

Consistency Assessment Approval Form – Change to Tunnel Alignment between Waterloo and Sydenham

Existing Approved Project

Planning approval reference details (Application/Document No. (including modifications)): SSI-15_7400 Sydney Metro City & Southwest – Chatswood to Sydenham

Date of determination: 9 January 2017

Type of planning approval: Part 5.1 – Critical State Significant infrastructure

Description of existing approved project:

The Chatswood to Sydenham component of Sydney Metro City & Southwest comprises a new metro rail line, approximately 16 kilometres long, between Chatswood and Sydenham. New metro stations would be provided at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street and Waterloo, as well as new underground metro platforms provided at Central Station.

An indicative plan and long section of the tunnel alignment of the new metro rail line is shown in Figure 6-2 of the Environmental Impact Statement (EIS). Tunnel boring machines would be used to excavate the twin tunnels for the new metro rail line.

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

- Chatswood to Sydenham Environmental Impact Statement and accompanying technical papers (May, 2016)
- Chatswood to Sydenham Submissions and Preferred Infrastructure Report (October, 2016)
- Conditions of Approval (dated 9 January 2017).

Description of proposed development/activity/works

Describe ancillary activities, duration of work, working hours, machinery, staffing levels, impacts on utilities/authorities, wastes generated or hazardous substances/dangerous goods used:

Sydney Metro proposes to alter the horizontal tunnel alignment of the new metro rail line between Waterloo and Sydenham (near Lawrence Street, Alexandria) to avoid the substratum of land that has been vested to the Metropolitan Local Aboriginal Land Council (Metropolitan LALC). Further justification of the proposed change is detailed in the relevant section below.

Section 6.3 of the EIS stated that the proposed tunnel alignment identified in the EIS was indicative only, and that during detailed design, the tunnel alignment may change (horizontally and/or vertically). Any changes to the tunnel alignment would be reviewed for consistency with the assessment in the EIS. The purpose of this consistency assessment is to assess the proposed change in tunnel alignment between Waterloo and Sydenham.

The approved and proposed tunnel alignments through this area are shown in Figure 1. The proposed change to tunnel alignment adds about 40 metres of additional length to the overall tunnel between Chatswood and Sydenham.

The change to tunnel alignment would not alter the project's working hours, construction methodology, machinery, staffing levels, nor the impact on utilities and other authorities.

The additional 40 metres of tunnel length would add about 2 days of tunnel construction and 3,000m³ of excavated materials.

Timeframe

The construction of the proposed new tunnel alignment would occur within the indicative program for tunnel construction between 2018 and 2020. The additional 40 metres of tunnel length would take about 2 days to complete excavation.

Site description

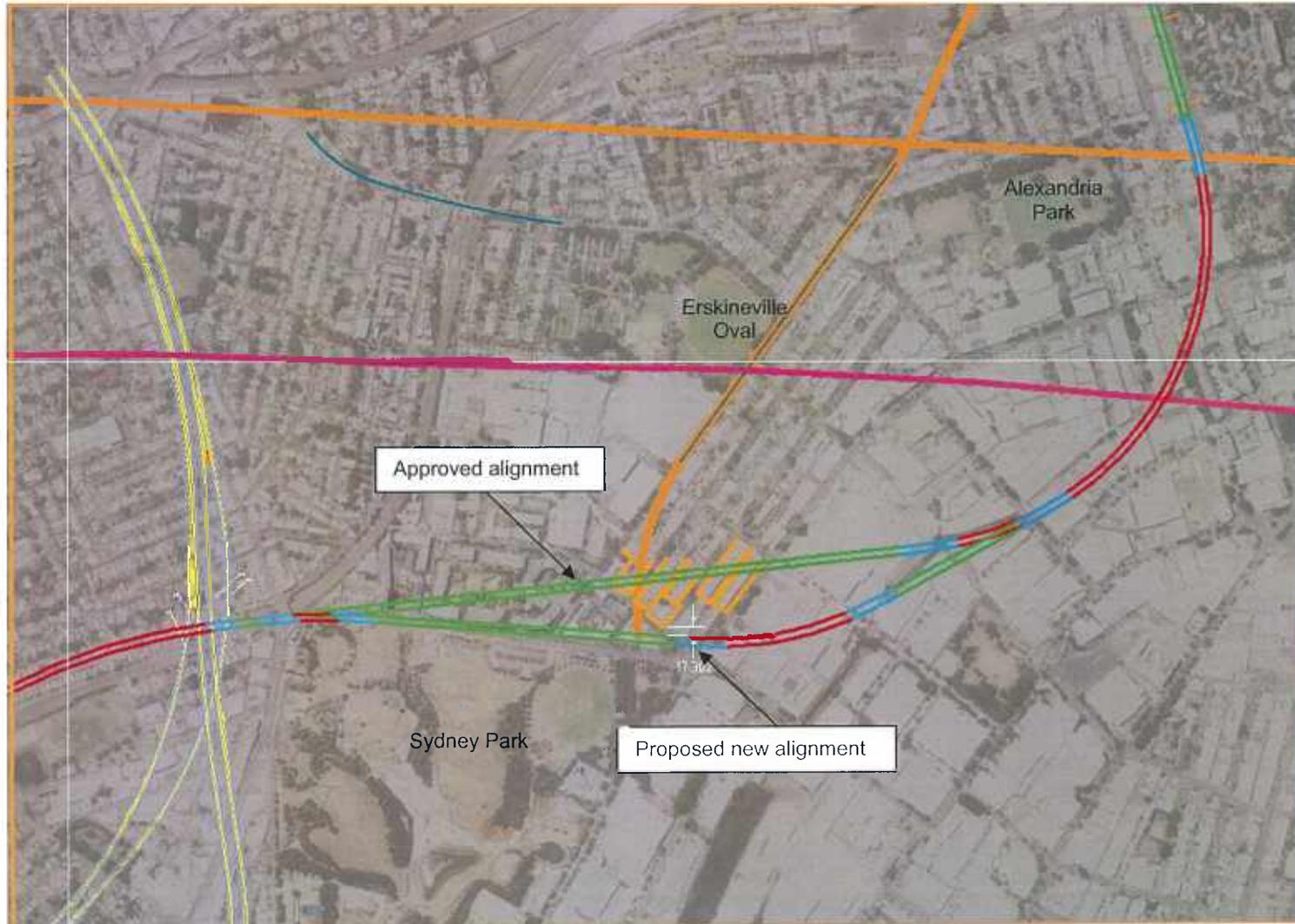
Provide a description of the site on which the proposed works are to be carried out, including, Lot and Deposited Plan details, where available:

The proposed change in tunnel alignment is located entirely underground with no additional surface ancillary facilities required. The location of the new tunnel alignment is shown in Figure 1.

Site Environmental Characteristics

The proposed change to the tunnel alignment would occur entirely underground. The geological conditions of the new tunnel alignment would be similar to the conditions for the approved tunnel alignment.

Figure 1: Approved and proposed tunnel alignment



Justification for the proposed works

The alignment of the tunnel identified in the EIS would require the acquisition of substratum land that has been vested to the Metropolitan LALC i.e. the land beneath 241 Lawrence Street, Alexandria (Lot 64, DP 661 848). This property was transferred to the Metropolitan LALC pursuant to an arrangement with the Aboriginal Housing Office (AHO). The *Aboriginal Land Rights Act 1983* specifies that land vested to a LALC cannot be appropriated or resumed except by an Act of Parliament. The process to obtain the necessary freehold interest of this land, and the relevant consents, is unlikely to be undertaken within the timeframe for the project and could delay its delivery. Therefore a change to the tunnel alignment between Waterloo and Sydenham that avoids this process is required.

A number of land parcels in this area are owned by the NSW Housing Corporation or the AHO (refer to blue boundary on Figure 2) and could be potentially transferred to the Metropolitan LALC before the substratum acquisition process is complete. Therefore, identification of the proposed change to the tunnel alignment has avoided all land with the potential to be transferred to the Metropolitan LALC.

Figure 2: Identification of properties owned by NSW Housing Corporation or AHO with potential to be vested to Metropolitan LALC



Environmental Benefit

There is no environmental benefit associated with the proposed change in tunnel alignment. Land vested to the Metropolitan LALC would no longer be affected.

Control Measures

Will a project and site specific EMP be prepared? Yes

Are appropriate control measures already identified in an existing EMP? No

An EMP for the proposed tunnelling construction works has not yet been developed. The proposed change to the tunnel alignment would be addressed in the contractor's EMP when it is prepared, prior to works commencing. This EMP would be approved by DP&E prior to works commencing in accordance with the Conditions of Approval.

Climate Change Impacts

Is the site likely to be adversely affected by the impacts of climate change? If yes, what adaptation/mitigation measures will be incorporated into the design?

No change to the climate change impacts assessed in the EIS.

Impact Assessment – Construction

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures	Minimal Impact Y/N	Endorsed [for Planning and Environment use only]	
				Y/N	Comments
Flora and fauna	N/A	N/A	Y	Y	—
Water	The EIS identified that there would be about 550 megalitres of water required to support the tunnelling construction works. There would be additional water use associated with the construction of the proposed new tunnel alignment. This would equate to about 1,500 litres.	The potential water impact associated with the proposed tunnel alignment would be managed in accordance with existing mitigation measures and conditions of approval. No additional mitigation measures are required.	Y	Y	—
Air quality	N/A	N/A	Y	Y	—

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				Y/N	Comments
Noise and vibration	<p>The EIS identified that receivers between Maddox Street, Alexandria and the Princes Hwy could expect exceedances of the night time noise management level of up to 3dB.</p> <p>The receivers affected by the proposed tunnel alignment would be different to those identified in the EIS. The proposed tunnel alignment is now predominantly located beneath industrial strata units which are unlikely to be as affected as the residential dwellings located above the approved tunnel alignment.</p> <p>Vibration impacts are expected to be below the 7.5mm/s screening level. However should vibration levels be predicted to exceed the screening criteria, a details assessment and vibration monitoring would be undertaken (Measure NV3 and CoA E28).</p> <p>Any potential noise and vibration impacts would be managed in accordance with the Construction Noise and Vibration Strategy (Measure NV1 and CoA E33).</p>	<p>The potential noise and vibration impacts associated with the construction of the proposed tunnel alignment would be managed in accordance with existing mitigation measures and conditions of approval (Measures NV1 and NV3 and CoA E28 and E33).</p> <p>No additional mitigation measures are required.</p>	Y	Y	—

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures	Minimal Impact Y/N	Endorsed [for Planning and Environment use only]	
				Y/N	Comments
Indigenous heritage	The proposed tunnel alignment would avoid land vested to the Metropolitan LALC.	N/A	Y	Y	—
Non-indigenous heritage	N/A	N/A	Y	Y	—
Community	Two additional affected property owners have been identified as a result of the proposed tunnel alignment. These properties are industrial strata units. No impacts on community infrastructure are anticipated as a result of the proposed tunnel alignment. The Construction Environmental Management Framework provides the communication and consultation strategy for the project.	The newly affected property owners above the proposed tunnel alignment would be consulted, in accordance with the communication and consultation strategy for the project.	Y	Y	—
Traffic	The additional spoil generated from the additional 40 metres of tunnelling construction works would not require any significant additional heavy vehicle movements or result in additional traffic impacts than those assessed in the EIS.	No additional mitigation measures are 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	Minimal Impact Y/N	Endorsed [for Planning and Environment use only]	
				Y/N	Comments
Waste	The re-alignment would generate about 3,000 m ³ of additional spoil. This is about 0.1 per cent of the total spoil expected to be generated by the project.	The proposed additional spoil generated by construction of the proposed tunnel alignment would be managed in accordance with existing mitigation measures and conditions of approval. No additional mitigation measures are required.	Y	Y	—
Social	The proposed tunnel alignment would avoid the substratum of land vested to the Metropolitan LALC. The proposed tunnel alignment would be located beneath two additional property owners. The Construction Environmental Management Framework provides the communication and consultation strategy for the project. No additional social impacts are expected as a result of the proposed tunnel alignment.	The newly affected property owners above the proposed tunnel alignment would be consulted, in accordance with the communication and consultation strategy for the project.	Y	Y	—
Economic	N/A	N/A	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	Minimal Impact Y/N	Endorsed [for Planning and Environment use only]	
				Y/N	Comments
Visual	N/A	N/A	Y	Y	—
Urban design	N/A	N/A	Y	Y	—
Geotechnical	<p>The proposed tunnel alignment would be constructed in a geological environment similar to that of the approved tunnel alignment.</p> <p>In accordance with Measures GWG1 and GWG2 and CoAs E59, E60, E61, a detailed geotechnical model for the project will be developed and building condition surveys in the vicinity of the tunnel carried out, along with monitoring of settlement following construction.</p>	No additional mitigation measures are required.	Y	Y	—
Land use	N/A	N/A	Y	Y	—
Climate Change	N/A	N/A	Y	Y	—
Risk	N/A	N/A	Y	Y	—
Other	N/A	N/A	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	Minimal Impact Y/N	Endorsed [for Planning and Environment use only]	
				Y/N	Comments
Management and mitigation measures	N/A	N/A	Y	Y	—

Impact Assessment – Operation

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	Minimal Impact Y/N	Endorsed [for Planning and Environment use only]	
				Y/N	Comments
Flora and fauna	N/A	N/A	Y	Y	-
Water	N/A	N/A	Y	Y	-
Air quality	N/A	N/A	Y	Y	-
Noise vibration	Figure 11 of the EIS identifies the indicative track form of the operational rail tunnels to manage noise and vibration impacts from its operation. The track form of the approved alignment is standard attenuation. It is anticipated that the track form of the proposed tunnel alignment would also be standard attenuation. In accordance with mitigation measure OpNV2, track form would be confirmed during detailed design to ensure relevant ground-borne and vibration criteria are met.	The potential noise and vibration impacts associated with the operation of the proposed tunnel alignment would be managed in accordance with existing mitigation measures and conditions of approval. No additional mitigation measures are required.	Y	Y	-
Indigenous heritage	N/A	N/A	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	Minimal Impact Y/N	Endorsed [for Planning and Environment use only]	
				Y/N	Comments
Non-indigenous heritage	N/A	N/A	Y	Y	-
Community	N/A	N/A	Y	Y	-
Traffic	The proposed tunnel alignment would not affect the operations of the new metro rail line, including its service frequency and reliability.	No additional mitigation measures are required.	Y	Y	-
Waste	N/A	N/A	Y	Y	-
Social	N/A	N/A	Y	Y	-
Economic	N/A	N/A	Y	Y	-
Visual	N/A	N/A	Y	Y	-
Urban design	N/A	N/A	Y	Y	-
Geotechnical	N/A	N/A	Y	Y	-
Land use	N/A	N/A	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	Minimal Impact Y/N	Endorsed [for Planning and Environment use only]	
				Y/N	Comments
Climate Change	The greenhouse gas emissions associated with the consumption of electricity during operation of the proposed tunnel alignment would be offset 100 per cent.	No additional mitigation measures are required.	Y	Y	—
Risk	N/A	N/A	Y	Y	—
Other	N/A	N/A	Y	Y	—
Management and mitigation measures	N/A	N/A	Y	Y	—

Consistency with the Approved Project

<p>Based on a review and understanding of the existing Approved Project and the proposed modifications, is there is a transformation of the Project?</p>	<p>No. The proposed change to the tunnel alignment would not transform the project. The project would continue to provide a new metro rail line between Chatswood and Sydenham.</p>
<p>Is the project as modified consistent with the objectives and functions of the Approved Project as a whole?</p>	<p>Yes. The proposed change to the tunnel alignment would be consistent with the objectives and functions of the approved project.</p>
<p>Is the project as modified consistent with the objectives and functions of elements of the Approved Project?</p>	<p>Yes. The proposed change to the tunnel alignment would be consistent with the objectives and functions of the approved tunnel alignment between Waterloo and Sydenham.</p>
<p>Are there any new environmental impacts as a result of the proposed works/modifications?</p>	<p>No. No new environmental impacts are anticipated as a result of the change of tunnel alignment.</p>
<p>Is the project as modified consistent with the conditions of approval?</p>	<p>Yes. The proposed tunnel alignment would be consistent with the conditions of approval.</p>
<p>Are the impacts of the proposed activity/works known and understood?</p>	<p>Yes. The impacts of the proposed tunnel alignment are understood.</p>
<p>Are the impacts of the proposed activity/works able to be managed so as not to have an adverse impact?</p>	<p>Yes. The impacts of the proposed tunnel alignment can be managed so as to avoid an adverse impact.</p>

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

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

Name	Yvette Buchli	Signature 	Date 8/5/17
Title	Manager, Planning Approvals		

To be signed by person preparing checklist

THIS SECTION FOR PLANNING & ENVIRONMENT USE ONLY

Application supported and submitted by:

Name	Carolyn Riley	Signature 	Date 9/5/17
Title	Senior Manager, Planning		

(Uncontrolled when printed)

Project Approvals

Planning Approvals

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

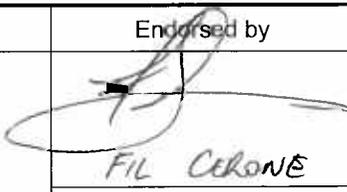
- Yes The proposed activity/works can be endorsed by the Principal Manager Sustainability, Environment & Planning.
- No The proposed works/activity is not consistent with the Approved Project. A modification or a new activity approval/development consent is required. Advise Project Manager of appropriate alternative planning approvals pathway to be undertaken.

Environmental Approvals

Identify all other approvals required for the project:

Tick appropriate box

No further assessment required.	✓	Further Assessment is required
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Comments	Endorsed by	Date	* Conditions of endorsement
—	 FIL CERONE Principal Manager, Sustainability, Environment & Planning	9/5/17	—

