



# Planning Approval Consistency Assessment Form

SM-17-00000111

Metro Body of Knowledge (MBoK)

<b>Assessment name:</b>	SWM Stage 1 – Tunnel realignments
<b>Prepared by:</b>	Sydney Metro
<b>Prepared for:</b>	Sydney Metro
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For information – do not alter:

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## Table of contents

1. Existing Approved Project .....	3
2. Description of proposed development/activity/works.....	8
3. Timeframe.....	10
4. Site description .....	11
5. Site Environmental Characteristics .....	11
6. Justification for the proposed works.....	11
8. Control Measures.....	11
10. Impact Assessment – Construction.....	12
11. Impact Assessment – Operation.....	19
12. Consistency with the Approved Project .....	21
13. Other Environmental Approvals .....	22
Author certification .....	23

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

## 1. Existing Approved Project

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

SSI-10038: Sydney Metro West – Concept and Stage 1 (major civil construction between Westmead and The Bays)  
 SSI-10038-Mod-1: Modification 1 Administrative

*Date of determination:* 11 March 2021

*Type of planning approval:* Critical State Significant Infrastructure (Division 5.2)

*Description of existing approved project you are assessing for consistency:*

### **Sydney Metro West (the Concept)**

Sydney Metro West (the Concept) involves the construction and operation of about 24 kilometres of underground metro rail between Westmead and the Sydney CBD. The key components are expected to include (as described in Chapter 6 of the Environmental Impact Statement (EIS)):

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

**Sydney Metro West - all major civil construction works between Westmead and The Bays (Stage 1 of the planning approval process) - the approved project**

The Sydney Metro West Project Concept; and all major civil construction works between Westmead and The Bays, including station excavation and tunnelling was determined on 11 March 2021. The scope of Stage 1 of the planning approval process for Sydney Metro West (the approved project) is described in Chapter 9 of the EIS, with the key features including:

- Tunnel excavation including tunnel support activities between Westmead and The Bays
- Station excavation for new metro stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and The Bays
- Shaft excavation for services facilities
- Civil work for the stabling and maintenance facility at Clyde.

Section 9.4.2 of the Stage 1 EIS described the tunnel excavation works which includes the excavation of twin tunnels about 21 kilometres long. The indicative location of the tunnel alignment is shown in Figure 1 (Figure 9-1 of the Stage 1 EIS), and more detail on the tunnel alignment and associated long sections are provided in Figures 9-2(a) – (h) of the Stage 1 EIS. The two bored tunnels would have a circular cross-section with an internal lined diameter of about six metres and an excavated diameter of about seven metres. Cross passages between the two tunnels would be excavated at intervals of about 240 metres to allow for emergency access. The centre lines of the two tracks would typically be about 14 metres apart, however this would depend on specific geological constraints and the need to avoid building basements. The tunnels would be lined with precast concrete segments to ensure the long term life of the asset and minimise groundwater inflow into the tunnel. The depth of the tunnels would vary from about 15 to 90 metres deep due to changes in topography.

The sections of the tunnel alignment relevant to this consistency assessment are shown in Figure 2 and 3 (Figures 9-2(f) and (g) respectively, in the Stage 1 EIS).

### **Sydney Metro West – other stages**

The other stages on Sydney Metro West include tunnelling and major civil construction work between The Bays and Sydney CBD (Stage 2) (SSI-19238057), and major civil construction (consisting of tunnel fit-out, station building and fit-out) and operation of the line between Westmead and Sydney CBD (Stage 3) (SSI-2765520). These SSI applications are in progress and have not yet been determined.

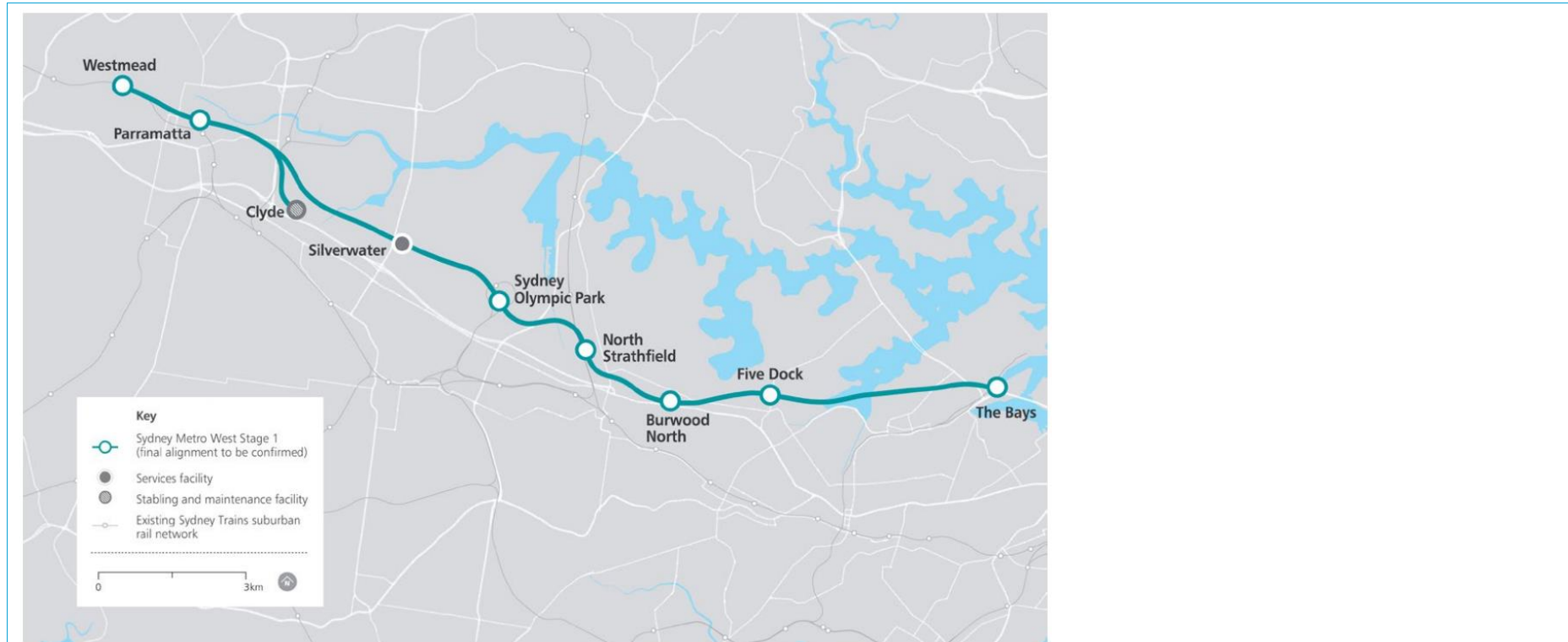


Figure 1: Location of the Stage 1 tunnel alignment (Figure 9-1 of the Stage 1 EIS)

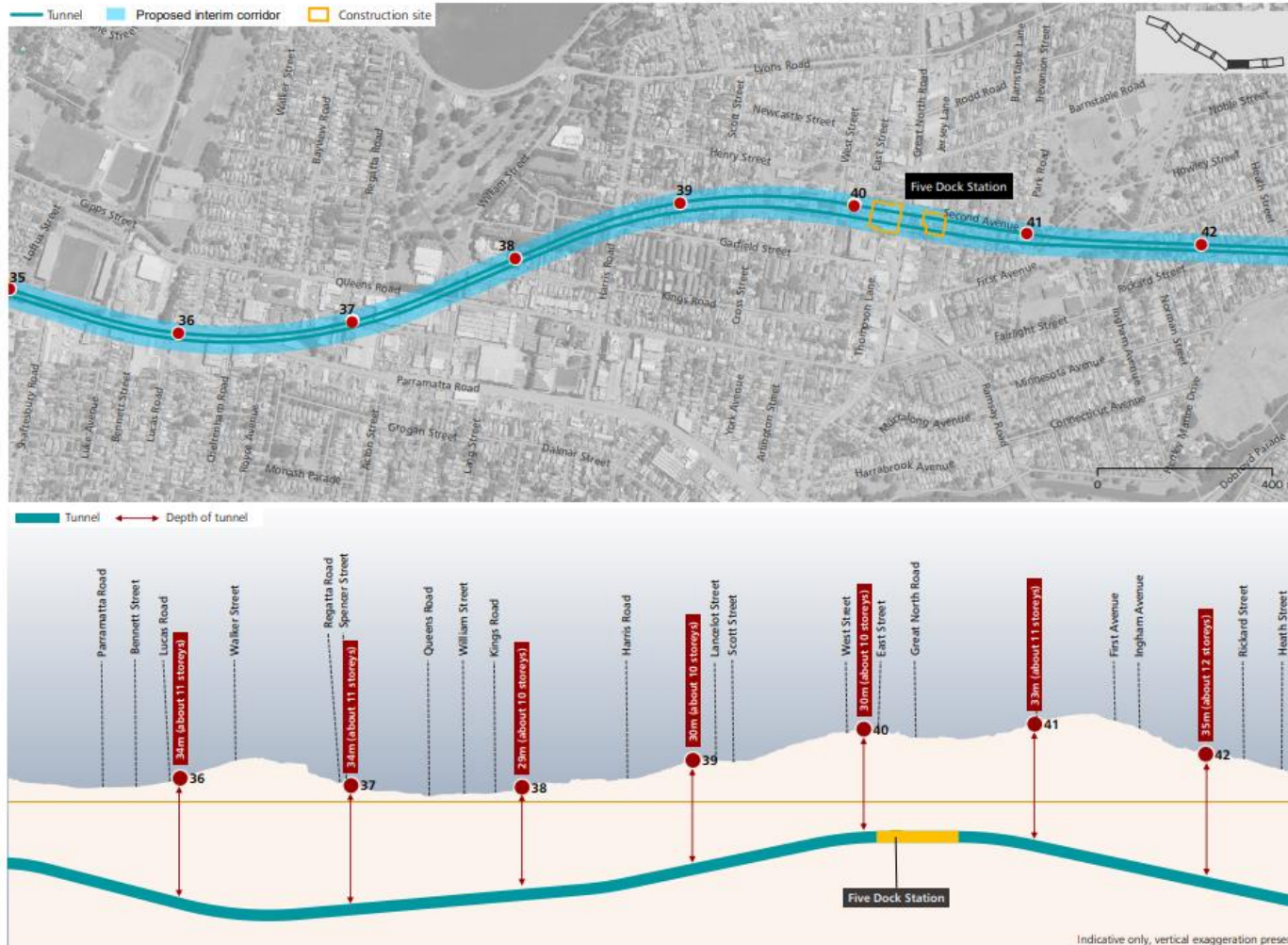


Figure 2: Indicative alignment plan and long section between Burwood North Station and Five Dock Station (Figure 9-2(f) in the Stage 1 EIS)

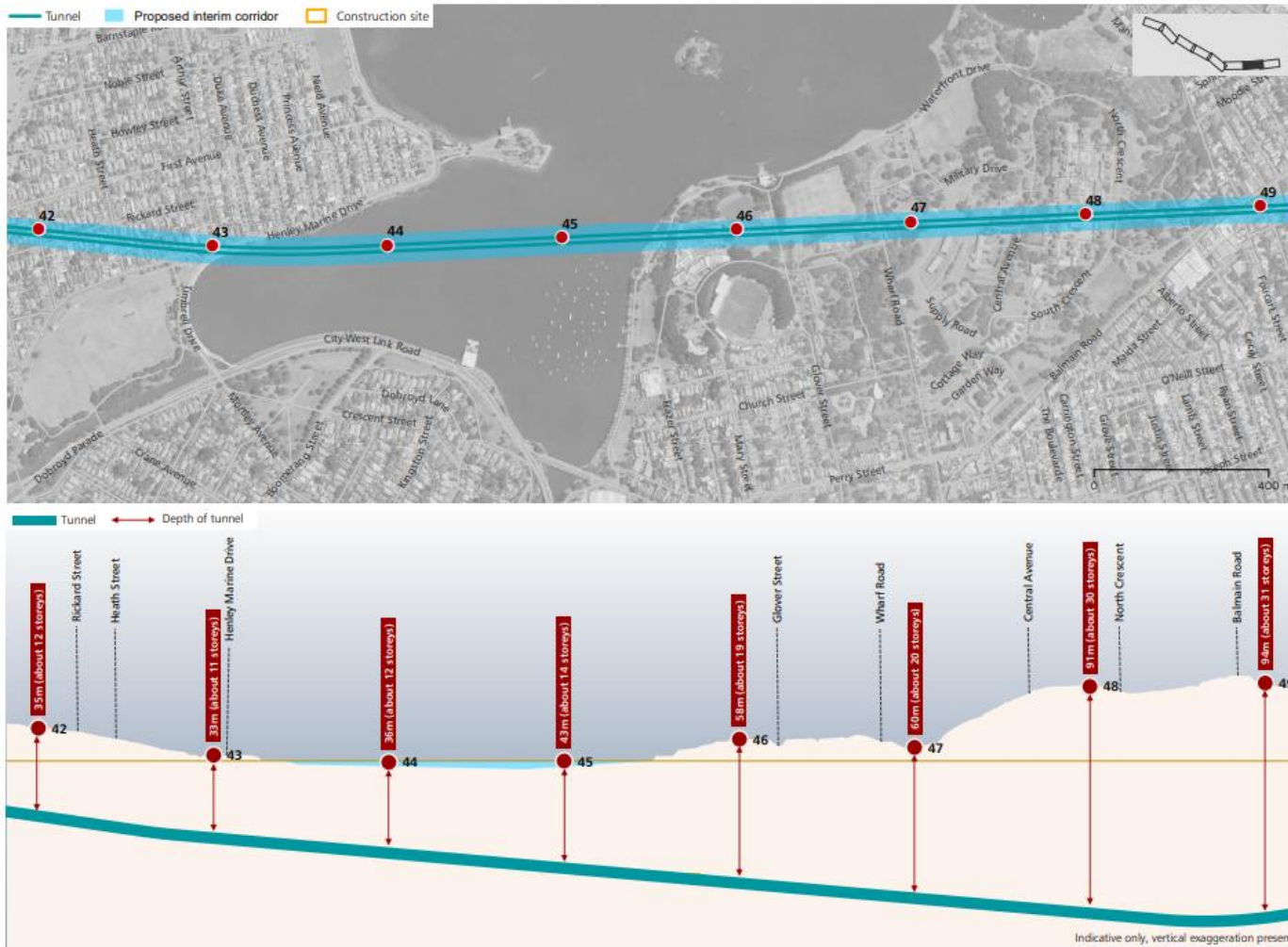


Figure 3: Indicative alignment plan and long section between Five Dock Station and The Bays Station (Figure 9-2(g) in the Stage 1 EIS)

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

- SMW Concept and Stage 1 Environmental Impact Statement (EIS) – 15 April 2020
- SMW Concept and Stage 1 Submissions Report (SR) – 20 November 2020
- SMW Amendment Report (AR) – 20 November 2020
- SMW Consolidated Conditions of Approval – 27 July 2021

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

All proposed works identified in this assessment would be undertaken in accordance with the mitigation measures identified in the Stage 1 EIS, Submissions Report and Amendment Report and the Conditions of Approval (CoA).

## 2. Description of proposed development/activity/works

The purpose of this Consistency Assessment is to assess a minor tunnel realignment between Burwood North Station and Five Dock Station, and between Five Dock Station and The Bays Station. The relevant sections of the approved tunnel alignment, and the proposed revised tunnel alignment is shown in Figure 4 and 5. The proposed change in tunnel alignment is located entirely underground and the depths of the realigned tunnels would be similar to the relevant sections of the approved tunnel alignment (see Figures 2 and 3).



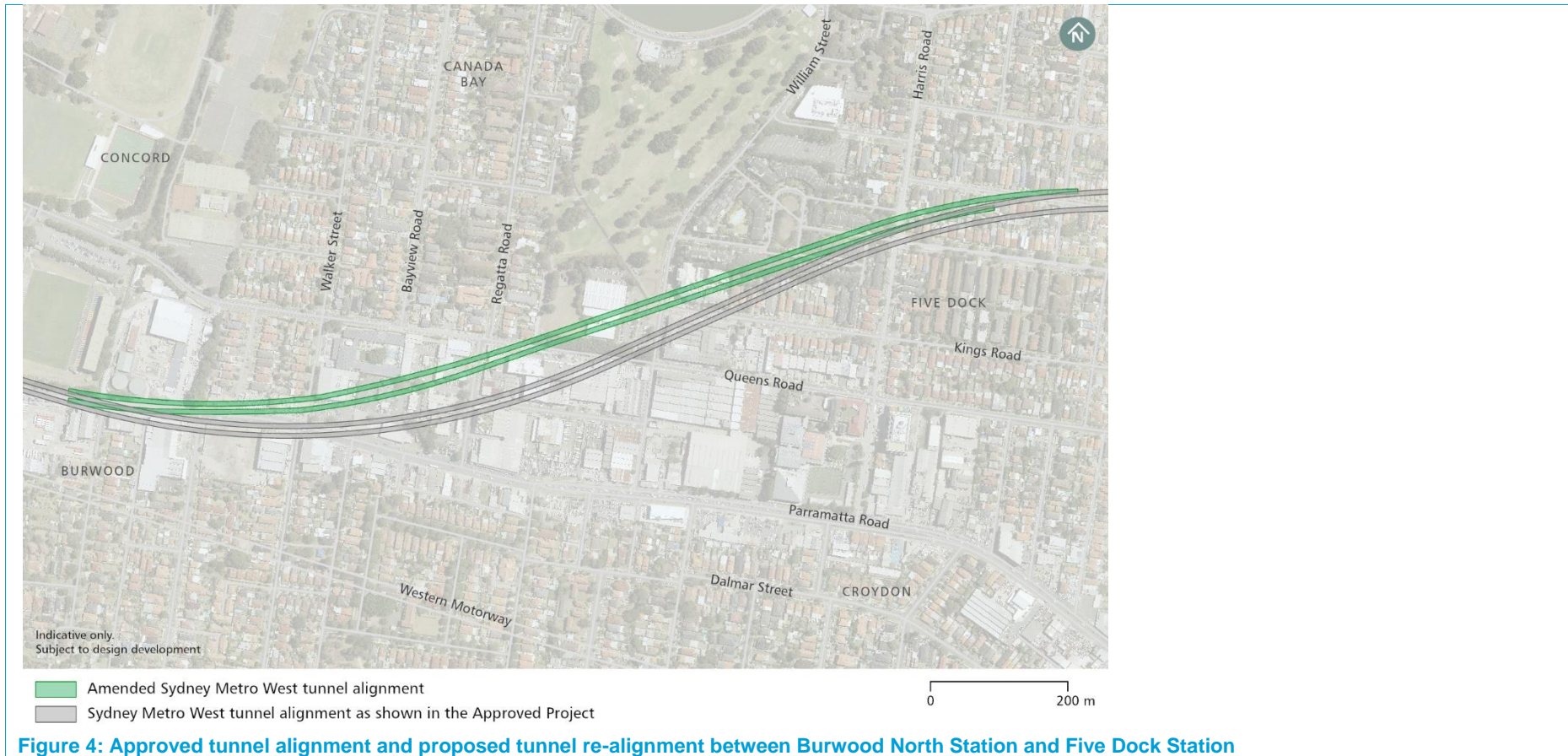




Figure 5: Approved tunnel alignment and proposed tunnel re-alignment between Five Dock Station and The Bays Station

### 3. Timeframe

*When will the proposed change take place? For how long?*

This Consistency Assessment relates to a minor tunnel realignment. No change is proposed to the indicative construction program as shown in Figure 9-3 of the Stage 1 EIS.

#### 4. Site description

Refer to the Stage 1 EIS for a description of the approved tunnel alignment. The indicative location of the approved and revised tunnel alignments is shown in Figure 4 and 5. The proposed change in tunnel alignment is located entirely underground.

#### 5. Site Environmental Characteristics

Refer to the Stage 1 EIS for a description of the existing environment. The proposed tunnel realignment is minor and has very similar environmental characteristics to the tunnel alignment identified in the Stage 1 EIS. The conditions of the revised tunnel alignment would be similar for the tunnel alignment identified in the Stage 1 EIS. There is a change in the surrounding receivers and this is described in more detail in Section 10 – Community and socioeconomic.

#### 6. Justification for the proposed works

The minor tunnel realignment has been identified through detailed design opportunities to reduce the length and curvature of the tunnel alignment. This results in a more efficient construction process and cost savings.

#### 8. Control Measures

The Sydney Metro Construction Environmental Management Framework, Construction Noise and Vibration Standard and Construction Traffic Management Framework set out the overall approach to environmental management. The proposal would also be undertaken in accordance with these frameworks as well as the mitigation measures and the conditions of approval for the approved project.

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

## 10. Impact Assessment – Construction

Attach supporting evidence in the Appendices if required. Make reference to the relevant Appendix if used.

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No change from the Approved Project.	No additional measures required.	Y	Y	
Water	No change from the Approved Project.	No additional measures required.	Y	Y	
Contamination and soils	<p>Contamination impacts were assessed in Chapter 20 and Technical Paper 8 of the Stage 1 EIS. A moderate contamination risk potential was identified in the following relevant locations:</p> <ul style="list-style-type: none"> <li>Burwood North Station construction site and tunnel alignment – Soils and groundwater within / beneath the construction site and above the alignment – moderate potential contamination impact associated with the current and historical activities carried out on and/or adjacent to the site including mechanical workshop activities and the possible inappropriate management (during demolition) and/or degradation of hazardous building materials within current and former on-site structures</li> <li>Five Dock Station construction site and tunnel alignment – Soils within / beneath the construction site and above the alignment – a moderate potential contamination impact associated with the current and historical activities carried out on and/or adjacent to the site including the</li> </ul>	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	<p>operation of funeral homes and the possible inappropriate management (during demolition) and/or degradation of hazardous building materials within current and former on-site structures</p> <ul style="list-style-type: none"> <li>The Bays Station construction site and tunnel alignment – Soils and groundwater within / beneath the construction site and above the alignment – moderate potential contamination impact associated with the current and historical activities (power station) carried out on and adjacent (industrial land use) to the site, historical land reclamation, potential firefighting activities (on and in the vicinity of the site) and the possible inappropriate management (during demolition) of hazardous building materials in former structures adjacent to the site.</li> </ul> <p>The proposed tunnel realignment is considered minor and a change to the contamination risk potential is not expected. Potential contamination impacts can be managed in accordance with CoA and mitigation measures including the Construction Environmental Management Framework (CEMF) and the Soil and water Construction Environmental Management Plan (CEMP) Sub-Plan.</p>				
Air quality	No change from the Approved Project.	No additional measures required.	Y	Y	
Noise and vibration	Construction noise and vibration impacts from tunnelling activities were assessed in Chapter 11 and Technical Paper 2 of the Stage 1 EIS.	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	<p>The extent of potential noise and vibration impacts is not expected to materially change from the Approved Project, including:</p> <ul style="list-style-type: none"> <li>• Ground-borne noise:                             <ul style="list-style-type: none"> <li>- The worst-case impacts during the daytime are predicted to generally be compliant with the NML or result in only 'minor' impacts.</li> <li>- During the night-time, the impacts are more wide-spread due to a lower NML. However, the overall level of impact in noise catchment areas of low to moderate is not expected to change</li> </ul> </li> <li>• Vibration                             <ul style="list-style-type: none"> <li>- No receivers are predicted to be subject to tunnelling vibration levels which exceed the cosmetic damage criteria</li> <li>- Potential exceedances of the human comfort criteria are predicted in Five Dock, meaning perceptible levels of vibration may occur when tunnelling works are below this area. However, this is the worst-case scenario.</li> </ul> </li> </ul> <p>The tunnel boring machines are expected to progress at a rate of between 20 to 50 metres per day. This means that the worst-case ground-borne noise and vibration impacts from tunnelling at a receiver would likely only be apparent for a few days for each tunnel boring machine as the tunnelling works pass beneath.</p> <p>However, there will be a change in which receivers are potentially impacted given the alignment change,</p>				

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	including the number of potentially affected receivers within each noise catchment area. These potential impacts will be managed in accordance with CoA and the mitigation measures in the Noise and Vibration CEMP Sub-Plan.				
Aboriginal heritage	Aboriginal heritage impacts were assessed in Chapter 13 of the Stage 1 EIS. It was identified that there is no potential for Aboriginal objects to be located within the tunnel alignment sections of the route as the tunnels would be excavated through bedrock. As the proposal does not involve a change to the depth of the tunnels, the potential Aboriginal heritage impacts associated with the proposal are consistent with the Approved Project.	No additional measures required.	Y	Y	
Non-Aboriginal heritage	Non-Aboriginal heritage impacts were assessed in Chapter 12 of the Stage 1 EIS. It was identified that there tunnel sections between stations would generally be too deep to affect heritage items or archaeological deposits. As the proposal does not involve a change to the depth of the tunnels, the potential non-Aboriginal heritage impacts associated with the proposal are consistent with the Approved Project.	No additional measures required.	Y	Y	
Community and socioeconomic	The proposal results in a change to which receivers are above the alignment and potentially impacted, or the extent to which these receivers are potentially impacted. In the section of the proposed tunnel realignment between Burwood North Station and Five Dock Station (see Figure 4) potentially impacted receivers include:	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	<ul style="list-style-type: none"> <li>Residential properties – new potentially affected receivers</li> <li>Commercial properties – new potentially affected receivers</li> <li>Clubs/ leisure centres – new potentially affected receivers, and/ or change in the extent to which these receivers are potentially affected</li> <li>Parks/ reserves/ sport fields – new potentially affected receivers, and/ or change in the extent to which these receivers are potentially affected</li> </ul> <p>In the section of the proposed tunnel realignment between Five Dock Station and The Bays Station (see Figure 5) potentially impacted receivers include:</p> <ul style="list-style-type: none"> <li>Residential properties – new potentially affected receivers</li> <li>Parks/ reserves/ sport fields - new potentially affected receivers, and/ or change in the extent to which these receivers are potentially affected</li> <li>Educational facilities - new potentially affected receivers, and/ or change in the extent to which these receivers are potentially affected</li> </ul> <p>Community consultation is ongoing with these potentially impacted receivers, and consultation will be carried out in accordance with the Overarching Community Consultation Strategy (OCCS).</p>				
Transport	As the proposal involves a shorter tunnel alignment, less spoil is expected to result from tunnel	No additional measures required.	Y	Y	



Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	excavations. Therefore, there is expected to be fewer truck movements to and from the construction sites. The transport impacts from the proposal are considered to be consistent with the Approved Project.				
Spoil and waste	Spoil and waste impacts were assessed in Chapter 24 of the Stage 1 EIS. As the proposal involves a shorter tunnel alignment than the approval, less spoil and waste is expected to result. Spoil and waste can be managed in accordance with CoAs and mitigation measures.	No additional measures required.	Y	Y	
Economic	No change from the Approved Project.	No additional measures required.	Y	Y	
Landscape character and visual amenity	No change from the Approved Project.	No additional measures required.	Y	Y	
Geotechnical	Chapter 9 of the Stage 1 EIS set out that enabling works are expected to include additional geotechnical investigations where required. The proposed tunnel realignment is minor and the geotechnical profile is expected to be similar to the approved tunnel alignment. Further geotechnical investigations are not expected but they can be carried out at a later stage if required. The proposal is considered to be consistent with the Approved Project.	No additional measures required.	Y	Y	
Land use and property	No change from the Approved Project.	No additional measures required.	Y	Y	
Hazard	No change from the Approved Project.	No additional measures required.	Y	Y	

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

## 11. Impact Assessment – Operation

The proposed works are during construction only.

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No change from the Approved Project.	No additional measures required.	Y	Y	
Water	No change from the Approved Project.	No additional measures required.	Y	Y	
Contamination and soils	No change from the Approved Project.	No additional measures required.	Y	Y	
Air quality	No change from the Approved Project.	No additional measures required.	Y	Y	
Noise and vibration	No change from the Approved Project. It is noted that the tunnel fit out and operation of the line between Westmead and Sydney CBD will be realised in a SSI application 2765520. The potential operational railway vibration is expected to be lower than vibration from tunnel boring machines.	No additional measures required.	Y	Y	
Aboriginal heritage	No change from the Approved Project.	No additional measures required.	Y	Y	
Non-Aboriginal heritage	No change from the Approved Project.	No additional measures required.	Y	Y	
Community and socioeconomic	No change from the Approved Project.	No additional measures required.	Y	Y	
Transport	No change from the Approved Project.	No additional measures required.	Y	Y	
Waste and resource management	No change from the Approved Project.	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Economic	No change from the Approved Project.	No additional measures required.	Y	Y	
Visual and urban design	No change from the Approved Project.	No additional measures required.	Y	Y	
Land use and property	No change from the Approved Project.	No additional measures required.	Y	Y	
Hazard and risk	No change from the Approved Project.	No additional measures required.	Y	Y	
Other	No change from the Approved Project.	No additional measures required.	Y	Y	
Management and mitigation measures	No change from the Approved Project.	No additional measures required.	Y	Y	

## 12. Consistency with the Approved Project

Based on a review and understanding of the existing Approved Project and the proposed modifications, is there a transformation of the Project?	No. The proposed works would not transform the project. The project would continue to provide a metro rail line between Westmead and The Bays as part of the Approved Project.
Is the project as modified consistent with the objectives and functions of the Approved Project as a whole?	Yes. The proposed works would be consistent with the objectives and functions of the Approved Project.
Is the project as modified consistent with the objectives and functions of elements of the Approved Project?	Yes. The changes identified in this assessment are consistent with the objectives and functions of the Approved Project.
Are there any new environmental impacts as a result of the proposed works/modifications?	No. The proposed works do not result in any new environmental impacts beyond those considered in the Approved Project.
Is the project as modified consistent with the conditions of approval?	Yes. The proposed works would be consistent with the conditions of approval.
Are the impacts of the proposed activity/works known and understood?	Yes. The impacts of the proposal are understood and will be accounted for by implementing the existing mitigation measures provided in the Environmental Impact Statement, Submissions Report, Amendment Report and the Instrument of Approval for the approved project.
Are the impacts of the proposed activity/works able to be managed so as not to have an adverse impact?	Yes. The impacts of the proposed works can be managed so as to avoid an adverse impact.

### 13. Other Environmental Approvals

Identify all other approvals required for the project:	N/A
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## Author certification

To be completed by person preparing checklist.

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

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

Name:	Rachel Gardner	Signature:	
Title:	Planning Approvals Officer		
Company:	Sydney Metro	Date:	13 August 2021

This section is for Sydney Metro only.

Application supported and submitted by

Name:	Yvette Buchli	Date:	13/08/2021
Title:	Associate Director Planning Approvals	Comments:	
Signature:			

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

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

Endorsed by			
Name:	Stuart Hodgson	Date:	13 August 2021
Title:	Director Environment, Sustainability & Planning, West	Comments:	
Signature:			