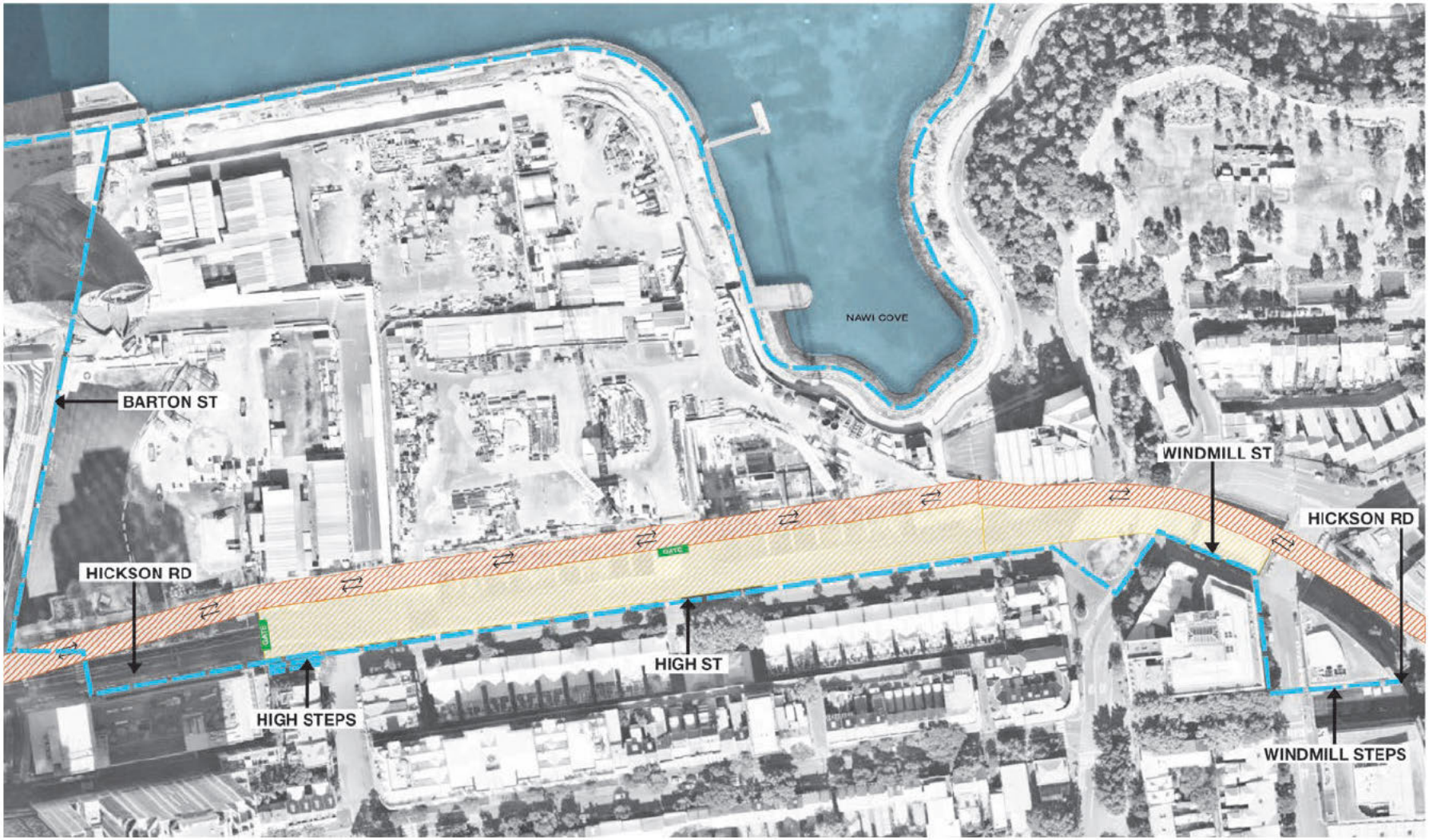
Barangaroo
Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
ROAD STAGING PLAN - STAGE 1
DWG #: DRG NO: SMCSWSBR-BWC-SBR-CE-SKE-901002
REV #: 07

BESIX Watpac

STAGE 2



Sydney Metro City & South West

Barangaroo

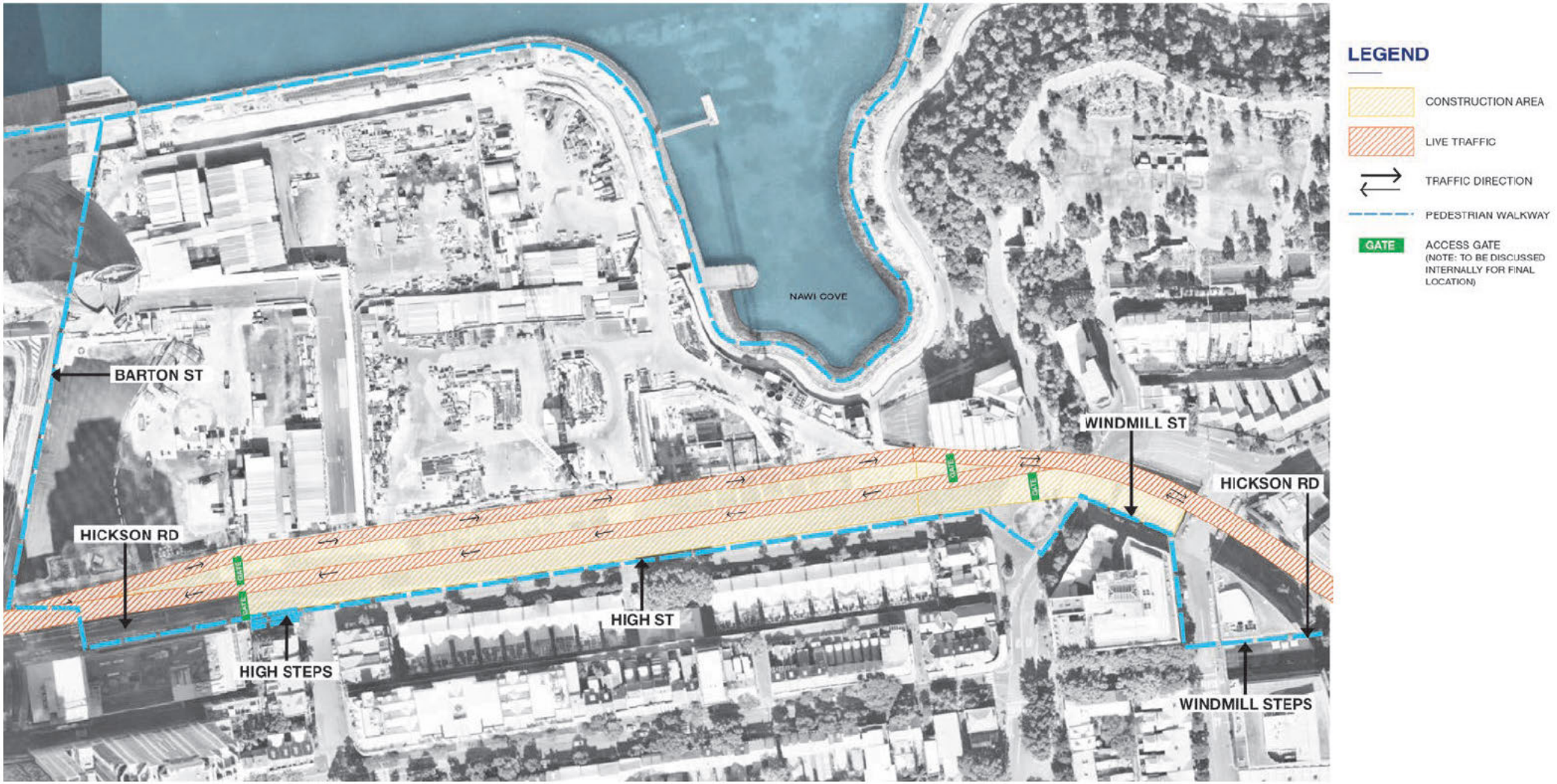
Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
ROAD STAGING PLAN - STAGE 2
DWG #: DRG NO: SMCSWSBR-BWC-SBR-CE-SKE-901003
REV #: 07

BESIX Watpac

STAGE 3



Sydney Metro City & South West

Barangaroo

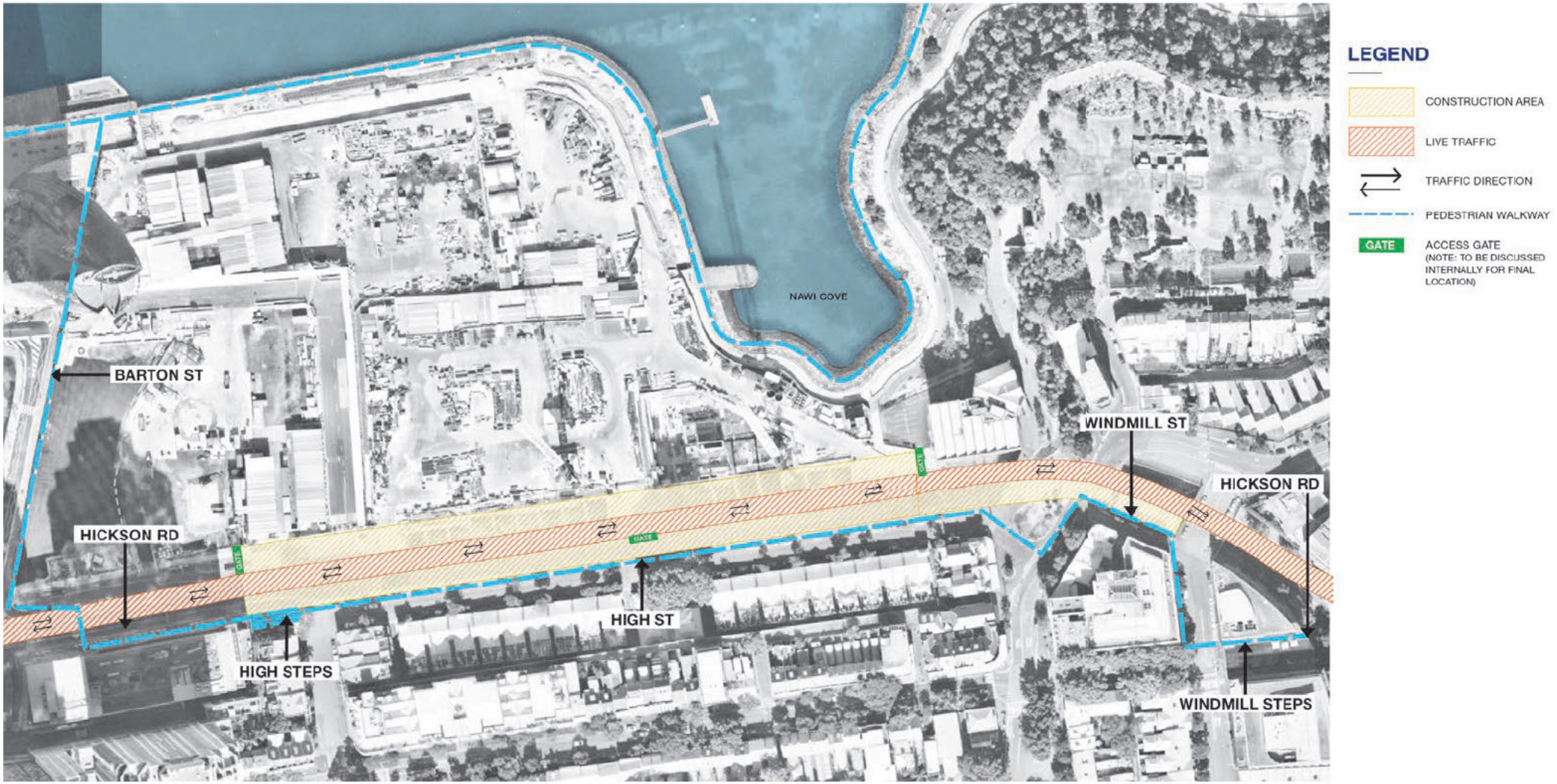
Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
ROAD STAGING PLAN - STAGE 3
DWG #: DRG NO: SMCSWSBR-BWC-SBR-CE-SKE-901004
REV #: 07

BESIX Watpac

STAGE 4



Sydney Metro City & South West

Barangaroo

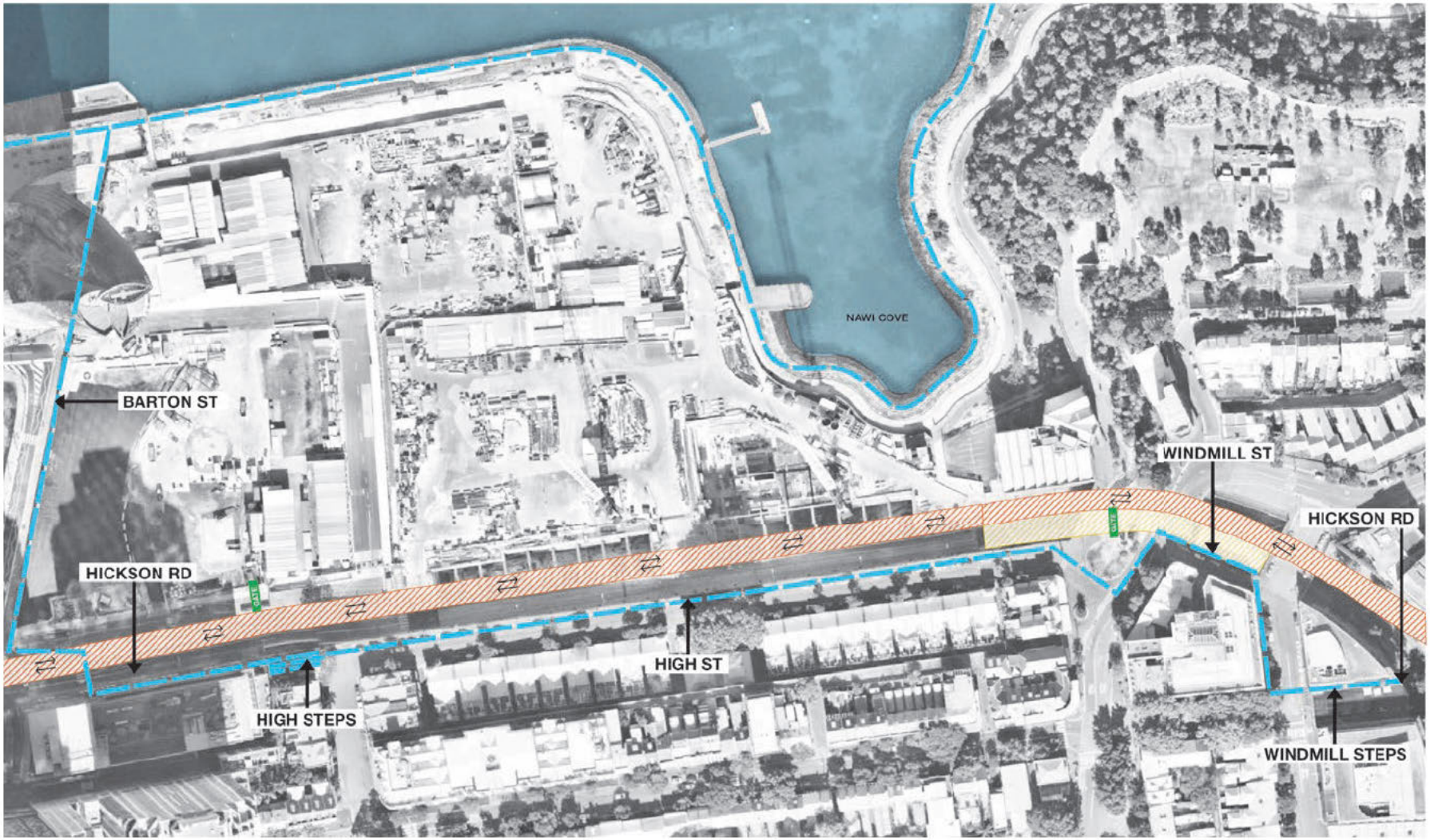
Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
ROAD STAGING PLAN - STAGE 4
DWG #: DRG NO: SMCSWSBR-BWC-SBR-CE-SKE-901005
REV #: 07

BESIX Watpac

STAGE 5



LEGEND

- CONSTRUCTION AREA
- LIVE TRAFFIC
- TRAFFIC DIRECTION
- PEDESTRIAN WALKWAY
- GATE — ACCESS GATE (NOTE: TO BE DISCUSSED INTERNALLY FOR FINAL LOCATION)

Sydney Metro City & South West

Barangaroo

Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

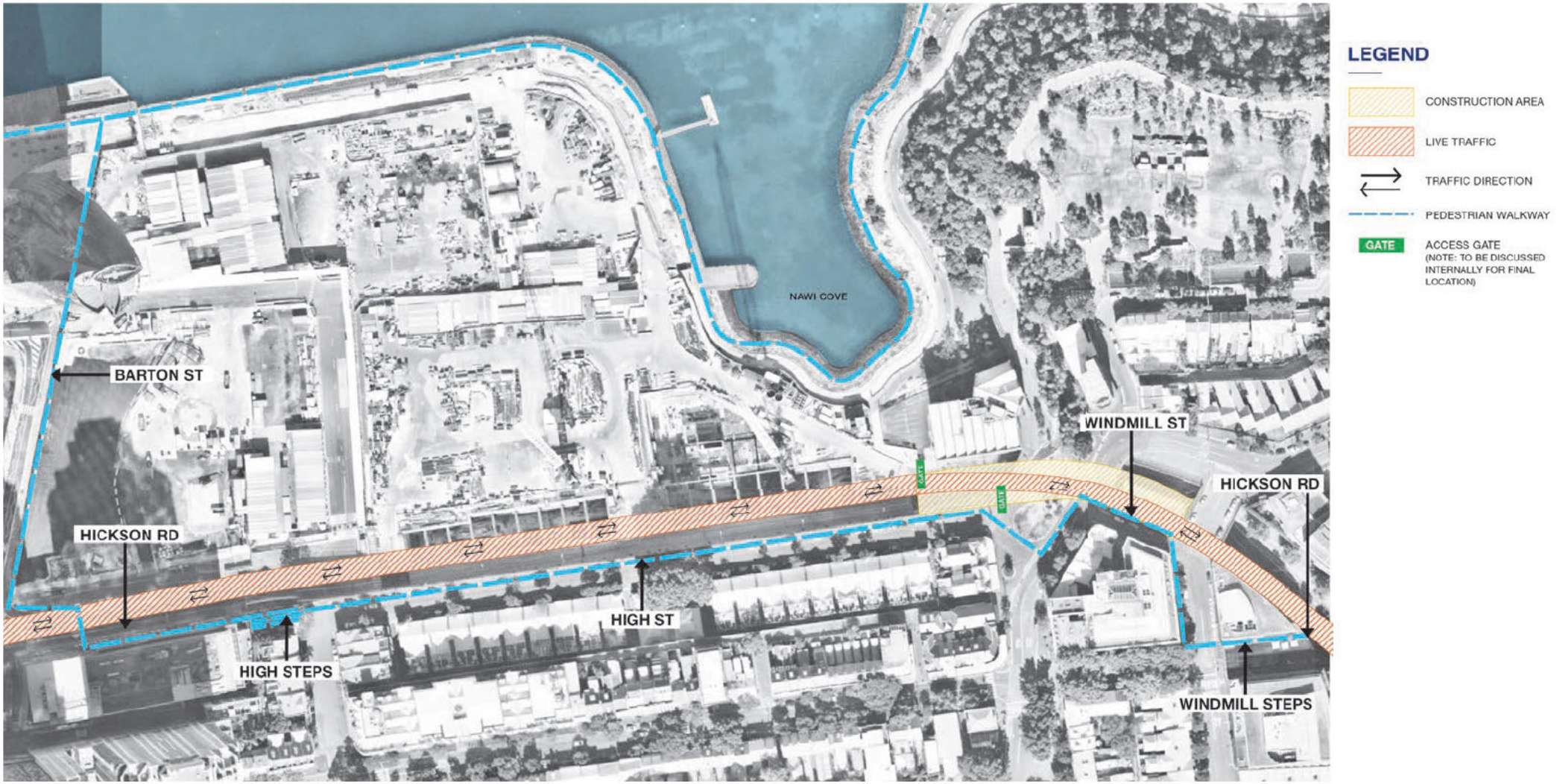
DRAWING NAME:
ROAD STAGING PLAN - STAGE 5

DWG #: DRG NO: SMCSWSBR-BWC-SBR-CE-SKE-901006

REV #: 07

BESIX Watpac

STAGE 6



Sydney Metro City & South West

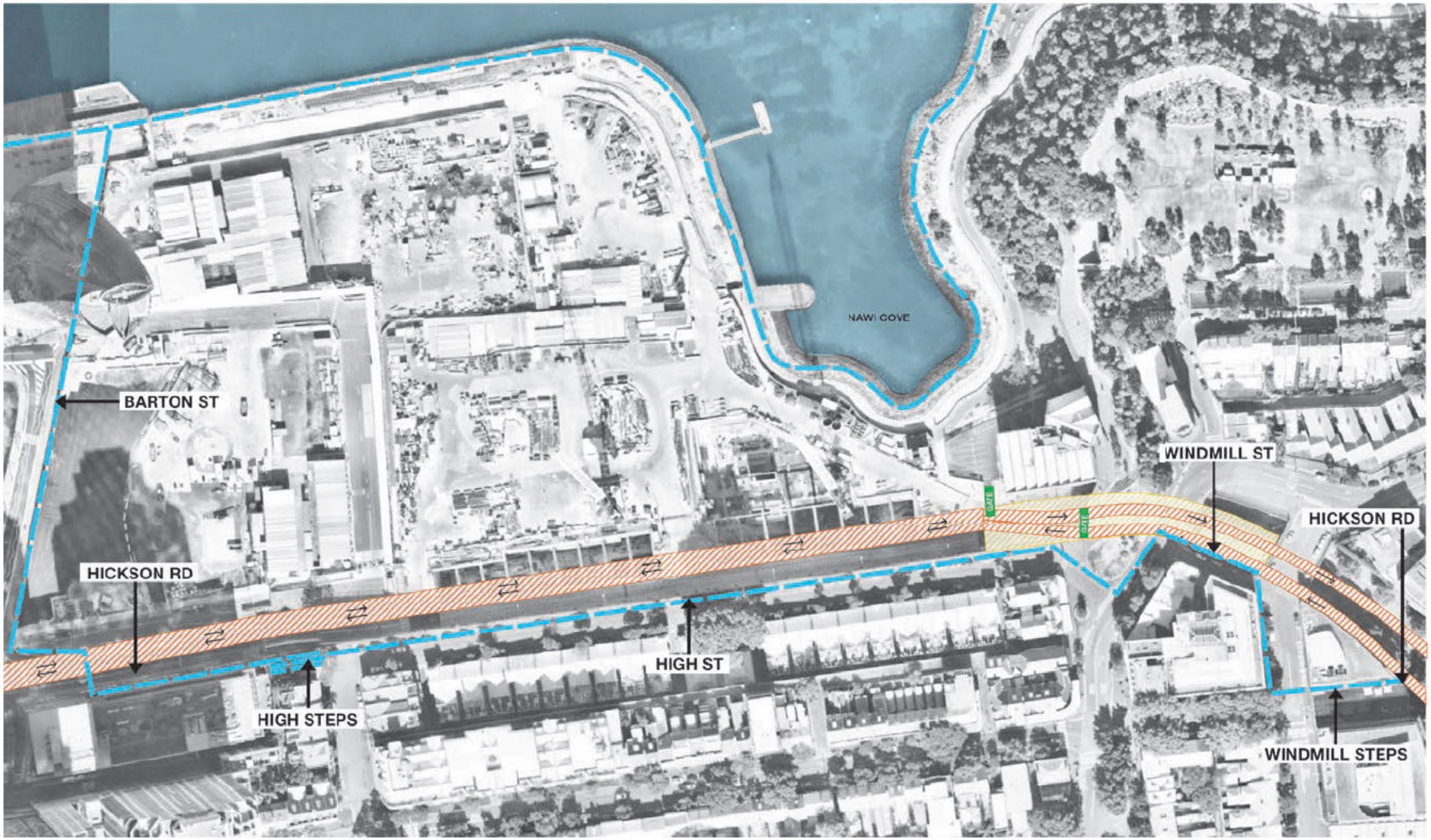
Barangaroo
Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
ROAD STAGING PLAN - STAGE 6
DWG #: DRG NO: SMCSWSBR-BWC-SBR-CE-SKE-901007
REV #: 07

BESIX Watpac

STAGE 7



LEGEND

- CONSTRUCTION AREA
- LIVE TRAFFIC
- TRAFFIC DIRECTION
- PEDESTRIAN WALKWAY
- GATE — ACCESS GATE (NOTE: TO BE DISCUSSED INTERNALLY FOR FINAL LOCATION)

Sydney Metro City & South West

Barangaroo

Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

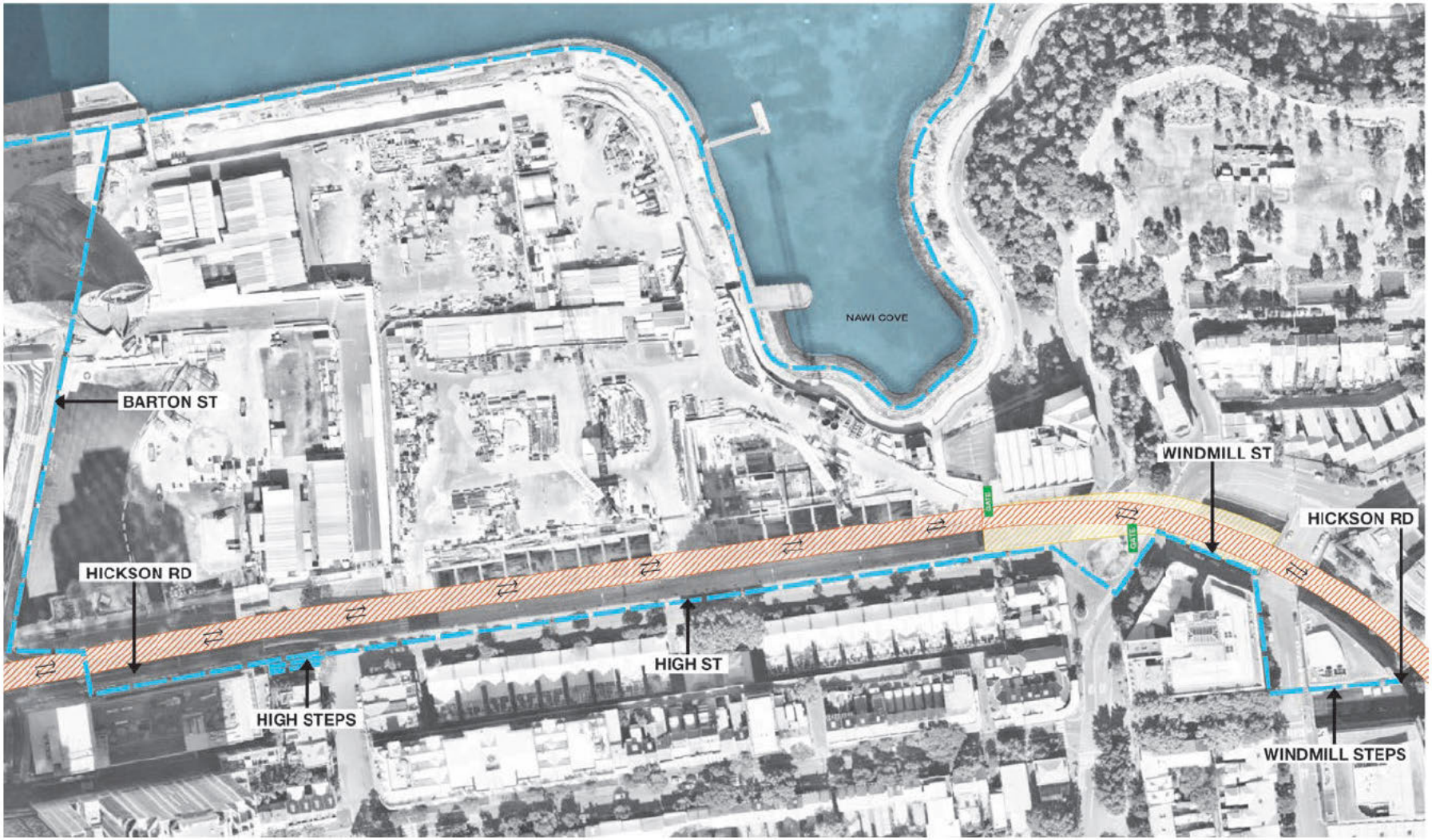
DRAWING NAME:
ROAD STAGING PLAN - STAGE 7

DWG #: DRG NO: SMCSWSBR-BWC-SBR-CE-SKE-901008

REV #: 07

BESIX Watpac

STAGE 8



Sydney Metro City & South West

Barangaroo
Construct Only Package

NOT TO SCALE
NOT FOR CONSTRUCTION

DRAWING NAME:
ROAD STAGING PLAN - STAGE 8
DWG #: DRG NO: SMCSWSBR-BWC-SBR-CE-SKE-901009
REV #: 07

BESIX Watpac

Appendix D
Overview Traffic Control Plan (TCP)

NOTES:

1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
3. ALL SIGNS TO BE MINIMUM SIZE A.
4. ALL SIGNS TO BE CLASS 1 RETROREFLECTIVE.
5. ALL TRAFFIC GUIDANCE SCHEMES ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE RMS "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER 6 (RMS 2020) AND AUSTRALIAN STANDARDS AS1742.3:2019 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
6. THIS TRAFFIC GUIDANCE SCHEME MUST BE SET UP BY A PERSON HOLDING AN "IMPLEMENT TRAFFIC MANAGEMENT PLANS" TICKET AND THE RMS TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION.
7. THE ACCREDITED PERSONNEL SHALL IMPLEMENT THE APPROVED TGS BEFORE ANY PHYSICAL WORK COMMENCES AND ENSURE A COPY OF THE TGS IS KEPT ON-SITE. THE ACCREDITED PERSONNEL SHALL ALSO DRIVE THROUGH THE SITE BEFORE WORKS BEGIN TO ENSURE THAT THE TGS HAS BEEN IMPLEMENTED CORRECTLY AND THAT IT WILL WARN, INSTRUCT AND GUIDE ROAD USERS AS DESIGNED. ANY VARIATIONS MADE TO THE PLAN MUST BE MARKED ON THE PLAN AND INITIALED BY THE ACCREDITED PERSONNEL.
8. IT IS THE RESPONSIBILITY OF AN ACCREDITED PERSONNEL WITH A 'PREPARE WORK ZONE TRAFFIC MANAGEMENT PLAN' TICKET TO ENSURE THE FOLLOWING:
   - THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURES THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
   - AT ALL TIMES AN UP-TO-DATE COPY OF "TRAFFIC CONTROL AT WORK SITES" SHOULD BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE.
9. ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN.
10. IF THE WORKSITE IS LEFT UNATTENDED IT IS THE CONTRACTOR'S DUTY TO ENSURE THAT THE APPROPRIATE MEASURES ARE TAKEN TO PROVIDE A SAFE ENVIRONMENT FOR VEHICLES AND PEDESTRIANS TO RELEVANT AUSTRALIAN STANDARDS.
11. ALL SIGNAGE IS TO BE CLEAN, CLEARLY VISIBLE AND NOT OBSCURED.
12. ROADWORK SIGNS TO BE COVERED OR REMOVED WHEN WORKERS ARE NOT ON SITE.
13. TRAFFIC CONTROLLER (T1-34) AND PREPARE TO STOP (T1-18) SIGNS TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE
14. ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2009.
15. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH SECTION 2.5.2 OF AS1742.3:2009. HOWEVER, MODIFICATIONS CAN BE MADE TO SUIT SITE CONDITIONS.

LEGEND

- WORK SITE
- SIGN POST
- TRAFFIC CONTROLLER
- CONSTRUCTION ACCESS GATE

NEARMAP AERIAL IMAGE
DATED 10.04.2021

CERTIFICATION

THE UNDERSIGNED HAS COMPLETED AND OBTAINED:
– PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN
AND IS SUITABLY EXPERIENCED TO DESIGN, SELECT AND MODIFY TRAFFIC CONTROL PLANS

CERTIFICATE NO. 0039450274
PREPARE A WORK ZONE TMP CARD
[redacted]

GTA consultants
www.gta.com.au

Melbourne 03 9851 9600
Sydney 02 8448 1800
Brisbane 07 3113 5000
Adelaide 08 8334 3600
Perth 08 6169 1000

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SUBJECT TO CHANGE WITHOUT NOTIFICATION

WARNING
BEWARE OF UNDERGROUND SERVICES
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[redacted]

SCALE A3 0 5 10 20 1:1000

CAD FILE NO.
N200471-01-P1.DWG

BARANGAROO METRO STATION

TRAFFIC GUIDANCE SCHEME

DRAWING NO. N200471-01-01 SHEET 01 OF 04 ISSUE P1

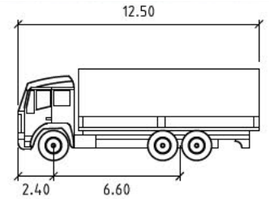
\\GTA.COM.AU\PROJECTFILES\PROJECTFILESSYD\N20000-20999\N200411 BARANGAROO METRO STATION - CONSTRUCTION DELIVERY\CAD\N200471-01-P1.DWG PLOTTED BY RAYMOND ZHANG ON 12/05/2021 AT 18:49

Appendix E
Swept Path Analysis

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 10km/h



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

FOR ANY VEHICLES EXCEEDING 12.5m HRV, PERMITS MUST BE OBTAINED WITH RELEVANT AUTHORITIES PRIOR TO TRAVELING WITHIN THE SYDNEY CBD

SUSSEX STREET

KING STREET

HRV STANDARDS (AU)

APPROACH ROUTE

N

12.5m HRV REQUIRED TO STRADDLE BOTH TURNING LANES FOR RIGHT TURN MANOEUVRE

SUSSEX STREET

MARKET STREET

DEPARTURE ROUTE

NEARMAP AERIAL IMAGE DATED 10.04.2021

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[redacted]

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N200471-03-P5.DWG

BARANGAROO METRO STATION

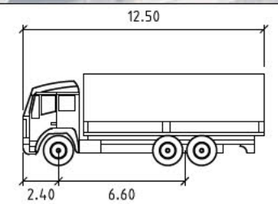
APPROACH AND DEPARTURE ROUTE
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. N200471-03-02 SHEET 02 OF 10 ISSUE P5

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

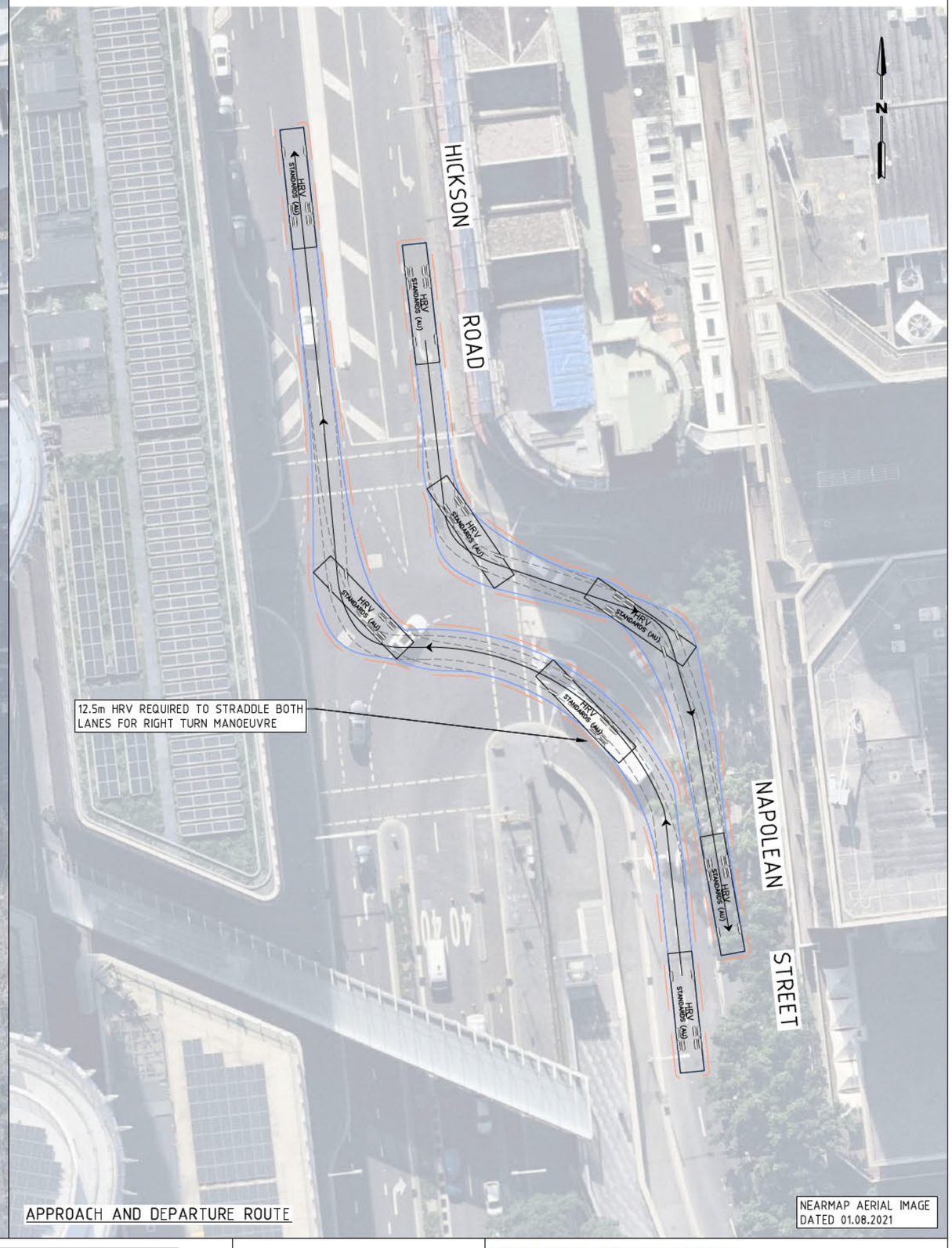
ASSUMED SPEED 10km/h



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

APPROACH ROUTE



APPROACH AND DEPARTURE ROUTE

NEARMAP AERIAL IMAGE DATED 01.08.2021

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[redacted]

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO.
N200471-03-P5.DWG

BARANGAROO METRO STATION

APPROACH AND DEPARTURE ROUTE
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. N200471-03-03 SHEET 03 OF 10 ISSUE P5

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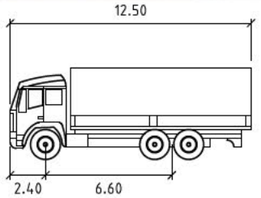
SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 10km/h



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

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[redacted]

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO.
N200471-03-P5.DWG

BARANGAROO METRO STATION

DEPARTURE ROUTE
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. N200471-03-04 SHEET 04 OF 10 ISSUE P5

SWEPT PATH KEY

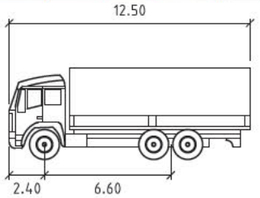
VEHICLE CENTRE LINE

VEHICLE TYRE PATH

VEHICLE BODY PATH

600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

INTERNAL MANOEUVRE TO BE CONFIRMED

HRV STANDARDS (AU)

HRV STANDARDS (AU)

HRV STANDARDS (AU)

N

APPROACH ROUTE

DEPARTURE ROUTE

NEARMAP AERIAL IMAGE DATED 10.04.2021

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[redacted]

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO.
N200471-03-P5.DWG

BARANGAROO METRO STATION

APPROACH AND DEPARTURE ROUTE
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. N200471-03-05 SHEET 05 OF 10 ISSUE P5

PLOTTED BY RAYMOND ZHANG ON 15/06/2021 AT 14:25

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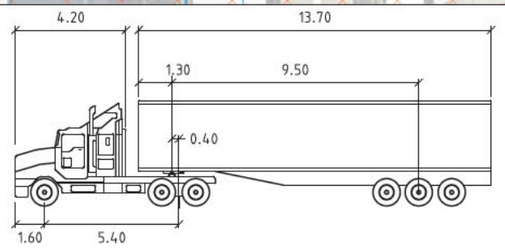
SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



AV AS2890.2

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

INTERNAL MANOEUVRE TO BE CONFIRMED

AV STANDARDS (AU)

N

APPROACH ROUTE

DEPARTURE ROUTE

NEARMAP AERIAL IMAGE DATED 10.04.2021

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[redacted]

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO.
N200471-03-P5.DWG

BARANGAROO METRO STATION

APPROACH AND DEPARTURE ROUTE
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. N200471-03-06 SHEET 06 OF 10 ISSUE P5

PLOTTED BY RAYMOND ZHANG ON 15/06/2021 AT 14:25

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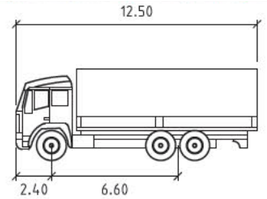
SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

INTERNAL MANOEUVRE TO BE CONFIRMED

HRV STANDARDS (AU)

HICKSON ROAD

N

APPROACH ROUTE

DEPARTURE ROUTE

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[redacted]

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO.
N200471-03-P5.DWG

BARANGAROO METRO STATION

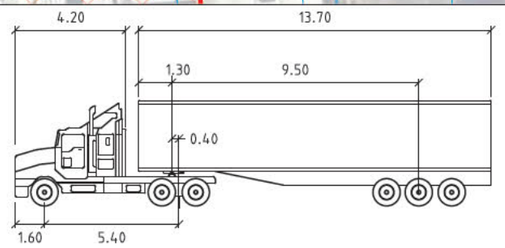
APPROACH AND DEPARTURE ROUTE VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. N200471-03-07 SHEET 07 OF 10 ISSUE P5

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



AV AS2890.2

meters			
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

INTERNAL MANOEUVRE TO BE CONFIRMED

19m AV REQUIRED TO CROSS ROAD CENTRELINE FOR ENTRY MANOEUVRE. MANOEUVRE TO BE CONDUCTED UNDER TRAFFIC MANAGEMENT.

CONFLICT WITH EXISTING JERSEY BARRIER, RECOMMEND RELOCATION OF JERSEY BARRIER TO BE CLEAR OF VEHICLE SWEPT PATHS

HICKSON ROAD

AV STANDARDS (AU)

APPROACH ROUTE

DEPARTURE ROUTE

N

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[redacted]

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO.
N200471-03-P5.DWG

BARANGAROO METRO STATION

APPROACH AND DEPARTURE ROUTE
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. N200471-03-08 SHEET 08 OF 10 ISSUE P5

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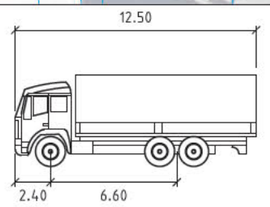
SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

REVERSE MANOEUVRE TO BE CONDUCTED UNDER TRAFFIC MANAGEMENT

INTERNAL MANOEUVRE TO BE CONFIRMED

HICKSON ROAD

HRV STANDARDS (NB)

HRV STANDARDS (SB)

APPROACH ROUTE

DEPARTURE ROUTE

N

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[redacted]

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO.
N200471-03-P5.DWG

BARANGAROO METRO STATION

APPROACH AND DEPARTURE ROUTE
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. N200471-03-09 SHEET 09 OF 10 ISSUE P5

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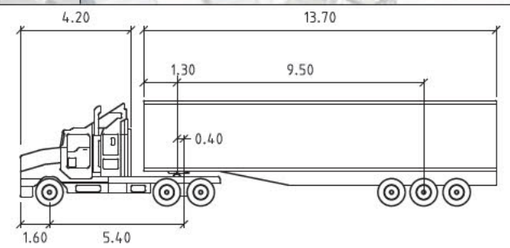
SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



AV AS2890.2

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

REVERSE MANOEUVRE TO BE CONDUCTED UNDER TRAFFIC MANAGEMENT

INTERNAL MANOEUVRE TO BE CONFIRMED

HICKSON ROAD

AV STANDARDS (AU)

AV STANDARDS (NZ)

APPROACH ROUTE

DEPARTURE ROUTE

N

NEARMAP AERIAL IMAGE DATED 10.04.2021

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[redacted]

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N200471-03-P5.DWG

BARANGAROO METRO STATION

APPROACH AND DEPARTURE ROUTE
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. N200471-03-10 SHEET 10 OF 10 ISSUE P5

Appendix F
Traffic Safety Risk Register

Hazard Event	Potential Causes	Potential Consequence(s)	Risk Controls	Consequence	Likelihood	Risk Rating	Additional Mitigation	Consequence	Likelihood	Risk Rating
Traffic Congestion	Congestion in the local area Increase in traffic volume Vehicle breakdowns Deliver operations Coinciding RMS or other project works	Reduced travel times Impact bus routes	Where possible, minimise lane closures and speed limit reductions Plan disruptive works during low traffic volume periods where possible Notify road users about expected delays in advance Deliver at night and/or over 24 hours Communicate regularly with nearby construction sites	C4: Moderate	L3: Likely	C - Tolerable	Monitor congestion and review traffic management measures as required Coordinate and plan works to reduce need for road occupancies	C5: Minor	L3: Likely	C - Tolerable
Impact to Emergency Services Response	Congestion in the local area created by increase traffic volumes	Fatality	Design and implement emergency service accesses during construction Inform and regularly update emergency services in regards to the site gates and accesses Minimise traffic impacts on the road network in accordance with CTMP	C2: Severe	L3: Likely	B - Undesireable	Consult with emergency services on access restrictions and alternative arrangements Provide 24hr contact number to all emergency services Advise changes at TTLG	C3: Major	L4: Unlikely	C - Tolerable
Special Events (on road)	Increase in traffic volume	Reduced travel times	Support P&P, CJP, CoS and Infrastructure NSW in managing special event(s)	C5: Minor	L2: Very likely	C - Tolerable	Where possible, schedule road occupancy works to avoid conflict with special events Coordinate and maintain regular contact with CJP, CoS and Infrastructure NSW	C6: Insignificant	L2: Very Like	D - Broadly Acceptable
Major vehicle crashes	Driver inattention Speeding Drugs and/ or alcohol Reduced visibility (fog or smoke) Poor traffic control set-up	Fatality	Provide a high standard of traffic controls to warn, inform and guide motorists, through the work areas, that comply with the TfNSW's TCAWS Manual Ver 6, Australian Standards, and provide a safe road environment. Roads Safety Audits of Roadworks Traffic Scheme Heavy Vehicle Driver Code of Conduct	C3: Major	L3: Likely	B - Undesireable	Where possible, provide initial resposne and install traffic controls to make site safe If an unplanned incident occurs, notify emergency services immediately, then CJP Support emergency services and CJP as required Coordinate other planned construction activities to avoid the incident scene and minimise impact on road network Cancel non-essential construction deliveries	C4: Moderate	L3: Likely	C - Tolerable
Minor vehicle crashes		Serior injury		C5: Minor	L2: Very likely	C - Tolerable		C5: Minor	L3: Likely	C - Tolerable
OSOM transportation	Inadequate planning	Reduced travel times	Prepare all temporary works drawings with OSOM vehicles in mind Assist the P&P/ CJP to coordinate the movements of OSOM vehicles past the site Notify the P&P/ CJP when proposed construction works may restrict the movement of OSOM vehicles	C5: Minor	L3: Likely	C - Tolerable	Prepare TCPs that can accommodate the movement of OSOM vehicles with minimal inconvenience Instruct all staff to be on the lookout for OSOM vehicles approaching the site	C5: Minor	L4: Unlikely	D - Broadly Acceptable
Tracking debris onto travel lanes	Poor environmental controls Inadequate supervision	Vehicle crash	Install primary environmental controls (e.g. wheel washers, sealed driveways, shaker grates etc.) to prevent tracking onto roadways Daily inspections of short term traffic control measures	C3: Major	L3: Likely	B - Undesireable	When required, apply secondary controls (such as water carts and street sweepers) to remove debris from the road surface Foreman to conduct daily inspection and monitoring of road surface conditions, if necessary to assist installing traffic control to make safe until debris is cleared Report on incident (internally) for input into review process (preventive action)	C4: Moderate	L3: Likely	C - Tolerable
Unsafe traffic control	Inadequate training personnel Inadequate implementatoin of TCP Unplanned changes by construction works	Vehicle crash	Develop TCPs in accordance with TfNSW TCAWS Manual v6 and Australian Standard 1742.3 requirements	C3: Major	L2: Very likely	B - Undesireable	Regular inspection of traffic control layouts Toolbox and team talks to reinterate critical issues Plan and work to negate the need for traffic control Where possible, work during lowest traffic volume periods Use highly experienced traffic controllers at high-risk locations (e.g. the temporary traffic signals)	C4: Moderate	L3: Likely	C - Tolerable
Workers hit by traffic	Inadequate supervision Driver inattention Speeding Driver Driver on drugs and/ or alcohol	Fatality Serior injury	Ensure all workers are site inducted SWMS are in place Regular checking of traffic control layouts	C2: Severe	L2: Very likely	A - Intolerable	Use shadow vehicles for all works near roads not seperated by RMS approved and installed barriers Install barriers where possible Workers to remain outside the deflection zone of the installed barriers Change construction method/ site layout to reduce or remove need to be near road Seek dispensation and/ or approval from P&P, CJP and CoS as reqiured	C4: Moderate	L3: Likely	C - Tolerable
Pedestrian and cyclist being hit by a construction vehicle	Pedestrian or cyclist entering roadway when construction vehicles are entering/ exiting the site or compounds	Fatality Serior injury	Regular inspections of pedestrian control layout Regular checking of traffic control layouts	C2: Severe	L3: Likely	B - Undesireable	Regular inspection of traffic control lay outs Toolbox and team talks to reiterate critical issues Closure of footpaths to pedestrian access	C3: Major	L2: Very Like	B - Undesireable

			Consequence					
	Description		Insignificant C6	Minor C5	Moderate C4	Major C3	Severe C2	Catastrophic C1
Likelihood	Almost certain	L1	D	C	B	A	A	A
	Very likely	L2	D	C	B	B	A	A
	Likely	L3	D	C	C	B	B	A
	Unlikely	L4	D	D	C	C	B	B
	Very unlikely	L5	D	D	D	C	C	B
	Almost unprecedented	L6	D	D	D	D	C	C

TfNSW, Risk Criteria for Use by Organisations Providing Engineering Services, December 2020

Risk rating (current residual)	Response	Risk frequency
Very High 'A'	'Very High' risks are generally intolerable and should be avoided except in extraordinary circumstances. An alternative solution shall be found and all necessary steps shall be taken to reduce the risk below this level without delay.	Monthly update of risk register by the risk owner
High 'B'	'High' risks are undesirable. They can only be tolerated if it is not reasonably practicable to reduce the risk further. High risks are considered to be on the verge of being unacceptable and shall be given immediate priority.	Monthly update of risk register by the risk owner
Medium 'C'	'Medium' risks are generally tolerable if it is not reasonably practicable to reduce the risk further. Additional treatment measures should be sought if significant benefit can be demonstrated and/or an additional treatment measure available which is recognised as good practice in other like environments.	Two monthly update of risk register by the risk owner
Low 'D'	Low risks are considered to be broadly acceptable. If options for further risk reduction exist and costs are proportionate to the benefit, then implementation of such measure should be considered.	Quarterly update of risk register by the risk owner

Appendix G
Consultation Register

Item No	Document Revision	Stakeholder	Date of Review	Comment Location/ Description	Stakeholder Comment	Watpac Response	Date of Response	Watpac Status Comment	Stakeholder Response	Watpac Response	Stakeholder Status Comment

Appendix H
Compliance Table

Table 9 Appendix H Compliance Table - Particular Specification & General Specification (Plans)

GSMoP/ PS Section	This CTMP Reference Section
2.10 Traffic Management	
2.10.1 Construction Traffic Management Plan	This CTMP
2.10.2 Traffic Control Plans	Section 2.5.3 and 6.2
2.10.3 General	This CTMP
2.10.4 Communication Notification	Chapter 8
2.10.5 Traffic and Transport Liaison Group	Section 8.2
2.10.6 Traffic Control Group	Section 8.3
2.10.7 Traffic and Transport Representative	Section 2.11.1
2.10.8 Road Conditions	Section 4.1.5
2.10.9 Road, Footpath and Shared Path Occupancies, Detours and Closures	Sections 4.2 and 4.5
2.10.10 Compliance with Traffic Instructions During Construction	Section 2.6
2.10.11 Pedestrian and Cyclist Provisions	Section 4.5
2.10.12 Train Station	Not applicable (refer to 2.10 in PS)
2.10.13 Bus Provisions	Section 4.4
2.10.14 Traffic Control	Chapter 6
2.10.15 Special Events	Section 4.8
2.10.16 Emergency/ Incident Management	Section 7.3
2.10.17 Chain of Responsibility	Section 3.1

Table 10 Appendix H Compliance Table - SSI 15_7400 Conditions of Approval

Relevant CoA Section	This CTMP Reference Section
E77 Traffic and Transport Liaison Group	Section 8.2
E78 Supplementary Analysis and Modelling	Section 4.2
E79 Heavy Vehicles	Chapter 3
E80 Truck Movements	Section 4.1
E82 CTMP	This CTMP
E83 Changes to CTMPs	Section 1.1
E85 Haulage Routes	Section 4.1
E86 Maintaining Pedestrian and Vehicular Access	Chapter 4
E87 Road Safety Audit	Section 7.2
E88 Haulage Routes and Truck Sizes	Chapter 3 and Section 4.1
E90-91 Road Dilapidation	Section 4.1.5

Table 11 Appendix H Compliance Table - SSI 15_7400 Conditions of Approval

CTMF Section	This CTMP Reference Section
2 Traffic Management Objectives	
2.1 General Traffic Management Approach	As detailed throughout this CTMP
2.2 Traffic Management Strategy	

CTMF Section	This CTMP Reference Section
2.3 Hierarchy of Access	
3. Implementation Framework	
3.1 Construction Environmental Management Framework (CEMF)	Sections 2.5, 2.5.7, 2.10 and Chapter 8
3.2 Construction Traffic Management Task	This CTMP
3.3 Implementation Process	Section 2.5 (and sub-sections)
3.3.1 Construction Traffic Management Framework (CTMF)	N/A – Prepared by Sydney Metro
3.3.2 Construction Traffic Management Plan (CTMP)	Section 2.5 (and sub-sections)
3.3.3 Site-specific Traffic Management Plans (TMP)	Section 2.5 (and sub-sections)
3.3.4 Traffic Control Plans and other Plans	Sections 2.5 (and sub-sections) and 6.2
4 Consultation Group	
4.1 Traffic and Transport Liaison Group	Section 8.2
4.1.1 Other organisations	Chapter 8
4.2 Traffic Control Group	Section 8.3
4.3 Government Stakeholders	N/A related to CTMF
5. Communication	
5.1 Existing Businesses and Residents	Sections 4.5, 4.6 and Chapter 8
5.2 Notification of Traffic Changes or Disruptive Works	
5.3 Responsibilities	
5.4 Roadside Messaging	Sections 6.2, 6.3 and Chapter 8
6 Approvals	
6.1 Policy Context and Legislative Backing	Sections 2.6 and 2.7
6.2 Stakeholders	This CTMP
6.3 CTMP Approval Process	Section 2.5
6.4 Road Occupancy Licence (ROL) Process	Section 5.1.1
6.5 Speed Zone Authorisation (SZA)	Section 5.3
6.6 Special Event Coordination	Section 4.8
6.7 Adjustments to Traffic Signals	Section 6.6
6.8 Over-Size or Over-Mass (OSOM) Vehicle Permits	Chapter 3 and Section 4.1
6.9 Adjustments to Bus Routes and Stops	Section 4.4
6.10 Adjustments to Australia Post Boxes or Other Roadside Furniture	N/A
6.11 Council Traffic Committees	Section 5.2
6.12 Requirement under the Approval	Section 4.1.5
7 Management of Construction Traffic	
7.1 Haulage Routes	Section 4.1
7.2 Management of Heavy Vehicle Movements	Section 4.1
7.3 Work Zones and Heavy Vehicle Marshalling	Section 5.2
7.4 Construction/ Demolition Vehicle Types	Section 4.1
7.4.1 Worker Access and Parking	Section 4.3
7.4.2 Construction Consolidation Centre/ Depot	N/A
7.4.3 Driver Training	Sections 2.5.5, 2.9, 2.11.3 and 3.1

CTMF Section	This CTMP Reference Section
7.4.4 Chain of Responsibility and Heavy Vehicle National law	Chapter 3
8 Operational Requirements	
8.1 Traffic Control at Work Sites	This CTMP
8.1.1 Policy and Responsibility	Sections 1.6, 2.7 and 2.11
8.1.2 Traffic Control Techniques	Chapter 6
8.1.3 Approved Clothing for Work Personnel	N/A
8.1.4 Plant and Equipment	Section 11
8.2 Frequency of Inspections	
8.2.1 Inspection of Roadwork Traffic Management Scheme	Sections 2.11, 7.1 and 7.2
8.3 Emergency Incidents and Complaints	Section 7.3
8.3.1 Accidents/ Incidents and Complaints	Section 7.3
8.3.2 Chemical Spills and Leaks	Detailed in CEMP
8.4 Traffic Controllers and Temporary Traffic Signals	Sections 2.11.2 and 6.6
9 Management of Worksites	
9.1 Worksite Boundaries	Appendix C
9.2 Hoardings	
9.3 Site Security, Site Access and Signage	
9.4 Pedestrian Security, Safety and Lighting	
9.5 Management of Risks to Vulnerable Road Users	Section 2.9 and Appendix F
10 Road Safety Audits (RSA)	
10.1 Purpose and Benefits	Section 7.2
10.2 Stages when RSAs are Undertaken	
10.2.1 Detailed Design Stage	
10.2.2 Pre-Opening Stage	
10.2.3 RSAs of Temporary Work/ CTMPs	
10.2.4 RSA Procedure	