



Metro
Body of
Knowledge

Planning Approval Environmental Review Form

SM-22-00008046

Sydney Metro – Metro Body of Knowledge (MBoK)

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Environmental Review

1. Proposed works and justification

An environmental review is applicable to design changes which are consistent with the conditions of approval and would have negligible impacts on the community and/or the environment. This environmental review is required to demonstrate compliance with the conditions of approval and Sydney Metro – Western Sydney Airport Environmental Impact Statement, Submissions Report and EPBC Act Final Environmental Impact Assessment of off-airport proposed action (off-airport Final EIA). A description of activities is listed in Table 1 and an assessment provided in Section 2.

Table 1 Description of proposed works

Description	Overview
Location of works	<p>The proposed works would occur at the Sydney Metro – Western Sydney Airport (SM-WSA) Claremont Meadows services facility construction site. The site is located in a cleared area near the south-east corner of the intersection of Gipps Street and the Great Western Highway at 1-17 Gipps Street Claremont Meadows (DP 1282557), and covers an area of approximately 39,000m².</p> <p>The site has a high existing noise environment with Gipps Street (a four-lane road) located to the West and the Great Western Highway (a six-lane road) located to the north. There is a noise wall adjacent to the houses along Gipps Street to shield residential dwellings from noise generated by traffic.</p> <p>The site is included within the approved construction footprint and in the approved CEMP. No changes to the approved construction footprint are required for the proposed works.</p>
Scope of works	<p>The proposed works would involve the use of the Claremont Meadows services facility construction site for tunnelling support activities. Tunnelling support activities to be undertaken at-surface would comprise the following:</p> <ul style="list-style-type: none"> • Material Transport – Precast concrete segments would be transported on heavy vehicles to the Claremont Meadows construction site via Kent Road and Gipps Street. Segments would be delivered to Orchard Hills to undergo a quality inspection prior to being transported to Claremont Meadows. Segment deliveries to and from Orchard Hills would not be permitted between 10pm and 7am. • Material Storage – Precast segments would be stored at the Claremont Meadows construction site prior to being lifted into the shaft. Minor site levelling activities may be required to allow for additional laydown areas onsite. The additional area that is to be used for segment storage would comprise of a concrete base or densely graded base (DGB). • Tunnel lining support works – A secondary means of access in and out of the tunnels via the shaft would be established for materials. A crane would be used to lower materials into the tunnel via the Claremont Meadows shaft. A secondary concrete delivery point for cross passages and tunnel invert lining via the use of a concrete drop pipe. Concrete agitators would be required at-surface to supply concrete for underground tunnel works. • Spoil Haulage – Spoil generated during cross-passage construction would be removed from the tunnels via the Claremont Meadows shaft, temporarily stockpiled and removed from site.
Justification for works	<p>The proposed works would facilitate a change in the construction sequencing across the northern tunnel alignment. Since the approval of the project, further</p>

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Description	Overview
	<p>construction methodology planning for the tunnel boring machine sequencing has been undertaken.</p> <p>CPBG have identified an opportunity to improve the construction interfaces with other construction activities along the alignment, which would provide for more efficient operations and improve safety outcomes for workers within the tunnel alignment by reducing people and plant interaction.</p> <p>The existing construction sequencing relies on the use of Orchard Hills as the only means of access into the tunnel for the supply of materials. This current methodology relies on segments being lowered into the tunnel at Orchard Hills and loaded onto multi-service vehicles (MSVs) to be driven to the required location within the alignment.</p> <p>Upon the breakthrough of TBMs at Claremont Meadows, the tunnel invert works will commence in the tunnel between Orchard Hills and Claremont Meadows. Tunnel agitators would be used to deliver concrete to the pour location within the tunnel. The supply of segments to the Claremont Meadows to St Marys portion of the tunnel alignment via the Claremont Meadows Shaft enables the Orchard Hills to Claremont meadows portion of the tunnel to be isolated from all in-tunnel traffic to commence tunnel invert works.</p>
Timeframe for works	The proposed works would commence in Q1 2024 and would continue until tunnel completion in Q4 2024.
Work hours, workforce and equipment / machinery	<p>The works would be considered to be a tunnelling support activity and as such would be undertaken 24 hours a day, 7 days a week as a prescribed activity permitted under CoA E41 and EPL Condition L5.10.</p> <p>There would be no increase in the construction workforce of the approved project as a result of tunnelling support activities at the Claremont Meadows construction site. The EIS indicates that the workforce requirements for the Claremont Meadows construction site would be around 110 during the peak construction activities. Proposed tunnelling support activities at the Claremont Meadows construction site would require a peak workforce of around 100 onsite personnel. Tunnel support activities would be the key activity at the time as shaft excavation works have been completed.</p> <p>An indicative list of the plant and equipment that would be required to undertake tunnelling support activities at the Claremont Meadows construction site is provided below. The plant and equipment required for the proposed activities is largely consistent with the required plant identified at the Claremont Meadows construction site in Appendix B of the Submissions Report (Figure 2-39).</p> <ul style="list-style-type: none"> • Mobile Crane • Concrete Truck • Concrete Pump • Hand tools • Water Pump • Forklift • Telehandler • Heavy Vehicles • Light Vehicles



Figure 1: Indicative site layout for proposed works

2. Consistency with Conditions of Approval

The following table outlines whether the proposed changes would be consistent with the relevant Conditions of Approval.

Table 2 Comparison of the proposal with relevant elements of the Approved Project

Relevant elements of the Approved Project	Proposed Change																																																																	
Submissions Report Appendix B – Revised Project Description – Construction	Construction Sites Section 2.7 of the Revised Project Description outlines the activities to be undertaken at each construction site for the Project including an indicative site layout for both Claremont Meadows and Orchard Hills (Figure 2-13 and Figure 2-15) Within these figures, segment storage has only been identified at the Orchard Hills construction site. Figure 2-13 identified laydown and material handling areas within the Claremont Meadows construction site. As such, the proposed segment storage activities would not require any additional area and would be undertaken within the approved construction footprint and activities associated with material storage activities would be largely consistent with activities identified within the approval documents.																																																																	
	Construction Hours Section 2.9.5 does not identify the need for works outside of standard construction hours for TBM support activities at Claremont Meadows. Other activities identified as requiring works outside of standard hours, including rail and tunnel systems fitout, were identified to be required at the Claremont Meadows construction site (Section 2.7.2). Table 2-1 in the Revised Project Description includes the following activities for rail-fit-out works: <ul style="list-style-type: none">Track slab and rail fastening: The track slab would be formed by mass concrete poursRail track installation: Rail track would be delivered to the access points at each of the construction sites. Where there is no surface access to the tunnel, standard rail lengths would be delivered and lowered down via access shafts at St Marys, the two services facilities, Airport Terminal and Aerotropolis Core construction sites. Section 2.9.5 also identifies the need for work outside of standard construction hours for testing and commissioning across the full alignment (including Claremont Meadows). The table below provides an indicative timeframe for all out-of-hours works activities at Claremont Meadows as proposed in this document and as detailed in Figure 2-12 of the Revised Project Description. While the proposed works would extend the length of time that out-of-hours work would be undertaken at Claremont Meadows, noise impacts would still be less than what was assessed within the approval documents (refer to the noise component of Section 3 of this document). As detailed in Table 3 below, while the proposed tunnelling support works would redistribute noise impacts, the number of noise affected receivers for tunnelling support works would still be less than what was predicted in the SM-WSA Environmental Impact Statement (EIS).																																																																	
	Timing of out-of-hours work activities at Claremont Meadows																																																																	
	<table><tr><th>Activities</th><th colspan="4">2024</th><th colspan="4">2025</th><th colspan="4">2026</th></tr><tr><td>Tunnelling Support Activities</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Testing and Commissioning (Facility)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Rail systems fit-out</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Testing and commissioning (rail)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Activities	2024				2025				2026				Tunnelling Support Activities													Testing and Commissioning (Facility)													Rail systems fit-out													Testing and commissioning (rail)												
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Given the above, 24/7 tunnelling support works at Claremont Meadows would be substantially consistent with the approved Project, as out-of-hours works for similar activities at the site were considered for other stages of the Project. Predicted noise impacts of for the Project are discussed further in Table 3 below.																																																																		

Relevant elements of the Approved Project	Proposed Change
Technical Paper 1 - Transport	<p>Vehicle Movements and Haulage routes</p> <p>Anticipated vehicle movement volumes to and from the Claremont Meadows construction site to facilitate tunnelling support activities would not be greater than the peak construction movements listed in Table 4-2 of Technical Paper 1.</p> <p>Shaft excavation has been completed at Claremont Meadows, and as such minimal vehicle movements are anticipated for construction activities not related to tunnelling support activities. As a result, vehicle movements associated with tunnel support activities would likely account for all vehicle movements to and from the Claremont Meadows construction site.</p> <p>Heavy vehicles would access the site via arterial roads including the Great Western Highway and Kent Road / Gipps Street before entering the site via the newly constructed access/ egress and modified traffic signals at Gipps Street and Sunflower Drive. Light vehicles would enter the site via Reserve Road/ Putland Street.</p> <p>The designated haulage routes to be used by heavy vehicles for the delivery of materials are consistent with those as shown in the Technical Paper 1 (Figure 4-1) for the approved Project.</p> <p>No over size over mass vehicles are required for segment delivery.</p>
Technical Paper 2 – Noise and Vibration	<p>Activities outside of standard construction hours</p> <p>Appendix B.1 of Technical Paper 2 provides an outline of the scenarios considered for the airborne noise assessment prepared for the EIS. Appendix B.1 indicates that a number of construction scenarios were assessed for 24/7 operations at Claremont Meadows for the SSTOM portion of the works including:</p> <ul style="list-style-type: none"> • Tunnelling and Station Box Excavation • Concrete inverts • Testing & Commissioning <p>Given the above, 24/7 tunnelling support works at Claremont Meadows would be substantially consistent with the approved Project, given that out-of-hours works for similar activities at the site were considered for other stages of the Project.</p> <p>Furthermore, a comparison of the predicted noise levels for tunnelling and associated works within Technical Paper 2, and the results of noise modelling undertaken by CPBG is provided in Table 3. The results indicate that the noise impacts for the proposed works would still be less than what was initially predicted in the EIS for tunnelling and associated works outside of standard construction hours.</p>
EIS Chapter 24 Cumulative Impacts	<p>As per the EIS, cumulative impacts have been addressed for St Marys Intermodal, The Northern Road, the future M12 Motorway and Western Sydney International. These activities will not have any impact on or be affected by this scope of activities.</p> <p>In addition to the above the Gipps Street Recreation Precinct has commenced adjacent to the Claremont Meadows site.</p> <p>The management of cumulative impacts will occur as per Section 6.11 of the SBT CEMP and in accordance with the Sydney Metro Cumulative Construction Impacts Management Plan.</p>

Relevant elements of the Approved Project	Proposed Change
SSI CoA E41	<p>As per CoA E41, works outside of standard construction hours are permitted in the following circumstances:</p> <p>By approval including negotiated agreements with directly affected residents and sensitive land user(s) and by prescribed activity including:</p> <ul style="list-style-type: none"> • Tunnelling and ancillary support activities (excluding cut and cover tunnelling and surface works not directly supporting tunnelling) are permitted 24 hours a day, seven days a week; or • Delivery of material that is required to be delivered outside of standard construction hours in Condition E38 to directly support tunnelling activities, except between the hours 10:00 pm and 7:00 am to / from the Orchard Hills ancillary facility; or • Haulage of spoil generated through tunnelling is permitted 24 hours per day, seven days per week except between the hours of 10:00 pm and 7:00 am to / from the Orchard Hills construction site; or • Tunnel and underground station box fit out works are permitted 24 hours per day, seven days per week. <p>The proposed activities to be undertaken outside standard hours are considered to be tunnelling support activities and are therefore permissible as per CoA E41. Segments would be delivered to Orchard Hills to undergo a quality inspection. Segments would then be loaded onto smaller trucks prior to being transported to Claremont Meadows. Segment deliveries will not be permitted to and from Orchard Hills between 10pm and 7am in order to comply with the requirements of this condition.</p>
SSI CoA E47	<p>As detailed in the noise assessment provided in Table 3 below, predicted noise levels may exceed the NML at residential receivers during periods outside of standard construction hours. In accordance with the requirements of CoA E47, a Detailed Noise and Vibration Impact Statement (DNVIS) will be prepared and a copy provided to the ER prior to the commencement of the works.</p> <p>However these noise impacts are predicted to be less than those identified in the SM-WSA EIS (refer to the noise assessment in Table 3 below).</p>
SSI CoA E49	<p>As detailed in the noise assessment provided in Table 3 below, noise levels at receivers within sensitive land uses identified in Appendix B of the Instrument of Approval would not exceed the highly noise affected criteria. As such, CoA E49 would not be triggered.</p>
SSI CoA E103	<p>Shaft excavation has been completed at Claremont Meadows, and as such minimal vehicle movements are anticipated for construction activities not related to tunnelling support activities. As a result, vehicle movements associated with tunnel support activities would likely account for all vehicle movements to and from the Claremont Meadows construction site.</p> <p>Anticipated vehicle movement volumes to and from the Claremont Meadows construction site to facilitate tunnelling support activities would not be greater than the peak construction movements listed in Table 4-2 of the SM-WSA EIS Technical Paper 1 (Transport). These impacts have been considered in the existing Construction Traffic Management Plan (CTMP) (SMWSASBT-CPG-OHE-SF150-TF-PLN-000001) for the SBT works at the Claremont Meadows site.</p>
SSI CoA E105	<p>One local road would be impacted by the use of heavy vehicles. Gipps Street is a local road which falls under the care and control of Penrith City Council. It commences at the intersection of Gipps Street and Sunflower Drive and terminates to the north of the site prior to the Great Western Highway. Heavy vehicles would access the site via the access site that has been established to the south of the site.</p> <p>The use of this local road for heavy vehicle haulage was identified in Figure 4-1 of the SM-WSA EIS Technical Paper 1 (Transport). As such, CoA E105 would not be triggered by the proposed works.</p>

Relevant elements of the Approved Project	Proposed Change
EPBC 2020/8687 conditions	<p>No proposed change.</p> <p>The proposed works are located within a portion of land covered by the EPBC 2020/8687 approval however this approval is not considered further as the proposed works would not impact protected matters or extend into or affect Commonwealth land.</p>

3. Environmental review

The following table provides a risk review of the potential environmental impacts of the proposed works.

Table 3 Environmental review

Environmental review	Yes / No	Description of impacts (including consideration of safeguards required by the Approved Project)
Is the proposal to take place outside of the construction footprint of the project	No	The proposed works would occur at the SM-WSA Claremont Meadows services facility construction site. The site is located in a cleared area near the south-east corner of the intersection of Gipps Street and the Great Western Highway at 1-17 Gipps Street Claremont Meadows (DP 1282557), and covers an area of approximately 39,000m ² . No changes to the approved construction footprint are required for the proposed works.
Is the location of works within the existing EPL premise boundary	Yes	The proposed work would be undertaken within the existing Claremont Meadows services facility construction site which is currently within the premise boundary for EPL 21672. There are no proposed changes to the existing EPL as a result of the proposed works.
Will the works take longer than 2 weeks to complete.	Yes	The proposed works would commence in Q1 2024 and would continue until tunnel completion in Q4 2024.
Does the work require OOHW approval	Yes	The proposed works would require tunnelling support activities to be undertaken outside of standard construction hours. Out of hours works would be permitted as a prescribed activity as per CoA E41 of SSI 100581 and Conditions L5.10 and E1.1 of EPL 21672.
Will the works impact an EEC or threatened species	No	<p>The project approval documentation identified one BC listed Threatened Ecological Community (TEC) within the site. The Revised BDAR identified areas of <i>PCT 849 – Grey Box – Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion – Scattered Trees</i> within the Claremont Meadows services facility construction site.</p> <p>No Commonwealth listed TECs were identified and no threatened flora or fauna species were identified within the site.</p> <p>The site has already been cleared as part of prior works and it is anticipated that no further clearing would be required for the proposed works.</p> <p>If any additional clearing is required, clearing activities would be undertaken in accordance with the process outlined in the approved SBT Flora and Fauna Management Sub-plan and impacts would not be greater than what was assessed within the EIS as all works would be undertaken within the approved construction footprint.</p>
Will works impact on native vegetation	No	<p>The site has already been cleared as part of prior works and it is anticipated that no further clearing would be required for the proposed works.</p> <p>If any additional clearing is required, clearing activities would be undertaken in accordance with the process outlined in the approved SBT Flora and Fauna Management Sub-plan and impacts would not be greater than what was assessed within the EIS as all works would be undertaken within the approved construction footprint.</p>
Will the works impact on habitat trees	No	The Revised BDAR did not identify any habitat trees within the site. Additionally, no habitat trees were identified during pre-clearing surveys undertaken by CPBG.

Environmental review	Yes / No	Description of impacts (including consideration of safeguards required by the Approved Project)																																						
Will clearing of non EECs or ground disturbance be of High / moderate condition vegetation. What is the area of impact	No	It is anticipated that no further clearing would be required for the proposed works.																																						
Will the works result in medium / high noise or vibration impacts? Will noise and vibration impacts on sensitive receivers be greater than that predicted in the EIA?	No	Airborne Noise Assessment The Claremont Meadows Service facility construction site is located within NCA06, however, receivers north of the Great Western Highway are located within NCA04. The Noise Management Levels (NML) for these NCAs are detailed below: NCA06 and NCA04 NMLs																																						
		<table><tr><th>NCA</th><th>Day NML</th><th>Evening NML</th><th>Night NML</th></tr><tr><td>NCA04</td><td>45</td><td>37</td><td>36</td></tr><tr><td>NCA06</td><td>47</td><td>42</td><td>41</td></tr></table>	NCA	Day NML	Evening NML	Night NML	NCA04	45	37	36	NCA06	47	42	41																										
		NCA	Day NML	Evening NML	Night NML																																			
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		NCA06	47	42	41																																			
		Noise modelling has been undertaken to determine the potential noise impacts of the proposed works. The results indicate the following: <ul style="list-style-type: none">No receivers would exceed the highly noise affected criteria during the day, evening and night periodExceedances of up to 10dB above the NML could be experienced by a total of 61 residential receivers during the evening period.Exceedances of up to 10dB above the NML could be experienced by a total of 77 residential receivers during the night period.Receivers were not predicted to experience night time noise levels greater than 10dB above the NML																																						
		In order to determine whether the predicted noise levels represent an increased impact to what was assessed within the EIS, a review of the noise impacts assessed within the EIS for tunnelling and support activities for both NCA04 and NCA06 was undertaken. This was then compared to the results of noise construction noise modelling undertaken by CPBG.																																						
		In order to ensure a holistic assessment of noise impacts associated with tunnelling support activities, at both Claremont Meadows and Orchard Hills (refer to Orchard Hills DNVIS SMWSASBT-CPG-OHE-SN150-EN-RPT-293013) were considered. A summary of the predicted NML exceedances at residential receivers during out-of-hours tunnelling support activities is provided below.																																						
		Summary of NML exceedances at residential receivers during out-of-hours																																						
		<table><tr><th rowspan="3">Assessment Scenarios</th><th colspan="6">Number of receivers exceeding NML – worst case</th></tr><tr><th colspan="3">Evening</th><th colspan="3">Night</th></tr><tr><th>0-10</th><th>10-20</th><th>20+</th><th>0-10</th><th>10-20</th><th>20+</th></tr><tr><td colspan="7">SM-WSA EIS Technical Paper 2 – Noise and Vibration</td></tr><tr><td colspan="7">NCA04</td></tr><tr><td>SC02 – Tunnelling and Associated works</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></table>	Assessment Scenarios	Number of receivers exceeding NML – worst case						Evening			Night			0-10	10-20	20+	0-10	10-20	20+	SM-WSA EIS Technical Paper 2 – Noise and Vibration							NCA04							SC02 – Tunnelling and Associated works	0	0	0	0
Assessment Scenarios	Number of receivers exceeding NML – worst case																																							
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NCA04																																								
SC02 – Tunnelling and Associated works	0	0	0	0	0	0																																		

Environmental review	Yes / No	Description of impacts (including consideration of safeguards required by the Approved Project)						
		NCA06						
		SC02 – Tunnelling and Associated works	187	39	4	235	38	6
		Construction Modelling undertaken by CPBG						
		NCA04						
		Orchard Hills - Tunnelling Support	0	0	0	0	0	0
		Claremont Meadows – Tunnelling Support	2	0	0	2	0	0
		NCA06						
		Orchard Hills - Tunnelling Support	0	0	0	0	0	0
		Claremont Meadows – Tunnelling Support	61	0	0	75	0	0
		The EIS did not identify any impacted receivers within NCA04 during out-of-hours tunnelling and associated works. Noise modelling results indicate that the proposed works would result in two receivers within NCA04 experiencing noise levels up to 8dB above the NML during evening and night periods. Based on the results provided above, although the proposed works would result in noise levels that exceed the NMLs in both NCA04 and NCA06, predicted impacts would still be less than what was initially predicted in the EIS for tunnelling and associated works outside of standard construction hours. Although there would be an increase in the number of receivers to experience noise above the NMLs in NCA04, the total number of receivers for which noise levels would exceed NMLs is less than what was predicted in the EIS. As such, the proposed works would result in a redistribution of the noise impacts associated with tunnelling and associated works that would still be less than what was initially predicted in the EIS. Furthermore, noise modelling undertaken for the proposed works represents a realistic worst-case scenario when construction works occur at a location close to residences and other sensitive receivers. As such actual noise levels are likely to be less than the predicted noise levels. Additionally, the assessment undertaken for this Environmental Review does not account for the implementation of at-source noise controls. Feasible at source noise controls for the noisiest plant (e.g. crane and concrete trucks) are currently being investigated in order to further reduce the potential noise impacts of the proposed works by up to 3dB.						

Construction Traffic Road Noise Assessment

Claremont Meadows Service facility construction site is located on the corner of Gipps Street and the Great Western Highway.

Heavy vehicles would access the site via arterial and sub-arterial roads including the Great Western Highway and Kent Road / Gipps Street before entering the site via the newly constructed access/ egress and modified traffic signals at Gipps Street and Sunflower Drive. The proposed works would generate up to 10 heavy vehicle movements per hour (five heavy vehicles) during the nighttime period (10pm – 7am) for concrete deliveries and spoil haulage. Segment deliveries to Claremont Meadows would not be permitted from Orchards Hills between 10pm and 7am. As such, traffic noise impacts of the proposed activities at the Orchard Hills site have not been considered further.

A construction traffic noise assessment has been undertaken by Renzo Tonin in accordance with the *Road Noise Policy* (RNP) (NSW EPA, 2011) and the *Construction Noise and Vibration Guideline* (CNVG) (Roads and Maritime, 2016).

In order to determine whether the predicted noise levels represent an increased impact to what was assessed within the EIS, a review of the noise impacts assessed within the EIS are detailed in the table below and compared to the results of construction traffic noise modelling undertaken by Renzo Tonin.

Summary of Construction Traffic Road Noise Assessment

Road	RNP Classification	Night (10pm to 7am)	
		Increase generated by construction traffic (L _{Aeq9hour})	
		EIS	Proposed Works
Great Western Highway (east of Gipps Street)	Arterial	0.2	1
Great Western Highway (west of Gipps Street)	Arterial	0.1	1
Gipps Street/ Kent Road (north of M4)	Sub-arterial	0.5	0

The traffic noise assessment indicates that eight heavy vehicle movements per hour would result in a 1db increase on the Great Western Highway both east and west of Gipps Street, less than 1dB increase from what was predicted in the EIS. As such, road noise impacts associated with the proposed works would likely be negligible and would not trigger the need for investigation of mitigation options.

Feasible and reasonable noise mitigation would continue to be implemented for the Project, these would include:

- Noise testing of significant items of plant and equipment.
- Implementation of noise barriers or enclosures for noisy equipment where feasible and reasonable.
- Noise verification monitoring at the most affected residential receiver locations to confirm noise levels.

Noise complaints received will be managed in accordance with the CPBG SBT Community Communication Strategy (SMWSASBT-CPG-1NL-NL000-CY-PLN-000002). Each complaint would be investigated and where noise levels are established as exceeding the predicted noise levels as a result of the works, additional mitigation measures would be investigated.

Environmental review	Yes / No	Description of impacts (including consideration of safeguards required by the Approved Project)
Will the works result in medium/high air quality impacts	No	<p>Ground disturbance may be required for minor site levelling works required to establish the segment storage area. These works are not anticipated to result in any substantial air quality impacts as no major earthworks would be required.</p> <p>The proposed works would require spoil management activities to occur at the site with spoil generated during cross-passage construction to be removed via the shaft. The total quantity of spoil to be generated by cross passage excavation is approximately 10,000 m³. This is less than the estimated 15,000m³ that was generated during shaft excavation.</p> <p>Air quality impacts would not be greater than what was assessed in the Project approval documentation. Air quality will be managed as per shaft excavation management measures already identified within the approved SBT Construction Environmental Management Plan (CEMP) (SMWSASBT-CPG-1NL-EV-PLN-000002) and Sub-plans.</p> <p>When management measures are implemented the works are not anticipated to result in medium or high air quality impacts.</p>
Will the activity be located adjacent to or in close proximity to sensitive receivers	Yes	<p>The proposed works will occur within the approved construction footprint at Claremont Meadows and as such will take place within 50m of sensitive receivers.</p> <p>Measures to minimise noise impacts include 3m hoarding around the Claremont Meadows construction site to block noise and visual impacts. Additionally, there is an existing noise wall adjacent to the houses along Gipps Street, further shielding the receivers from both noise and visual disruptions.</p> <p>The proposed works are not expected to generate any additional noise or vibration impacts above those already assessed as part of the project.</p>
Would there be additional impact from what was predicted in the EIS on an Aboriginal / Historic heritage site as a result of the works	No	<p>Works will be occurring within the same approved construction footprint for all previous works at Claremont Meadows. Works will continue to be controlled by the Unexpected Finds protocol for Aboriginal or Historic heritage finds.</p>
Are works within 10m of a watercourse	No	<p>The proposed works do not take place within 10m of any waterway.</p>
Are works in an area of known contamination	No	<p>The SM-WSA EIS identified one medium risk contamination zone (AEC 5) and two high risk contamination zones (AEC 6 and AEC 7) within the Claremont Meadows services facility construction site.</p> <p>In accordance with CoA E92 a Detailed Site Investigation (DSI) has been prepared for the site (SMWSASBT-CPG-OHE-SF150-GE-RPT-295013) which identified two areas of asbestos containing material (ACM). It is not anticipated that the proposed works would require disturbance of these areas.</p> <p>If additional works are required within the ACM areas identified in the DSI, works would be undertaken in accordance with the requirements of the RAP (SMWSASBT-GPG-SWD-CM-PLAN-000001).</p>

Environmental review	Yes / No	Description of impacts (including consideration of safeguards required by the Approved Project)																																								
Will the works result in temporary or long-term traffic impacts	No	<p>Shaft excavation has been completed at Claremont Meadows, and as such minimal vehicle movements are anticipated for construction activities not related to tunnelling support activities. As a result, vehicle movements associated with tunnel support activities would likely account for all vehicle movements to and from the Claremont Meadows construction site.</p> <p>Anticipated vehicle movement volumes to and from the Claremont Meadows construction site to facilitate tunnelling support activities would not be greater than the peak construction movements listed in Table 4-2 of SM-WSA EIS Technical Paper 1 (Transport) and detailed below.</p> <p>Peak construction vehicle movements</p> <table><tr><th rowspan="3">Vehicle Type</th><th colspan="6">Peak Construction Movements</th></tr><tr><th colspan="3">AM Peak (7:30am to 8:30am)</th><th colspan="3">PM Peak (4:30pm to 5:30pm)</th></tr><tr><th>In</th><th>Out</th><th>Total</th><th>In</th><th>Out</th><th>Total</th></tr><tr><td>LV Staff</td><td>50</td><td>0</td><td>50</td><td>0</td><td>50</td><td>50</td></tr><tr><td>LV Deliveries</td><td>1</td><td>1</td><td>2</td><td>1</td><td>1</td><td>2</td></tr><tr><td>HV deliveries</td><td>6</td><td>6</td><td>12</td><td>6</td><td>6</td><td>12</td></tr></table> <p>Heavy vehicles would access the site via arterial roads including the Great Western Highway and Kent Road / Gipps Street before entering the site via the newly constructed access/ egress and modified traffic signals at Gipps Street and Sunflower Drive. Light vehicles would enter the site via Reserve Road/ Putland Street.</p> <p>The designated haulage routes to be used by heavy vehicles for the delivery of materials are consistent with those as shown in the Technical Paper 1 (Figure 4-1) for the approved Project.</p>	Vehicle Type	Peak Construction Movements						AM Peak (7:30am to 8:30am)			PM Peak (4:30pm to 5:30pm)			In	Out	Total	In	Out	Total	LV Staff	50	0	50	0	50	50	LV Deliveries	1	1	2	1	1	2	HV deliveries	6	6	12	6	6	12
Vehicle Type	Peak Construction Movements																																									
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LV Deliveries	1	1	2	1	1	2																																				
HV deliveries	6	6	12	6	6	12																																				
Will the works result in additional impacts to sensitive receivers	No	<p>Noise modelling results indicate that the proposed works would result in two receivers within NCA04 experiencing noise above the NML during evening and night periods. Although the EIS did not identify any impacted receivers within NCA04, this is due to a redistribution of the noise impacts associated with tunnelling and associated works rather than an increased impact on sensitive receivers.</p> <p>Based on the results provided above, although the proposed works would result in noise levels that exceed the NMLs in both NCA04 and NCA06, the total number of receivers impacted would still be less than what was initially predicted in the EIS for tunnelling and associated works outside of standard construction hours.</p> <p>As such, the works would not result in impacts greater than what was assessed in the Project environmental assessment documentation.</p>																																								
Will the works involve significant earthworks	No	<p>The proposed works will not involve significant earthworks. Minor site levelling activities may be required to allow for additional laydown areas onsite. The additional area that is to be used for segment storage would comprise of a concrete base or DGB. If the new laydown area is to be a concrete base, it would be a 150-250mm slab or if DGB is used a sandstone base would be topped with DGB.</p> <p>The proposed works would require earthworks activities to occur at the site with spoil generated during cross-passage construction to be removed via the shaft. The total quantity of spoil to be generated by cross passage excavation is approximately 10,000 m3. This is less than the estimated 15,000m3 that was generated during shaft excavation.</p>																																								

Environmental review	Yes / No	Description of impacts (including consideration of safeguards required by the Approved Project)
		<p>The works would not result in impacts greater than what was assessed in the Project environmental assessment documentation.</p> <p>Given that earthworks and spoil management quantities associated with the proposed works are consistent with those already identified within the approved SBT Construction Environmental Management Plan (CEMP) (SMWSASBT-CPG-1NL-EV-PLN-000002) and Sub-plans, management will be in line with these environmental management documents.</p> <p>The Progressive ESCP should be reflective of any additional earthworks.</p>


4. Recommendation

Based on the above assessment, and with reference to the SM-WSA EIA and Submissions Report, including the Conditions of Approval and associated CEMP and plans, it is recommended that:

✓	The proposed design/construction change is consistent with the Approved Project SM-WSA EIA and Submissions Report including the Conditions of Approval, has negligible impacts on the community and environment and no further assessment is required.
✗	The proposed design/construction change is likely to be consistent with the Approved Project SM-WSA EIA and Submissions Report, however more than a negligible impact on the community and environment may result and further assessment in the form of a Planning Approval Consistency Assessment form is required to be completed and submitted to the Planning team for the proposed design/ construction change.
✗	The proposed design/ construction change is not substantially the same as the Approved Project and is considered a radical transformation. A new planning pathway should be considered.

5. Certification

The above information provides a true and fair review of the proposed works.

Prepared by (signed):	
Date:	7 February 2024
Name:	Emily Fuda / Jeremy Slattery
Position:	Environmental Coordinator / Approvals and Sustainability Manager

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6. Endorsement

I have reviewed the above review and provide the following endorsement:

✓	The proposed design/construction change is consistent with the SSI 10051, has negligible impacts on the community and environment and no further assessment or modification of the planning approval is required.
✗	The proposed design/construction change is likely to be consistent with the SM-WSA EIS and Submissions Report, however more than negligible impacts are expected on the community and environment and further assessment is required.
✗	The proposed design/construction change constitutes a project modification and requires further assessment and approval.

This endorsement is conditional on the following:

1. All works will be carried out in accordance with the SM-WSA EIS and Submissions Report and the Project Conditions of Approval.
2. All works will be carried out in accordance with the approved Construction Environmental Management Plan and any relevant sub plans.

Signed:	
Endorsed by:	Cathy Lestrangle
Date:	09/02/2024

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