Metro Body of Knowledge

Planning Approval Environmental Review Form

SM-22-00008046

Sydney Metro – Metro Body of Knowledge (MBoK)

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Prepared by:	Sydney Metro
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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 the Sydney Metro – Western Sydney Airport (SM-WSA) Environmental Impact Statement (EIS), 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	The contamination investigation works in this environmental review are located outside the approved SM-WSA Project boundary at the St Marys Station site (Figure 1). The works will occur across 1-7 Queen Street (CP SP 12965) and 9-25 Queen Street (Lot 925 DP 1288339) in St Marys, primarily in publicly accessible locations such as road verges and footpaths (pending locations being cleared of underground and overhead services and endorsed by the Sydney Metro Corridor Protection Team).
Scope of works	The proposed scope of works comprises of the following: <u>Subsurface Clearance Works</u> All drilling locations (soil bores and soil vapour wells) will be assessed for the presence of underground services and are expected to be approved by Sydney Metro's Corridor Protection team prior to commencement. Clearance of proposed investigation locations will be via: • A review of Sydney Metro service plans and as-built drawings provided by the SBT Contractor; • Before You Dig Australia (BYDA) service plans; • The use of an experienced underground utility locator with radio detection and Ground Penetrating Radar (GPR) equipment and completion of a Bore Clearance Checklist prior to intrusive investigation; and • Hand augering to a depth of a minimum 1.5m bgl <u>Concrete Coring</u> While the specific condition of the ground surface may vary, ERM has assumed that all proposed sampling locations are within areas containing concrete/bitumen slabs. Concrete coring will be undertaken immediately prior to sampling works with the site surface re-sealed upon completion of drilling works with high strength concrete. <u>Drilling and Soil Vapour Well Installation</u> • A total of ten (10) shallow soil bores will be advanced using a hand auger to install soil vapour wells (2x wells at five locations to depths of 1.5m bgl and 4.5m bgl); • Soil vapour monitoring wells will be constructed in accordance with the method outlined in *Hydrocarbon Vapour Intrusion Assessment: Australian Guidance* (CRC CARE, 2013) using 3.2mm inert tubing, stainless steel probe tips and tightly fitted plastic end-caps;

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Drilling and Groundwater Well Installation

- A total of six (6) newly installed groundwater monitoring wells will be sampled;
- Prior to sampling, the standing water levels (SWL) will be gauged using an interface probe from the top of well casing in addition, the total depth of the groundwater monitoring well and its condition will be recorded. If LNAPL (Light Non-Aqueous Phase Liquids) or DNAPL Dense Non-Aqueous Phase Liquids) are identified, a bailer will be deployed within the groundwater well to visually assess the condition of encountered NAPL (Non-Aqueous Phase Liquids);
- Monitoring wells will be purged until water quality conditions have stabilised, indicating that water to be sampled is from formation
- Monitoring wells will be sampled using a microphone bladder pump. Dedicated High Density Poly Ethelene (HDPE) tubing will be used for each location. Tubing will be discarded as waste at the completion of the monitoring event.
- One monitoring event will be completed.

Soil Sampling and Logging

- Soils / lithology encountered during drilling will be logged ;
- During advancement of all soil bores soils will be field screened for the presence of ionisable volatile compounds at approximately 0.5m intervals;
- Three primary samples will be analysed from each borehole where a groundwater well is installed (soil samples will not be collected from shadow boreholes advanced for soil vapour well installation). Field quality control/quality assurance (QA/QC) samples will also be collected
- Should unexpected visual and/or olfactory indicators of contamination be identified during the investigation, additional samples would be taken.

Groundwater Sampling

- A total of six (6) newly installed groundwater monitoring wells will be sampled;
- Prior to sampling, the standing water levels (SWL) will be gauged using an interface probe
- Monitoring wells will be purged until water quality conditions have stabilised, indicating that water to be sampled is from formation
- Monitoring wells will be sampled using a microphone bladder pump. Dedicated High Density Poly Ethelene (HDPE) tubing will be used for each location. Tubing will be discarded as waste at the completion of the monitoring event.
- One monitoring event will be completed.

Soil Vapour Sampling

Samples from the newly installed soil vapour wells will be collected as further described below:

- Sampling will be completed on the next day following well installation.
- Following sampling, a landfill gas meter will be used again to record concentrations of major gases (oxygen, carbon dioxide and methane) and a PID used to record VOCs concentrations.
- Following sampling, VOCs will be measured in the field using a photo-ionisation detector (PID) fitted with a 10.6 eV lamp and calibrated with isobutylene to a benzene standard.
- One sampling event will be completed.

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	Photographs • A photograph of each sampling location will be taken, which will be georeferenced using a GPS coordinate; and • Photographs will also be taken at each soil investigation location of the soil lithology profile encountered at the various depths. Location Survey • Newly installed groundwater monitoring wells will be surveyed by a licensed surveyor • Soil vapour well locations will be recorded using a phone-based GPS. Waste Management Investigation derived waste will be stored within 205L drums in a predesignated and secure area agreed with Sydney Metro, classified in accordance with NSW EPA waste classification criteria and disposed offsite to a licenced receiving facility. Decontamination • Decontamination of re-usable sampling equipment will be completed between sampling locations, using PFAS-free detergent such as Liquinox, and a wash and rinse with potable water then dual rinse with deionised water; • Decontamination of drilling equipment will be completed using a high-pressure water wash to remove visible sediments from the drilling rods. Push tube equipment for soil boreholes where a monitoring well is not proposed to be installed will decontaminate the push tube probe end only.
Justification for works	The proposed contamination investigation works at St Marys are essential to further characterise the risks associated with the localised chlorinated hydrocarbon plume identified at 1–7 Queen Street. These works are required to support Sydney Metro's assessment of potential impacts on both current and future off-site receptors from contamination present within the subject site. The proposed works are necessary to address uncertainties regarding the extent and behaviour of contamination. The fieldworks will include groundwater monitoring and contamination assessment. This approach aligns with the requirements outlined in the SM-WSA Environmental Impact Statement (EIS), Submissions Report, and the Conditions of Approval, ensuring that any risks to tunnel users, workers, and the broader community are appropriately managed.
Timeframe for works	ERM's fieldworks are proposed to occur in February 2026 (pending approvals).
Work hours, workforce and equipment / machinery	Drilling and Sampling Equipment: • Hand augers for shallow soil bores and soil vapour wells. • Geoprobe drill rig with direct push drilling equipment for groundwater wells. • Solid/hollow flight augers as needed. • Photo-ionisation detector (PID) for field screening of volatile compounds. • Inertia pumps or high flow pumps for well development. • Micropurge bladder pump for groundwater sampling. • Dedicated HDPE tubing for sampling. • GPS for location recording. • Landfill gas meter for soil vapour sampling.

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- Bailer for NAPL assessment.
- Summa canisters for soil vapour collection.
- Ground Penetrating Radar (GPR) and radio detection equipment for underground service clearance.
- High-pressure water wash for decontamination of drilling equipment.

Waste Management:

- Investigation-derived waste stored in 205L drums and disposed of by licensed contractors.

Whenever possible work would be carried out during standard work hours as set out in Condition E38 of the Conditions of Approval (CoA).

a) 7:00am to 6:00pm Mondays to Fridays, inclusive;
b) 8:00am to 1:00pm Saturdays; and
c) at no time on Sundays or public holidays

Out of hours works (OOHW) are not anticipated for these works.

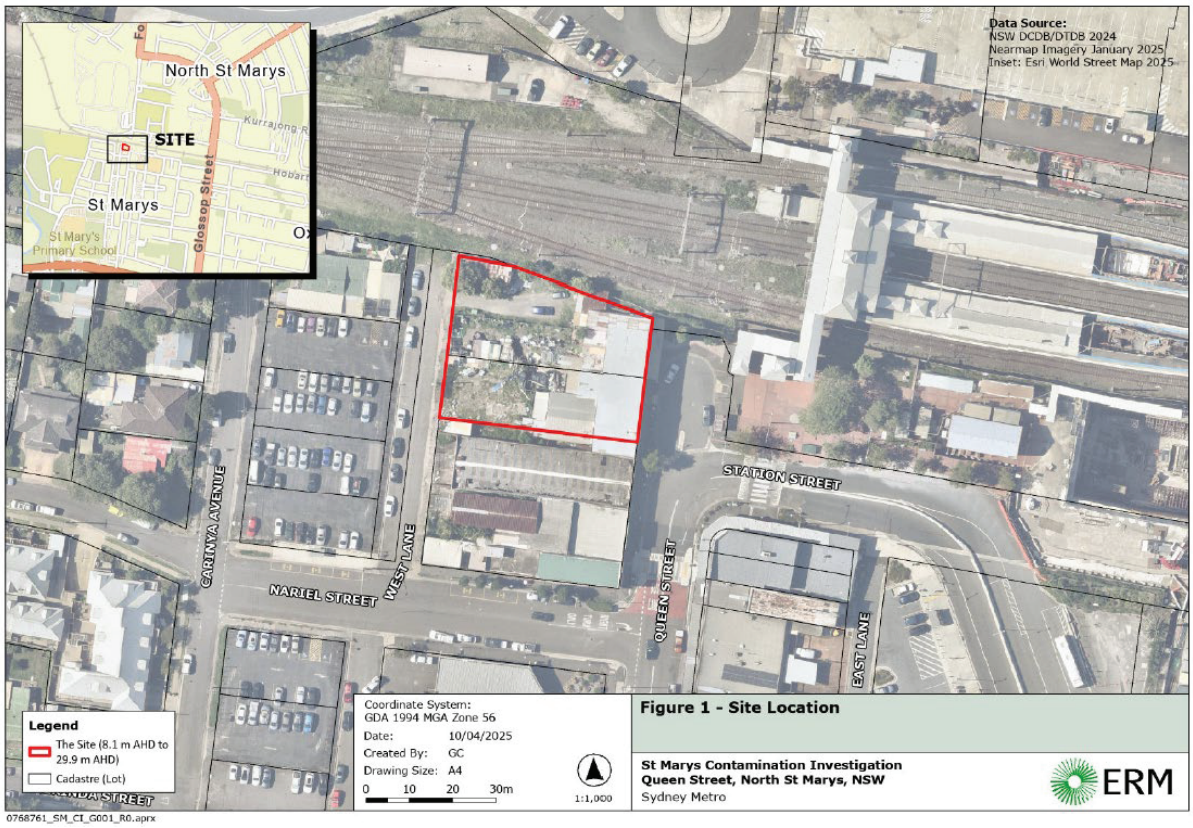

Figure 1 Site location [ERM SAQP] including surrounding road network, footpaths and road reserves.

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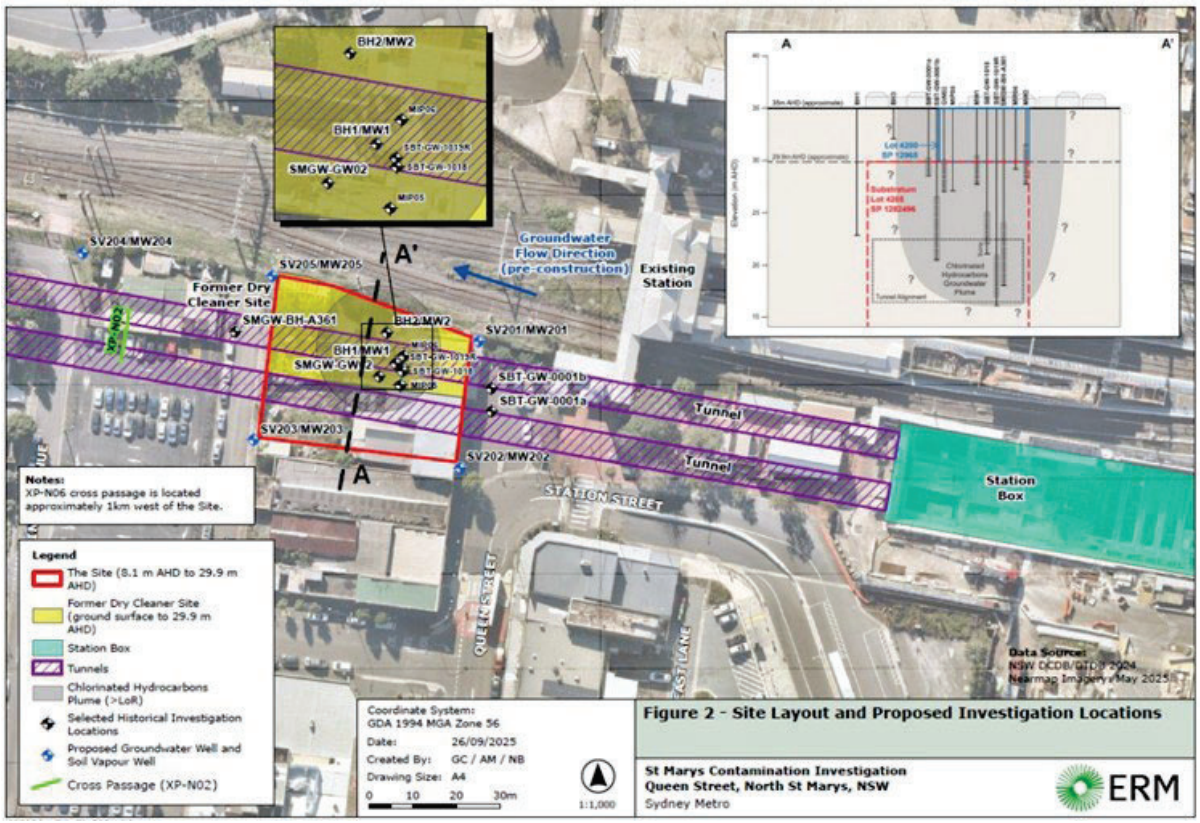

Figure 2 Site layout and proposed investigation locations [ERM SAQP]

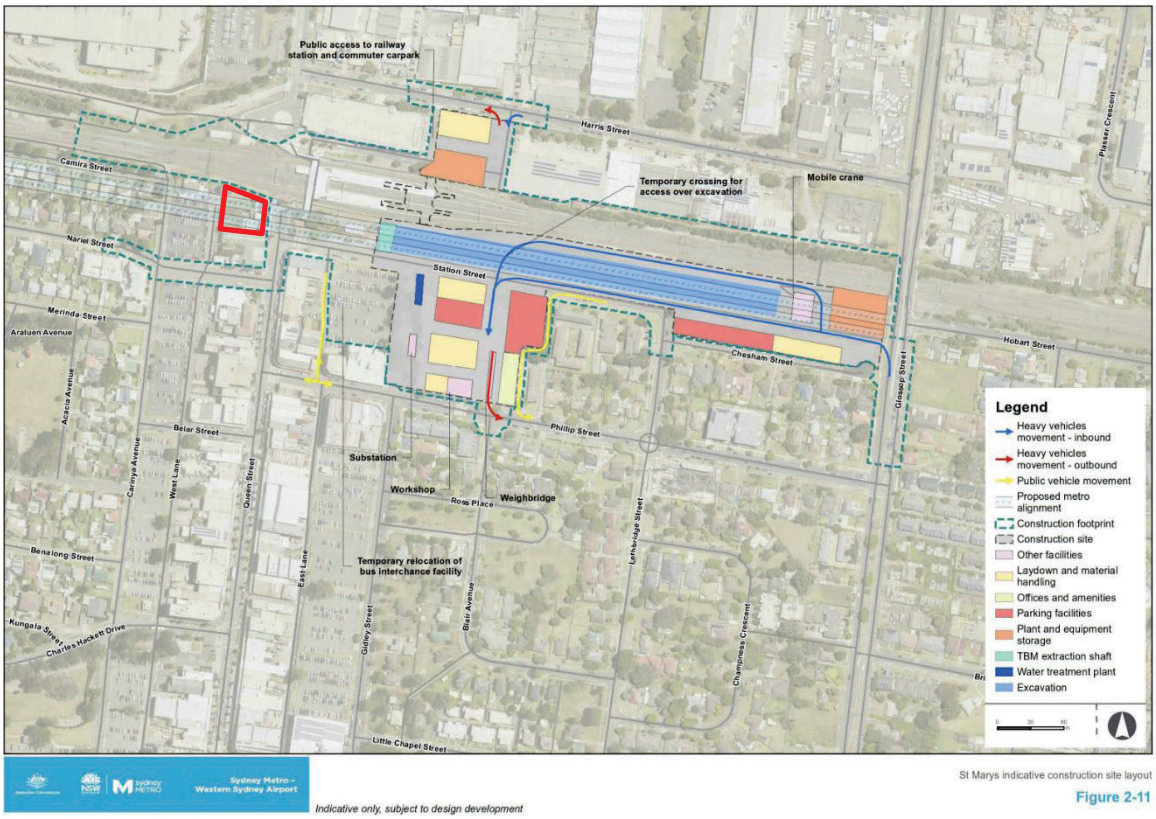

Figure 3 Location of the subject site (in the red box) within the St Marys construction site [SM-WSA Submissions Report – Appendix B].

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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

<table>
<tr><th>Relevant elements of the Approved Project</th><th>Proposed Change</th></tr>
<tr><td>Chapter 14 of the EIS (Flooding, hydrology and water quality)
<u>14.5 Potential impacts – construction (14.5.1 Off-airport)</u>
<u>Water quality</u>
The construction of the project has the potential to temporarily impact on and further degrade the water quality of the waterways within the study area and areas downstream of the project. If not properly managed, construction may lead to a temporary increase of the following pollutants into waterways:
• contaminants of concern such as heavy metals and hydrocarbons related to previous land uses
While it has been noted that the quality of the existing environment is already degraded, there is the potential that temporary impacts from the construction of the project would further degrade the water quality if not properly managed. The likelihood and magnitude of risks would vary depending on the stage of construction, the extent of disturbed areas and the potential for high rainfall or high wind events.</td><td>The proposed contamination investigation works at St Marys involve subsurface drilling, soil and groundwater sampling, and the installation of monitoring wells. These activities, if not properly managed, have the potential to temporarily impact water quality in the surrounding area due to the presence of the localised chlorinated hydrocarbon plume on the site and the need to complete decontamination and washing onsite.
The proposed investigations are essential for evaluating risks to both tunnel users and workers, as well as for determining whether the SM-WSA tunnel is suitable for operation. The site has previously undergone subsurface drilling and well installation as part of earlier investigations.</td></tr>
<tr><td>Chapter 15 of the EIS (Groundwater and geology)
<u>15.5 Potential impacts – construction (15.5.1 Off-airport)</u>
Hydrogeological conditions at each of the main project elements off-airport that are likely to interact with the groundwater environment are presented in Table 15-4 and provided in detail in Appendix A of Technical Paper 7 (Groundwater).
<table><tr><td>Location/ structure</td><td>St Marys to Orchard Hills tunnel</td></tr><tr><td>Hydrogeological units</td><td>Bringelly Shale</td></tr><tr><td>Anticipated groundwater level (metres below ground level)</td><td>0 to 6 (assumed) [no data was available for the site at the time)</td></tr><tr><td>Approximate maximum depth below groundwater level (m)</td><td>Up to about 25</td></tr></table>**Table 16-2 Hydrogeological conditions at project elements – off-airport**
<u>Potential impacts on groundwater quality</u></td><td>This scope of the proposed contamination investigation works includes drilling, soil, soil vapour and groundwater sampling, and installation of monitoring wells at these depths, which would potentially impact the groundwater on the site.
While these activities may temporarily alter groundwater levels and quality (such as minor drawdown or localised mobilisation of contaminants) the anticipated impacts are considered minor and short-term and are consistent with those already assessed in the Approved Project.</td></tr>
</table>

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<table>
<tr>
<td>Groundwater in the study area has limited environmental value due to the high salinity of the water in the area. As a result, the main potential risks to groundwater quality during construction include:
• hydrocarbon (or other chemical) contamination from potential fuel and chemical spills during construction, leading to contamination of groundwater
[…]
• release of saline groundwater seepage from excavations during construction into the environment (including impacting on shallow, better quality soil groundwater)
• mobilisation of existing groundwater contamination due to dewatering, groundwater ingress to excavations or because of altered groundwater flow directions due to construction activity</td>
<td></td>
</tr>
<tr>
<td>Chapter 16 of the EIS (Soils and contamination)
<u>16.5 Potential impacts – construction (16.5.1 Off-airport)</u>
<u>Groundwater contamination</u>
Groundwater drawdown has the potential to result in the mobilisation of existing groundwater contamination during dewatering and as a result of groundwater ingress to excavations. Table 16-2 summarises potential groundwater contamination impacts during construction of the project.
There were no potential significant sources of groundwater contamination identified within 500 metres
of the Orchard Hills, Bringelly services facility and Aerotropolis Core construction sites, and therefore
the risk to the groundwater contamination migration at these sites is considered low.
<table>
<tr><td>Construction site</td><td>St Marys</td></tr>
<tr><td>Groundwater gradient change during construction</td><td>Drawdown between 10 metres at the deepest part of excavation to one metre at 340 metres from the excavation.
Flow direction change from north westerly (towards South Creek) to an inward gradient towards the station box excavation (within 340 metre radius).</td></tr>
<tr><td>Potential impact</td><td>The change in local groundwater gradients could potentially temporary alter the flow of groundwater contamination from sources in the St Marys industrial area outside the construction footprint and from a localised chlorinated hydrocarbon plume from 1-7 Queen Street.
The potential impacts from plume migration from outside the construction footprint is considered low due to the general low permeability of the aquifer. A temporary decrease in groundwater level 5 metres at 1-7 Queen Street could have an impact on chlorinated</td></tr>
</table>
</td>
<td>The proposed contamination investigation works involve subsurface drilling, soil, soil vapour and groundwater sampling, and the installation of monitoring wells. These activities would be located directly inside or in close proximity to the known extent of the localised chlorinated hydrocarbon plume and could potentially and temporarily alter the flow of the contamination plume.
The EIS indicates that the risk of plume migration beyond the construction area is low due to the low permeability of the aquifer and that the potential impacts are minor and temporary and remain within what was assessed in the Approved Project.

Furthermore, a temporary reduction in groundwater level by five metres at the site may influence chlorinated hydrocarbon concentrations in soil vapour at the subject site – which is the subject of the proposed contamination investigation works.</td>
</tr>
</table>

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	hydrocarbon concentrations in soil vapour at 1-7 Queen Street.

Table 16-2 Summary of potential construction impacts from temporary groundwater drawdown

Chapter 18 of the EIS (Resource management) 18.3 Waste generation-construction The main construction activities anticipated to temporarily generate waste during construction are outlined in Table 18-1 along with the likely materials produced.	The proposed contamination investigation works would result in the generation of hazardous waste, including investigation-derived materials such as contaminated soils, groundwater, and disposable sampling equipment. All waste generated will be stored in 205L drums in a designated and secure area, classified according to NSW EPA waste classification criteria, and disposed of offsite at a licensed receiving facility by approved contractors. The works are not anticipated to significantly affect waste volumes estimated for the Approved Project. No change from the Approved Project.

Activity	Tunnelling, station excavations, cuttings and general earthworks
Materials produced	Concrete, bricks, tiles, timber (treated and untreated), metals, plasterboard, carpets, electrical and plumbing fittings and furnishings (such as doors and windows), hazardous waste (such as waste containing lead paint) and special waste (such as asbestos and insulation). Further discussion on hazardous materials and special waste is included in Chapter 23 (Hazard and risk)

Table 18-1 Indicative types of waste potentially generated during construction – off-airport and on-airport

The types and quantities of construction waste generated by the project off-airport and on-airport would be site specific and would vary throughout the stages of construction. The volumes of other construction wastes (i.e. apart from spoil) are expected to be comparable to other similar (type and scale) infrastructure projects and have not been estimated as part of this Environmental Impact Statement. These construction waste volumes are expected to be manageable through the application of standard waste management strategies (addressing waste generation, storage, disposal and reuse) and the project-specific sustainability initiatives documented in Chapter 17 (Sustainability, climate change and greenhouse gas).

Appendix B of the Submissions Report (Revised project description and performance outcomes and mitigation measures) 2.9 Other construction elements (2.9.1 Detailed investigations and subsequent works) Detailed investigations would be required before the start of main construction works. Detailed investigations that would be carried out as enabling works would include: […] • geotechnical investigations including groundwater monitoring • contamination investigations and subsequent remediation works (if required)	The proposed contamination investigation works will include both groundwater monitoring and contamination assessment. Although these investigations are scheduled for February 2026, which is well into the major construction period, they are essential to better understand the risks to Sydney Metro associated with the St Marys plume and to support the assessment of risks to current and future off-site receptors from contamination present within the subject site.
CSSI CoA E2 – Minimising clearing of native vegetation	No clearing of vegetation would be required and no areas of remnant vegetation remain within the work area.

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CSSI CoA E36 – The Unexpected Heritage Finds and Human Remains Procedure must be implemented	The proposed works will be subject to the Sydney Metro Unexpected Heritage Finds and Human Remains Procedure.
CSSI CoA E38 Construction Hours Work must only be undertaken during the following hours: a) 7:00am to 6:00pm Mondays to Fridays, inclusive; b) 8:00am to 1:00pm Saturdays; and c) at no time on Sundays or public holidays	All construction works will be undertaken during standard construction hours, in accordance with this condition.
CSSI E92 – Before commencement of any construction that would result in the disturbance of moderate to high risk contaminated sites as identified in the documents identified in **Condition A1**, **Detailed Site Investigations** (for contamination) must be conducted to determine the full nature and extent of the contamination. The **Detailed Site Investigation Report(s)** and the subsequent report(s), must be prepared, or reviewed and approved, by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. The **Detailed Site Investigations** must be undertaken in accordance with guidelines made or approved under section 105 of *Contaminated Land Management Act 1997* (NSW). ***Note**: Nothing in this condition prevents the Proponent from preparing individual **Detailed Site Investigation Reports** (for contamination) for separate sites.*	The subject site for the proposed contamination investigation works was identified in the SM-WSA EIS as a localised chlorinated hydrocarbon plume at 1-7 Queen Street in St Marys. It was identified as an area of environmental concern (AEC) 2 and given an overall risk rating of high. The ERM Sampling and Analysis Quality Plan Sydney Metro St Marys – Off-site Supplementary Investigation (SAQP) has been developed by ERM, with the proposed contamination investigation activities to be conducted under section 105 of the *Contamination Land Management Act 1997*. The document provides a detailed justification for the proposed contamination investigation works to further delineate risks to Sydney Metro related to the localised chlorinated hydrocarbon plume, as well as to support the evaluation of potential impacts on both current and future off-site receptors from contaminants present at the subject site. The SAQP has been reviewed and endorsed independently by an EPA-appointed Site Auditor accredited under the *Contaminated Land Management Act 1997.*
CSSI E93 – Should remediation be required to make land suitable for the final intended land use, a **Remedial Action Plan** must be prepared, or reviewed and approved, by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. The **Remedial Action Plan** must be prepared in accordance with relevant guidelines made or approved by the EPA under section 105 of the *Contaminated Land Management Act 1997* (NSW) and must include measures to remediate the contamination at the site to ensure the site will be suitable for the proposed use when the **Remedial Action Plan** is implemented. ***Note**: Nothing in this condition prevents the Proponent from preparing individual **Remedial Action Plans** for separate sites.*	A Remedial Action Plan was previously prepared in 2016 by others to enable a proposed high density residential development to proceed on the subject site. A follow-up additional Environmental Site Assessment had concluded that the subject site was not suitable for residential development unless remediation/ management of existing contamination is undertaken. While the proposed contamination investigation works do not involve remediation activities at this stage, the SAQP outlines that, should site conditions warrant it and a risk to Sydney Metro exists, a Remedial Action Plan may be prepared in accordance with relevant guidelines and the *Contaminated Land Management Act 1997* (NSW). Any future Remedial Action Plan would be developed or reviewed by appropriately certified consultants, ensuring that any remedial measures are suitable for the intended future use of the site and are compliant with regulatory requirements.
CSSI E109 - Construction Parking and Access Management Vehicles associated with the project workforce (including light vehicles and Heavy Vehicles) must be managed to:	No change from the Approved Project.

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(a) minimise parking on public roads; (b) minimise idling and queueing on state and regional roads; (c) not carry out marshalling of construction vehicles near sensitive land use(s); (d) not block or disrupt access across pedestrian or shared user paths at any time unless alternate access is provided; and (e) ensure spoil haulage vehicles adhere to the nominated haulage routes identified in the **CTMP.**	
CSSI E110 - Access to all utilities and properties must be maintained during works, unless otherwise agreed with the relevant utility owner, landowner or occupier.	No change from the Approved Project.
CSSI E122 – Waste generated during construction and operation must be dealt with in accordance with the following priorities: a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced; b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.	The proposed contamination investigation works would result in the generation of hazardous waste, including investigation-derived materials such as contaminated soils, groundwater, and disposable sampling equipment. All waste generated will be stored in 205L drums in a designated and secure area, classified according to NSW EPA waste classification criteria, and disposed of offsite at a licensed receiving facility by approved contractors. No change from the Approved Project.
CSSI E124 – Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	The proposed contamination investigation works would result in the generation of waste, including investigation-derived materials such as contaminated soils, groundwater, and disposable sampling equipment. All waste generated will be stored in 205L drums in a designated and secure area, classified according to NSW EPA waste classification criteria, and disposed of offsite at a licensed receiving facility by approved contractors. No change from the Approved Project.
CSSI E125 – All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	The proposed contamination investigation works would result in the generation of waste, including investigation-derived materials such as contaminated soils, groundwater, and disposable sampling equipment. All waste generated will be stored in 205L drums in a designated and secure area, classified according to NSW EPA waste classification criteria, and disposed of offsite at a licensed receiving facility by approved contractors. No change from the Approved Project.
Revised performance outcome (Flooding hydrology and water quality) No aspect of construction to materially adversely affect existing water quality in receiving waters to a minimum 0.5 EY storm event, or in line with the 'Blue Book' (Managing Urban Stormwater: Soils & Construction Volume 1 (Landcom, 2004))	The proposed contamination investigation works at St Marys will include subsurface drilling, soil, soil vapour and groundwater sampling, and the installation of monitoring wells. These activities will be managed in accordance with best practice controls to ensure no material adverse impact on existing water quality in receiving waters, consistent with the 'Blue Book' (Managing Urban Stormwater: Soils & Construction,

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	Volume 1, Landcom 2004) and the minimum 0.5 EY storm event standard. The investigations are critical for assessing potential risks to tunnel users and workers and for confirming the operational suitability of the SM-WSA tunnel. While the site has previously undergone similar subsurface works, the additional contamination assessment is expected to result in only minor and temporary changes to the localised chlorinated hydrocarbon plume, with no material effect beyond what was considered in the Approved Project.
Revised performance outcome (Groundwater and geology) Groundwater availability and quality for water supply and environmental benefit (e.g. groundwater dependent ecosystems) is not affected beyond the requirements outlined in the NSW Aquifer Interference Policy	The proposed contamination investigation works at St Marys will be undertaken entirely below ground, at depths ranging from approximately 4.5 metres bgl to 19 metres bgl. The scope includes drilling, soil, soil vapour and groundwater sampling, and installation of monitoring wells within these depths. All activities will be managed to ensure groundwater availability and quality for water supply and environmental benefit, including groundwater-dependent ecosystems, are not adversely affected beyond the requirements of the NSW Aquifer Interference Policy. While temporary changes such as minor drawdown or localised mobilisation of contaminants may occur, these impacts are expected to be short-term and minor and remain consistent with those previously assessed in the Approved Project.
Revised performance outcome (Soils and contamination Contamination risks to human health and ecological receivers are minimised through effective management of existing contaminated land	The proposed contamination investigation works will involve subsurface drilling, soil, soil vapour and groundwater sampling, and the installation of monitoring wells within the localised chlorinated hydrocarbon plume. These activities will be managed to minimise contamination risks to human health and ecological receptors through effective controls on existing contaminated land. While the works may temporarily influence the flow of the contamination plume and cause a short-term reduction in groundwater levels (up to five metres), the risk of plume migration beyond the construction area is low due to the aquifer's low permeability. Any potential impacts are expected to be minor, temporary, and consistent with those assessed in the Approved Project.
Revised environmental mitigation measure T5 Maintain access for pedestrians and cyclists around construction sites as per the guidelines outlined in the Construction Traffic Management Framework. Appropriate signage and line marking would be provided to guide pedestrians and cyclists past construction sites and on the surrounding network to allow access to be maintained	There may be minor, temporary impacts associated with moving equipment and personnel in and out of site, and works in public roadways and footpaths. Temporary impacts would be localised and can be managed appropriately by the existing conditions of approval, REMMs and performance outcomes. The proposed works are not anticipated to cause long-term traffic impacts and access to properties on West Lane and Queen Street would be maintained at all times.
Revised environmental mitigation measure GW5 – Detailed hydrogeological and geotechnical models for the project would be developed and progressively updated during design and construction These models would:	Groundwater modelling of the subject site had been previously undertaken in September 2024 by Mott MacDonald, and by the works engaged under the SBT contract. The plume is not expected to extend to South Creek or the Sydney Metro station box, but may reach the tunnel alignment near the former dry cleaner site and close to a future cross passage, with some risk of

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• be informed by the results of groundwater monitoring undertaken before and during construction • identify predicted changes to groundwater levels, including at nearby water supply works and at groundwater dependent ecosystems or other sensitive groundwater receptors Where changes to groundwater levels are predicted at nearby water supply works, groundwater dependent ecosystems or other sensitive groundwater receivers, an appropriate groundwater monitoring program would be developed and implemented Where changes to groundwater level are close to the ground surface, dryland salinity monitoring would be implemented to allow for management of any identified impacts The groundwater monitoring program would aim to confirm no adverse impacts on the receiver during construction or to effectively manage any impacts with the implementation of appropriate mitigation measures. Monitoring at any specific location would be subject to the status of the water supply work and agreement with the landowner	chlorinated hydrocarbons. No licensed water sources were identified within contaminated zones. Pending the results of this investigation, in which understanding the delineation of the chlorinated hydrocarbon plume is an objective, the plume could extend beneath railway lines, commercial properties, and nearby residences. The proposed contamination investigation works will include a groundwater monitoring program, involving the installation and sampling of six new monitoring wells to assess groundwater levels and quality. No salinity monitoring is proposed. No change from the Approved Project.
Revised environmental mitigation measure SC3 – Where information gathered from investigations for medium and high risk areas of environmental concern (as per mitigation measure SC1) is insufficient to determine the risk of contamination, a detailed site investigation would be carried out in accordance with the *National Environment Protection Measure* (2013) and other guidelines made or endorsed by the NSW Environment Protection Authority Where data from the additional data review (mitigation measure SC1) or the detailed site investigation (mitigation measure SC2) confirms that contamination would require remediation, a Remediation Action Plan would be developed for the area of the construction footprint If a Remediation Action Plan is required, it would be developed in accordance with NSW Environment Protection Authority statutory guidelines and a Site Auditor would be engaged. Remediation methodologies would be undertaken in accordance with Australian Standards and other relevant government guidelines and codes of practice Remediation would be performed as an integrated component of construction and to a standard commensurate with the proposed end use of the land	Detailed site investigations of the 1-7 Queen Street (the overlying site) had been previously undertaken in 2015 and 2022 in accordance with the *National Environment Protection Measure* (2013), by consultants engaged by previous owners of the 1-7 Queen Street site. While the proposed contamination investigation works do not involve remediation activities at this stage, the SAQP outlines that, should site conditions warrant it, a Remedial Action Plan will be prepared in accordance with relevant guidelines and the *Contaminated Land Management Act 1997* (NSW).
Revised environmental mitigation measure SC9 – Targeted groundwater investigations would be undertaken prior to construction to identify high salinity areas at risk from rising groundwater. Where high saline areas (>1000 µS/cm) are identified, measures such as planting, regenerating and maintaining native vegetation and good ground cover in recharge, transmission and discharge zones would be implemented where possible	The proposed contamination investigation works will include the installation and sampling of six new groundwater monitoring wells to assess groundwater levels and quality. If high salinity areas (greater than 1000 µS/cm) are identified, appropriate measures such as planting or maintaining native vegetation and ground cover will be implemented where possible to manage potential impacts. No change from the Approved Project.

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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	Yes	The proposed works would be located in the areas surrounding 1-7 Queen Street in St Marys, which is just outside of the approved St Marys construction site footprint. The EIS and Submissions Report considered detailed investigations prior to major construction, the proposed works are essential to better understand the risks to Sydney Metro associated with the St Marys plume and to support the assessment of risks to current and future off-site receptors from contamination present within the subject site. Impacts would be consistent with those assessed in the EIS and Submissions Report, are anticipated to be localised, and can be managed appropriately by the existing conditions of approval, revised environmental mitigation measure and performance outcomes.
Is the location of works within the existing EPL premise boundary	No	The proposed works are located directly adjacent to, but not within the EPL 21807 issued to Webuild S.P.A for the Sydney Metro Western Sydney Airport - Stations, Systems, Trains, Operations and Maintenance Package. There are no proposed changes to existing EPLs as a result of the works.
Will the works take longer than 2 weeks to complete.	Yes	A nominal 3-week block has been allocated by ERM for the fieldworks. This timeframe is expected to include approximately one week to ten days of drilling, followed by a period for the groundwater monitoring wells to stabilise, and then sampling of the wells—all within the 3-week period. It is unlikely that drilling will occur continuously for the entire duration. Any potential community impacts would be managed through the consultation process.
Does the work require OOHW approval	No	OOHW are not anticipated for the proposed works and would be carried out during standard hours only.
Will the works impact an EEC or threatened species	No	The clearing of EEC and impacts to threatened species are not required for the proposed works.
Will works impact on native vegetation	No	The clearing of native vegetation is not required for the proposed works.
Will the works impact on habitat trees	No	The clearing of habitat trees is not required for the proposed works.
Will clearing of non-EECs or ground disturbance be of High / moderate condition vegetation. What is the area of impact	No	The clearing of non-EECs or ground disturbance of high/ moderate condition vegetation is not 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	The area surrounding the subject site is highly suburbanised with commercial receivers in the immediate vicinity along Queen Street, as well as residential receivers on Carinya Avenue approximately 60 metres away.

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		The proposed contamination investigation works (including drilling, soil and groundwater sampling, and installation of monitoring wells) are anticipated to generate only minor and temporary noise and vibration impacts generated from drilling and monitoring equipment. These impacts are not expected to exceed those identified in the Approved Project.
Will the works result in medium/ high air quality impacts	No	The area surrounding the subject site is highly suburbanised with residential receivers on Carinya Avenue, and commercial receivers in the vicinity of Queen Street. The proposed contamination investigation works (including drilling, soil and groundwater sampling, and installation of monitoring wells) are anticipated to generate only minor and temporary air quality impacts with dust and particulates generated from drilling equipment. These impacts are not expected to exceed those identified in the Approved Project.
Will the activity be located adjacent to or in close proximity to sensitive receivers	No	The area surrounding the subject site is highly suburbanised with commercial receivers in the immediate vicinity along Queen Street, as well as residential receivers on Carinya Avenue approximately 60 metres away. The proposed works are not in close proximity to sensitive receivers.
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	There are no known Aboriginal or non-Aboriginal heritage within the works areas. Due to the highly disturbed nature of the work areas the potential for impact to any heritage site is considered negligible. The Unexpected Heritage Finds Procedure will be implemented for the works. Management of heritage and the Unexpected Finds Procedure will be communicated to the workforce during specific survey team toolbox talks.
Are works within 10m of a watercourse	No	The proposed works are not within 10 metres of a watercourse.
Are works in an area of known contamination	Yes	The subject site is located above the localised chlorinated hydrocarbon plume on 1-7 Queen Street in St Marys. However, the proposed works would not result in any change to the location of areas of environmental concern, potential contamination sources and overall risk ratings, compared to the approved project. The Contamination and Asbestos Unexpected Finds Procedure will be implemented during the construction in the event that further contamination is found.
Will the works result in temporary or long-term traffic impacts	Yes	There may be minor, temporary impacts associated with moving equipment and personnel in and out of site, and works in public roadways and footpaths. Temporary impacts would be localised and can be managed appropriately by the existing conditions of approval, REMMs and performance outcomes. The proposed works are not anticipated to cause long-term traffic impacts and access to properties on West Lane and Queen Street would be maintained at all times.
Will the works result in visual impacts to sensitive receivers	No	The area surrounding the subject site is highly suburbanised with commercial receivers in the immediate vicinity along Queen Street, as well as residential receivers on Carinya Avenue approximately 60 metres away. The proposed works are not anticipated to cause any visual impacts to sensitive receivers.

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Will the works involve significant earthworks	No	The proposed works would not involve significant earthworks. The activities primarily consist of subsurface drilling, soil and groundwater sampling, and the installation of monitoring wells, all of which are considered minor and localised rather than significant earthworks.

4. Recommendation

Based on the above assessment, and with reference to the S-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 EIS and Submissions Report, including the conditions of approval, has negligible impacts on the community and environment and no further assessment is required.

5. Certification

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

Prepared by (signed): [redacted]

[redacted]

Date: 2 February 2026

Name: [redacted]

Position: Manager Environment (SM-WSA)

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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 Approved Project SM-WSA EIS and Submissions Report, 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 Approved Project 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 Approved Project SM-WSA EIS and Submissions Report and the Project Conditions of Approval.
2. Prior to works commencing, all drilling locations (soil bores and soil vapour wells) are assessed and approved by Sydney Metro's Corridor Protection team, and confirmed on-site.
3. All works will be carried out in accordance with the approved Construction Environmental Control Map.
4. All waste generated will be stored in 205L drums in a designated and secure area, classified according to NSW EPA waste classification criteria, and disposed of offsite at a licensed receiving facility by approved contractors.
5. Obtain waste disposal certificates once waste has been disposed of offsite.
6. Equipment should be wetted as needed to control the generation of dust.

Signed:	[redacted]
Endorsed by:	[redacted] A/Senior Manager Planning Approvals
Date:	2 February 2026

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