

## Pre-Construction Minor Works Approval Form

Minor Works are defined as any low impact activities that are undertaken prior to the commencement of ‘construction’ as defined in the project’s applicable planning approval. However if Minor Works affect or potentially affect heritage items, threatened species, populations or endangered ecological communities, these works are defined as ‘construction’ unless otherwise determined by the applicable planning authority.

Minor Works approvals do not remove any obligation to comply with the project’s applicable planning approval conditions (including requirements prior to ‘any works’ commencing) or obtain any other applicable permits, licenses or approvals as necessary.

This application and all supporting information must be submitted to TfNSW/the Environmental Representative as one (1) PDF file at least 10 business days prior to the commencement of the proposed Minor Works.

Part 1: Application	
<b>Contractor:</b>	John Holland & Laing O’Rourke Joint Venture (JHLOR)
<b>Project:</b>	Southwest Metro Corridor (SMC) Bankstown Early Works
<b>Application Title:</b> (e.g. Smith St trenching works)	Pre-construction Minor Works – Enabling Works
<b>Application Number:</b>	SMC-PCMW-003 Document number: SMCSWSSJ-JHL-WBK-EM-REC-000004
<b>Application Date:</b>	Rev D- 01/07/2022
<b>Planning Approval:</b>	The Sydney Metro City & Southwest – Sydenham to Bankstown - Environmental Impact Statement, dated 7th September 2017; The Sydney Metro City & Southwest – Sydenham to Bankstown – Submissions and Preferred Infrastructure Report June 2018; The Sydney Metro City & Southwest – Sydenham to Bankstown – Instrument of Approval, dated 12th December 2018, superseded by CSSI 8256 MOD 1 determined 22nd October 2020
<b>Minor Works Categories:</b> Highlight as applicable. If Items 4, 8 or 11 are applicable, this form must be endorsed by an Environmental Representative.	<ol style="list-style-type: none"> <li>1. Survey, survey facilitation and investigations works (including road and building dilapidation survey works, drilling and excavation).</li> <li>2. Treatment of contaminated sites.</li> <li>3. Establishment of ancillary facilities (excluding demolition), including construction of ancillary facility access roads and providing facility utilities.</li> <li>4. Operation of ancillary facilities that have minimal impact on the environment and community.</li> <li>5. Minor clearing and relocation of vegetation (including native).</li> <li>6. Installation of mitigation measures, including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments.</li> <li>7. Property acquisition adjustment works, including installation of property fencing and utility relocation and adjustments to properties.</li> <li>8. Utility relocation and connections.</li> <li>9. Maintenance of existing buildings and structures.</li> <li>10. Archaeological testing under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010) or archaeological monitoring undertaken in association with other Minor Works to ensure there is no impact on heritage items.</li> <li>11. Any other activities that have minimal environmental impact, including construction of minor access roads, temporary relocation of pedestrian and cycle paths and the provision of property access.</li> </ol>

<p><b>Planning Authority Determination:</b> Will the proposed works affect or have the potential to affect heritage items, threatened species, populations or endangered ecological communities?</p>	<p><i>If 'Yes', this completed form must be endorsed by an Environmental Representative, approved by TfNSW and submitted to the applicable planning authority to determine that the works are not defined as 'construction'.</i></p> <p>Yes – The works have the potential to affect State Heritage listed items, areas of known or expected archaeological potential as ground penetration is required. The works will be conducted under the CSSI 8256 Archaeological Assessment Research Design (AARD) and Archaeological Method Statement (AMS). Since works at Marrickville will occur within an Archaeological Management Zone (AMZ), Archaeological Monitoring will occur under the Excavation Directors instruction Furthermore, JHLOR will implement the Sydney Metro Unexpected Heritage Finds Procedure V2.0 during works at all locations mentioned in Part 2.</p> <p>It is anticipated that there will be no impacts associated with the works that will affect threatened species, populations or endangered ecological communities.</p>
<p><b>Part 2: Details</b></p>	
<p><b>Describe the proposed Minor Works:</b> Including work methodologies, site location(s) and site description(s) (e.g. landscape type, waterways, etc.).</p>	<p><b><u>Description of Works</u></b> Site investigation works are required to determine site conditions from a contamination, geotechnical, service and utility perspective. A number of activities will be undertaken as part of these works. Works are itemised as per the Minor Works Categories in Part 1 of this document.</p> <p><b><u>Item 1 (from minor works categories above)</u></b> <b>Sydenham to Bankstown Corridor- Visual Inspection and Survey</b> Site inspection. Survey equipment, soil conductivity rods, elevated work platform some hand tools</p> <p><b>Contamination Investigation locations at Station Precincts</b> Depth: 1.5-2.0m below ballast Plant: Hi-rail Vac Truck, hi-rail Excavator with Auger head + Plate compactor Reinstatement Material: uncontaminated excavated material or capping or engineered fill.</p> <ul style="list-style-type: none"> <li>• Marrickville,</li> <li>• Dulwich Hill,</li> <li>• Hurlstone Park,</li> <li>• Canterbury,</li> <li>• Campsie,</li> <li>• Belmore,</li> <li>• Lakemba,</li> <li>• Punchbowl and</li> <li>• Bankstown Station</li> </ul> <p><b>Geotechnical Investigation Location at Station Precincts (Test Pits)</b> Depth: 2.5m below ballast Plant: Hi-rail Vac Truck, hi-rail Excavator with Auger head (300m) or bucket + Plate compactor Reinstatement Material: uncontaminated excavated material or capping or engineered fill. Locations as follow (refer to Non-Aboriginal Heritage Impact Assessment and Archaeological method Statement Figure 2):</p> <ul style="list-style-type: none"> <li>• Marrickville Station             <ul style="list-style-type: none"> <li>○ 2x Test Pits in AMS Marrickville Zone 1: archaeological monitoring/salvage</li> <li>○ 1x Test Pits in AMS Marrickville Zone 2: AMS and archaeological investigation</li> </ul> </li> <li>• Punchbowl Station</li> <li>• Bankstown Station</li> </ul> <p>The majority of the works are proposed to occur between 06:00, 2 July 2022 until 20:00, 17 July 2022, with contingency until 31 August 2022.</p>

### **Description of Works**

Site investigation works are required as part of the design staging process for the Bankstown Additional Corridor Works (BAC).

The proposed works are outlined below. The Project extents at the three test pit locations, Marrickville, Punchbowl and Bankstown, including “No-go” areas are included within Appendix 1. OHW inspection and survey is proposed to occur across the alignment, however the predicted impacts do not trigger further assessment.

It is the intention of this PCMW to gain approval for the test pit activities listed to occur around three stations; Marrickville, Punchbowl and Bankstown, except where the constraints listed within the description and risk assessment prevent this (i.e. approval of this PCMW does not remove the requirement for external approvals such as Road Occupancy Licences or relevant items under the Planning Approval such as the Tree Report, Archaeological Method Statements etc.).

### **“No-go” Areas**

The below represents a list of areas where works will not occur (with the exception of nil impact works such as inspections and survey scanning).

It is noted that all activities listed below will occur outside of any archaeological investigation zones as identified within the Archaeological Assessment and Research Design Report (AARD) and Archaeological Method Statement, except at Marrickville.

- Marrickville railway station is located within the Project area and is listed within the State Heritage Register (SHR). Survey & Inspections, contamination and geotechnical testing is proposed to occur within these areas. Works will not impact upon any heritage fabric- buildings, structures or landscaping. Surfaces will be re-instated to the pre-existing condition after works
- Bankstown and Punchbowl railway stations are located within the Project area and are listed within LEPs and on the RailCorp S170 register. Survey & Inspections, contamination and geotechnical testing is proposed to occur within these areas. Works will not impact upon any heritage fabric- buildings, structures or landscaping. Surfaces will be re-instated to the pre-existing condition after works

Works will not occur within the extents of Potential Archaeological Deposits (PADs) for indigenous archaeology, as identified within the Aboriginal Cultural Heritage Assessment Report (ACHAR).

Works will not occur within areas of threatened species, populations or endangered ecological communities.

No works will occur within known contaminated areas.

There will be no removal or pruning of trees or vegetation (with the exception of grasses and weeds) as part of the works. Any removal or pruning of trees will be subject to a separate PCMW. Trees will be delineated with flagging and bollards in areas where JHLOR is conducting works in the vicinity, for the duration of those works. Restrictions on removing vegetation and trees will be briefed to those involved with the works.

### **“No-go” and Restricted Activities**

Any works on local roads associated with the below will only occur with the appropriate approvals (Road Occupancy Licenses, standing plant permit etc.) from the appropriate road authority.

### **Geotechnical and Contamination Testing**

Boreholes and test pits will be undertaken within the project boundary. The exact locations of the test pits and boreholes will be developed as the design progresses. The indicative locations are provided in Appendix 2. No boreholes or test pits to be undertaken in 'no-go zones', as identified on the ECMs. Note that the indicative locations are sufficiently accurate for the noise impact assessment process.

The Southwest Metro Corridor Construction Noise & Vibration Impact Statement (CNVIS), Rev 04, October 2021 is being used to complete the OOH Assessment. Based on plant and equipment, the proposed investigative works at Marrickville (NCA01) and Punchbowl (NCA10) are similar to Scenario SC\_04, Combined Service route site wide and for Bankstown (NCA12 & 11) is similar to Scenario B\_03 Combined Service Route east of Bankstown Station. The predictions of the CNVIS will be refined, the mitigation measures will be implemented accordingly and validated during the possession. The OOH Assessment will be approved under the EPL 21147 OOH process.

Test pits will be excavated and backfilled with an excavator. Utility potholing would occur to a depth of approximately 1.5m below ground level, geotechnical investigation would occur to a depth of approximately 2.5m below ballast or until rock is encountered, contamination investigation would occur to a depth of approximately 2m below ballast. The excavations would be reinstated with a capping material. A whacker packer will be used to compact any backfill material. A drill rig will be used to construct boreholes. Boreholes that are to be backfilled will be backfilled with clean sand. The surface will be “made-good” to a standard that represents the original condition. Material that is not reinstated will be stockpiled and tested prior to removal off site.

The preliminary OOH Assessment predicts that the excavation of test pits and boreholes will generate a low level of noise at the Bankstown sensitive receivers, a moderate level of noise at the Punchbowl sensitive receivers and a high level of noise at the Marrickville nearby properties. These works are expected to be transient, occurring for short periods of time in a location before moving into a new area. As such, impacts from noise associated with this activity are expected to be high for short durations at Marrickville, however low overall. Once the OOH Assessment has been finalised and approved, respite and other additional mitigation measures will be implemented in accordance with the Sydney Metro Construction Noise and Vibration Strategy (CNVS).

#### Soil Conductivity Tests

It is noted that soil conductivity testing would occur in the area surrounding the project site. This activity involves inserting three metal rods with an approximate diameter of 15mm into the ground to a depth of approximately 300mm. A device is then used to measure the conductivity/resistivity of the soil. This is a very low impact activity that would not be specifically mentioned within the EIS or SPIR however the activity is consistent with investigation activities as described within the EIS.

#### Survey and Inspections

Survey activities (including, visual inspections of overhead wire structures, geographical survey, scanning, dilapidation surveys, ground penetrating radar) will occur across the project and project surrounds as required. Survey will occur using hand tools and site utes. Survey activities that do not include any physical impacts such as installation of survey control points, would occur throughout the corridor including within state heritage curtilages, Archaeological Management Zones, Endangered Ecological Communities (EECs) (e.g. scanning, dilapidation surveys)

Inspections will occur within the Project site and surrounds. Bridge inspections will occur at bridges within the Project footprint. An Elevated Work Platform and hand tools would be used as part of the inspections.

#### Service Searching and CCTV Investigations

CCTV inspections of services would occur throughout the Project. A small remote-controlled camera would be inserted into services. There is no noise associated with this activity.

#### Erosion and Sediment Controls

Erosion and sediment controls will be installed as required for the excavation test pits and boreholes. This scope does not trigger an extensive Erosion and Sediment Control Plan (ESCP), however the following eroded materials will be on hand as part of an Erosion and Sediment Controls Spot List. Controls that would be on hand include;

- Sediment fence
- Coir logs/silt socks
- Sandbags
- Geofabric
- Drain guards
- Drainage rock/ballast for surface stabilisation
- Delineation and flagging

#### Vegetation Protection

Delineation and signage will be installed around areas of vegetation to be protected. Delineation would occur via bollards and flagging or temporary fencing as appropriate. A small truck will be used to deliver fencing panels and barriers. Bollards, panels and flagging will be installed by hand.

#### Laydown

To support the above activities laydown areas within the rail corridor, as identified within the EIS & SPIR will be used. Any laydown area within an environmentally sensitive area (e.g. 'no go' areas or vegetation) will be included in a separate PCMW Approval. Laydown will be used to store materials such as temporary fence components, Vortok fencing, erosion and sediment control materials, etc.

The establishment of compounds will be the subject of a different PCMW (and any other ancillary facility assessment) as required.

Storage of material will be ongoing in laydown areas however access to these area will only occur during standard construction hours unless otherwise approved within an OOHW Approval.

Some intermittent noise would be generated at the laydown areas, however as the areas will be used minimally, noise impacts are expected to be low overall.

#### Activity support

A street sweeper will be used to maintain the site and surrounding roads if required.

A water cart or trailer will be used to mitigate the effects of dust if required.

Site utes will be used to access site.

Noise associated with this work will be transient and is expected to be low impact overall.

#### Plant List

Plant and equipment anticipated to be used during the investigative works include:

- Excavators (5t-13t) with bucket and auger attachments
- Drill rig
- Vacuum truck
- Site utes
- 2 tonne tipper
- Handheld compactor/whacker packer
- Hand tools
- Geofabric (to place around boreholes and test pits)
- Materials for borehole/test pit reinstatement.
- Water cart/trailer

#### Working Hours

The inspection works are proposed to be undertaken during the July 2022 shutdown possession 2 July until 17 July 2022 with contingency weekend possessions until 31 August 2022. All listed activities would need to occur on or adjacent to the existing rail line. Works of such nature can only be undertaken during a rail possession, for worker safety reasons. All activities listed above would be undertaken as part of Out of Hours Works, as required. The works would be undertaken in accordance with the conditions within Laing O'Rourke EPL 21147.

In accordance with CoA-E20c) work may be undertaken outside of standard construction hours "where different construction hours are permitted or required under an EPL in force in respect of the CSSI". As the EPL has been granted to Laing O'Rourke, JHLOR are the authorised to assess, approve and undertake works in accordance with the conditions of EPL.

A copy of the JHLOR OOHW Permit will be completed prior to any works outside of standard construction hours. A copy of any OOHW Permit produced for Pre-Construction works will be provided to the ER for written confirmation that any works undertaken outside of standard construction hours are low impact and are consistent with the terms of this PCMWA.

JHLOR will mitigate impacts by applying the additional mitigation measures within the Sydney Metro Construction Noise and Vibration Strategy.

#### General Notes

All plant would access site via existing Sydney Trains access gates.

Note that these activities are subject to change based on construction progress. Any changes would be subject to revision and approval of this PCMWA. The above list

	<p>does not include activities approved under any other Pre-construction Minor Works Approval form.</p> <p>These works will not include adjustment to third party utilities, as such the Utility Management Strategy document will not be required to proceed with these works.</p> <p>JHLOR is responsible for the actions of its employees, workers and subcontractors. JHLOR is not responsible for the actions of other parties including but not limited to Sydney Trains and utility owners.</p>
<b>Planned Commencement Date:</b>	2 <sup>nd</sup> July 2022
<p><b>Local Sensitivities:</b> Describe the presence (if any) of local sensitive environmental areas and community receptors</p>	<p>The investigation works are proposed to occur within the T3 rail corridor at Marrickville, Dulwich Hill, Hurlstone Park, Canterbury, Campsie, Belmore, Lakemba, Punchbowl and Bankstown.</p> <p>The T3 line runs adjacent to a number of land zoning types including industrial, business and community, infrastructure, residential and recreational.</p> <p>Roads cross the T3 line in a number of places, both by overbridges and underpasses. A number of footbridges also cross the T3 line along the length of its alignment. The T3 Line crosses the Cooks River in one location between Sydenham and Bankstown. Other local waterways such as channels, culverts and stormwater systems are present along the alignment.</p> <p>The majority of vegetation in investigation area comprises exotic or planted native species on highly modified landforms. There are a number of areas of Sydney Turpentine – Ironbark Forest and Broad-leaved Iron Bark – Grey Box that meet the definition of an Endangered Ecological Community under the Threatened Species Conservation Act 1995 (enforced at the time of assessment under the EIS). There are also a number of threatened species (<i>Acacia pubescens</i>) and known habitat resources (hollow bearing trees, White Ibis roosting colonies, Grey-headed flying fox habitat) within the rail corridor and surrounds.</p>

### Part 3: Environmental Risk Assessment and Management

Prepare an Environmental Risk Assessment (in accordance with the [Sydney Metro Risk Management Standard](#)) and an Environmental Control Map for the proposed Minor Works and attach as Appendix 1.

If an Environmental Risk Assessment and/or an Environmental Control Map for the proposed Minor Works is/are already contained in existing documentation, attach the relevant section(s) as Appendix 1.

<p><b>Documentation:</b> List any existing documents (including those referenced above) that the proposed Minor Works will be undertaken in accordance with and attach as Appendix 2 (e.g. plans, procedures, procedures, etc.).</p>	<ul style="list-style-type: none"> <li>• Appendix 1: Environmental Risk Assessment</li> <li>• Appendix 2: ECM for the proposed works</li> <li>• Appendix 3: EPL 21147 OOH Approval</li> <li>• Appendix 4: Community Notifications</li> </ul>
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### Part 4: Workforce Notification

**How will the environmental and community risks and associated mitigation measures of the proposed Minor Works be communicated to the contractor's workforce?**

A site induction will be provided to all personnel working on the project site. The induction will include relevant environmental aspects and risks associated with works on the project site.

Works will be undertaken in accordance with a SWMS or JSEA (depending on whether work meets the definition of High Risk Construction Works in accordance with Clause 291 WHS Regulation). SWMS and/or JSEAs will include the identification and assessment of environmental risks as related to the specific scope of works. SWMS will be reviewed by the JHLOR Environmental Manager or a competent person.

### Part 5: Community Consultation



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<b>What community consultation has been undertaken already?</b>	No community consultation has occurred to date regarding the investigation works.
<b>What community consultation is planned to be undertaken?</b>	<p>Any works to occur outside of standard construction hours will be notified in accordance with the Additional Mitigation Measure requirements specified in the Sydney Metro Construction Noise and Vibration Strategy.</p> <p>No works will occur unless it is included within a notification.</p> <p>The community and stakeholders will be advised of these activities or impacts no later than 7 days (24/06/2022) prior to commencement as per the Overarching Community Communications Strategy. Any notification will be prepared and approved by Sydney Metro based on information from JHLOR.</p> <p>JHLOR will consult with sensitive receivers regarding OOHV in accordance with CoA-E23. Sensitive receivers as identified within the EIS, will be consulted prior to works, including out of hours works.</p>
If drafted already, attach applicable Community Notification as Appendix 3.	

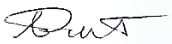
**Part 6: Contact Details**

Nominate contractor’s project manager, environmental and communications contact(s).

<b>Name:</b>	Yuga Balakrishna	<b>Position:</b>	Project Leader	<b>Phone:</b>	0438 656 587
	Lucas Dobrolot		Environmental Manager		0422 417 385
	Andie Pitsiatari		Community Place Manager		0429 378 336

**Part 7: Signature**

This signature acknowledges that the proposed Minor Works will be undertaken in accordance with this application, have minimal environmental impact and are not defined as 'construction' in accordance with the applicable planning approval.




<b>Name:</b>	Lucas Dobrolot		
<b>Signature:</b>		<b>Date:</b>	01/07/2022

## Determination Page

### (TfNSW/Environmental Representative Use Only)

#### Endorsement/Approval

These signatures represent formal endorsement/approval for the proposed Minor Works to commence in accordance with this application and the applicable planning approval requirements (subject to any determination from the applicable planning authority as may be required by the planning approval conditions).

	TfNSW Principal Manager, Communication & Engagement – Endorsement (required for all applications)	TfNSW Principal Manager, Sustainability, Environment & Planning – Approval (required for all applications)	Environmental Representative – Endorsement (required as necessary in accordance with the applicable planning approval, optional for all other circumstances)
<b>Signature:</b>			
<b>Name:</b>	Neil Dix	Fil Cerone	Jo Heltborg
<b>Date:</b>	1 July 2022	1 July 2022	1 July 2022
<b>Comments:</b>	Please advise Sydney Metro of any complaints related to this work.		<i>Supporting letter attached as Appendix 4 if necessary.</i>
<b>Conditions:</b>			<i>Supporting letter attached as Appendix 4 if necessary.</i>
<input type="checkbox"/>	Approved (by TfNSW)		
<input type="checkbox"/>	Endorsed (by Environmental Representative)		
<input type="checkbox"/>	Rejected		



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## Appendix 1: Environmental Risk Assessment

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## Environmental Risk Assessment

All environmental issues have been assessed in accordance with the table below:

**Risk Assessment Rankings:** >17 = Extreme 10 - 16 = High 5 - 9 = Medium 1 - 4 = Low

Environmental issues which have an initial risk ranking of Medium or High will require the development and implementation of Environmental Risk Action Plans. Issues which have an initial Extreme risk will require the development and implementation of an issue specific Sub-plan. The risks must be reassessed following the consideration of control measures. An owner for the implementation of the management measures must be nominated. Issues or activities that represent an Extreme risk after the application of control measures are not to be undertaken.

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk			Management of Residual Risk	
		P X	C =	Risk		P X	C =	Risk		
<b>Approvals and Licensing</b>										
Not identifying appropriate approvals, licenses or permits required and proceeding without them.	Works delayed, infringements, prosecution, poor community relations and reputational loss.	P2	C4	R8	<ul style="list-style-type: none"> <li>Review the project EIS, modification and statutory documentation for requirements relevant to the SMC works. Identify and implement approval requirements within the CEMP, Sub-plans and ERAPs.</li> <li>Check contract documentation. Identify and implement requirements from the Contract.</li> <li>Establish a register of approvals, licenses, permits.</li> <li>Pre-construction Compliance Report</li> </ul>	P1	C4	R4	Maintain Compliance Risk Matrix Undertake environmental audits as per Section 14 of this plan	
Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk			Management of Residual Risk	
		P X	C =	Risk		P X	C =	Risk		
<b>Noise</b>										

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<p>Noise from general construction activities resulting in impact to residents for standard construction hours and OOH work</p>	<p>Disturbance to residents or neighbouring businesses. Potential for complaints.</p>	<p>P4</p>	<p>C2</p>	<p>R8</p>	<ul style="list-style-type: none"> <li>Control measures as per SMC CNVMP and CNVIS are to be implemented.</li> <li>Respond to community enquiries and complaints in accordance with Sydney Metro requirements and Community &amp; Stakeholder Manager (Sydney Metro), control measures as per Community Consultation Strategy (CCS) are to be implemented. Consult with the community in relation to upcoming activities that may result in concern.</li> <li>Apply noise mitigation measures during entire project.</li> <li>Noise efficient equipment to be used on site.</li> </ul>	<p>P2</p>	<p>C2</p>	<p>R4</p>	<p>Noise performance will be continually monitored as per the requirements of the Construction Noise and Vibration Management Plan. Where high impact noise is required, it will be restricted to the conditions of EPL 21147 with respite periods implemented as applicable.</p>
<p><b>Water Quality, Erosion &amp; Sedimentation</b></p>									
<p>Sediment laden runoff from construction works leaving site.</p>	<p>Degradation of local watercourses. Increased turbidity in local water ways resulting in impact on aquatic life. Fines for sediment escaping site.</p>	<p>P3</p>	<p>C3</p>	<p>R9</p>	<ul style="list-style-type: none"> <li>Control Measures as per Soil and Water Management Plan and any Erosion and Sediment Control Plan to be implemented.</li> <li>Install stormwater drainage protection within the project area.</li> <li>Ensure measures are inspected and maintained as the works progress and also prior to and post rainfall events.</li> <li>Provide training and awareness on the need to prevent pollution.</li> <li>Relevant people to undertake Erosion and Sediment Control training.</li> <li>Monitoring weather forecasts and communicate additional proactive measures</li> </ul>	<p>P1</p>	<p>C3</p>	<p>R3</p>	<p>Undertake regular inspections (including pre-rainfall inspections) of work areas pre, during and after works to ensure controls are in good condition.</p>
<p>Non-compliant water from construction works discharged from site</p>	<p>Non-compliant water entering stormwater system waterways</p>	<p>P2</p>	<p>C3</p>	<p>R6</p>	<ul style="list-style-type: none"> <li>Environmental Manager (or delegate) to approve all water discharges from site.</li> </ul>	<p>P1</p>	<p>C3</p>	<p>R3</p>	<p>Undertake regular inspections of work areas pre, during and</p>

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	(i.e. polluting - not compliant with discharge criteria).				<ul style="list-style-type: none"> <li>• Induction and toolbox talks</li> <li>• Toolbox training on site procedures for water discharge and the Sydney Metro dewatering procedure</li> <li>• Educate site staff on licence conditions and consequences of prosecution</li> </ul>				after works to ensure controls are in good condition.
Works with the potential to intercept Ground water table	Ground water entering excavations Without appropriate safeguards onsite runoff could lead to ground water contamination	P2	C3	R6	<ul style="list-style-type: none"> <li>• Induction and toolbox talks including ERSED controls</li> <li>• Toolbox training on site procedures for water discharge</li> <li>• Educate site staff on licence conditions, potential for groundwater drawdown and consequences of prosecution</li> <li>• Environmental Manager (or delegate) to approve all water discharges from site.</li> </ul>	P1	C3	R3	Undertake regular inspections of work areas pre, during and after works to ensure controls are in good condition.
<b>Waste</b>									
Waste disposal during construction.	Incorrect disposal of waste, further costs incurred for classifications and disposal, fines may be issued.	P3	C3	R9	<ul style="list-style-type: none"> <li>• Identify opportunities to incorporate recovered materials into the permanent works.</li> <li>• Provide facilities on site for source separation and recycling.</li> <li>• Ensure accurate waste records are retained.</li> <li>• Removal of wastes from the site would only be undertaken by a licensed contractor as required by the POEO Act and with appropriate approvals, if required, for contaminated materials, etc.</li> <li>• All stockpiles will be stored in allocated bays and stabilised prior to removal.</li> <li>• Stockpiled material to be tested prior to removal from site. No adding to stockpiles unless they are retested</li> </ul>	P1	C3	R3	<p>Undertake regular inspections of work areas pre, during and after works to ensure controls are in good condition.</p> <p>Monitor and ensure reporting of all movements of waste from the worksite are recorded in the Waste and Spoil Register.</p> <p>Maintain copies of all disposal dockets and consignment authorisations</p>

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					<ul style="list-style-type: none"> <li>All material that requires off-site disposal to be appropriately tested and classified against the Waste Classification Guidelines (NSW EPA, 2014) including Resource Recovery Exemptions.</li> </ul>				
Earthworks spoil disposal.	<p>Incorrect classification of waste (spoil) resulting in incorrect / illegal disposal/re-use.</p> <p>Contamination of soil/water</p> <p>Failure to beneficially re-use waste materials</p>	P3	C3	R9	<ul style="list-style-type: none"> <li>Inductions, toolbox talks and training on recycling facilities and waste segregation practices.</li> <li>Separation of waste on site.</li> <li>Tracking of disposal processes.</li> <li>All contamination hotspots would be clearly marked in the field (where possible). Hot spots will be shown within contamination mapping and will be included in the Permit to Disturb process.</li> <li>All excavated material will be stockpiled and tested prior to removal from site.</li> <li>All material to be recovered off-site to be appropriately tested and classified and sent to a facility that can legally accept the waste classification.</li> </ul>	P1	C3	R3	<p>Regular inspections of work areas</p> <p>Monitor and ensure reporting of all movements of waste form the worksite</p>
<b>Contamination</b>									
Management of contaminated or untreated materials	<p>Non-compliant material and contaminated water entering surrounding waterways.</p> <p>Decrease in health of nearby ecosystems.</p> <p>Note: North Terrace carpark at Bankstown Station is a known petrol station site and</p>	P3	C3	R9	<ul style="list-style-type: none"> <li>Implement contamination management procedures and protocols from within CSWMP.</li> <li>Identify any contamination hotspots and incorporate procedures for these locations into construction documentation.</li> <li>Implement unexpected finds procedures.</li> <li>Induct personnel on unexpected finds procedure.</li> </ul>	P1	C3	R3	<p>Undertake regular inspections of work areas pre, during and after works to ensure controls are in good condition.</p> <p>Monitor and ensure reporting of all movements of waste form the worksite</p>

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	has potential for contamination.				<ul style="list-style-type: none"> <li>• Monitor piling spoil for unexpected contamination in accordance with the Unexpected Finds Procedure and separate as required.</li> <li>• Minimise excavation in the North Terrace carpark. Stockpile separately for testing and disposal to a licenced landfill.</li> </ul>				
Potential for discovery of unexpected, contaminated material during construction / augering.	<p>Health effects resulting from airborne contamination, e.g. asbestos.</p> <p>Complaints received from odours released during excavations.</p> <p>Classification of spoil is changed and disposal options altered, costs incurred associated with disposal of higher classification of waste.</p>	P2	C3	R6	<ul style="list-style-type: none"> <li>• If contaminated soil is encountered, all works are to stop in the vicinity of the find and investigations commence.</li> <li>• Induct personnel on location, type, nature, concentration of contaminants on site if found.</li> <li>• Monitor excavation/auger spoil for unexpected contamination in accordance with the Unexpected Finds Procedure and separate as required.</li> </ul>	P1	C3	R3	<p>Undertake regular inspections of work areas pre, during and after works to ensure controls are in good condition.</p> <p>Complete regular toolbox talks on how to manage unexpected finds.</p>
Encountering asbestos / contaminated material on site.	Inappropriate storage, transfer or disposal of materials causing further contamination.	P3	C3	R9	<ul style="list-style-type: none"> <li>• Inspections of excavated and filled surfaces would be made during construction to determine the presence of visible asbestos.</li> <li>• Conduct further site investigations to determine the presence and extent of contamination prior to construction works commencing</li> <li>• Contaminated soils would not be stockpiled on the structural fill layer or formation layers to avoid cross contamination.</li> </ul>	P1	C3	R3	<p>Undertake regular inspections of work areas pre, during and after works to ensure controls are in good condition.</p> <p>Complete regular toolbox talks on how to manage unexpected finds.</p>

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					<ul style="list-style-type: none"> <li>• Implementation of the Unexpected Finds Procedure</li> <li>• Monitor piling spoil for unexpected contamination in accordance with the Unexpected Finds Procedure and separate as required.</li> </ul>				
<b>Hazardous Chemicals and Dangerous Goods (Hazardous Substances)</b>									
Inappropriate storage of hazardous substances, leaking plant and equipment and spillage from refuelling.	<p>Localised ground contamination / pollution of stormwater and requiring clean-up and/or receiving fines. Risk of igniting volatile substances.</p> <p>Unauthorised access to site / potential vandalism/damage leading to pollution.</p>	P3	C3	R9	<ul style="list-style-type: none"> <li>• Induction, toolbox talks and training on appropriate handling and storage of liquids.</li> <li>• All storm water drains should be identified prior to works and protection installed.</li> <li>• Storage areas to be away from identified sensitive areas and appropriately bunded.</li> <li>• SDS approved prior to bringing hazardous substances on site including risk assessment.</li> <li>• Plans showing storage locations and associated controls e.g. spill kits, etc. (Environmental Control Maps).</li> <li>• Training in use of spill kits.</li> <li>• Contingency plans would be developed to deal with any spills which might occur during construction.</li> <li>• Clearly label containers.</li> <li>• Regular auditing and inspection of storage areas and materials.</li> </ul>	P1	C3	R3	Regular inspections of storage areas.



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				R9	<ul style="list-style-type: none"> <li>• Make storage areas restricted access areas.</li> <li>• Reduce/eliminate need for hazardous substances.</li> </ul>			R3	
Fuel contaminated runoff from construction works leaving site	Fuel contaminated runoff entering stormwater or waterways (i.e. polluting - not compliant with discharge criteria).	P3	C3	R9	<ul style="list-style-type: none"> <li>• All storm water drains should be identified prior to works and controls implemented.</li> <li>• Appropriate bunding/storage of substances.</li> <li>• Toolbox on site procedures for sediment controls and chemical storage.</li> <li>• Educate site staff on project conditions and consequences of prosecution.</li> </ul>	P1	C3	R3	Regular inspections of works site to ensure all controls are in good health and working.
<b>Biodiversity</b>									
Excavation near protected trees/vegetation	Damage to roots/root structures	P3	C3	R9	<ul style="list-style-type: none"> <li>• Site inspections to include review of protected tree/vegetation species during excavation works</li> <li>• Toolbox talks/training to include details of nearby protected species</li> <li>• Prior to commencing, trenching or excavation to be investigated if in the vicinity of protected species. Where possible excavation works will be modified to avoid damage to routes</li> </ul>	P2	C2	R4	Undertake regular inspections during excavation or trenching works.
<b>Air Quality</b>									
Excavations, potholing	Dust activity near residential and commercial premises, complaints received.	P3	C2	R6	<ul style="list-style-type: none"> <li>• Implement the controls within the Air Quality ERAP (#4)</li> <li>• Toolbox training on Dust and Air Quality Management.</li> <li>• Provide dust mitigation measures through water sprays/misting as required.</li> </ul>	P2	C2	R4	Undertake regular inspections of work areas pre, during and after works to ensure controls are in good condition.

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					<ul style="list-style-type: none"> <li>• Cover stockpiles that are not to be worked on for a period of greater than 10 days.</li> <li>• ESCPs approved before works commence. Controls are then reviewed for maintenance.</li> </ul>				
Exhaust from plant and equipment.	Emissions resulting in air pollution.	P3	C2	R6	<ul style="list-style-type: none"> <li>• Inductions and toolbox training on Dust and Air Quality Management.</li> <li>• Well maintained plant/ equipment and pre-start checks and servicing.</li> <li>• Non-complaint vehicles removed from site / repaired.</li> </ul>	P2	C2	R4	Review plant check list prior to operating on site. Undertake verification checks a required.
<b>Heritage</b>									
Unexpected heritage items encountered.	Work delays, additional studies, approvals required, damage to heritage item.	P3	C3	R9	<ul style="list-style-type: none"> <li>• Implement the controls within the Construction Heritage Management Plan (CHMP).</li> <li>• General inductions toolbox training on heritage management protocols.</li> <li>• Label any known heritage items on Environmental Control Maps.</li> <li>• If suspected heritage item encountered. Works to stop immediately and Environment Manager contacted.</li> <li>• Clearly highlight no-go zones on the ECM and communicate requirements to construction personnel during pre-start briefs, inductions and toolbox talks.</li> </ul>	P1	C3	R3	Undertake regular inspections of work areas pre, during and after works to ensure controls are in good condition. Provide frequent toolbox talks on Unexpected Finds Procedure

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Impact to Heritage Structures	Damage to station fabric and other heritage items by works and construction traffic. Visual impacts. Impacts to potential Archaeological items	P3	C3	R9	<ul style="list-style-type: none"> <li>• General inductions toolbox training on heritage management protocols.</li> <li>• Label any known heritage items on Environmental Control Maps.</li> <li>• Work within the safe working distances nominated in the CNVMP and CNVIS.</li> <li>• Undertake vibration compliance monitoring as per the CNVMP.</li> <li>• Work under the direction of the Excavation Director in accordance with the AMS</li> </ul>	P1	C3	R3	Undertake regular inspections of work areas pre, during and after works to ensure controls are in good condition. Provide frequent toolbox talks on managing change
<b>Traffic</b>									
General construction traffic disturbing public access between local roads, pedestrian and cycle access.	Disturbance to local residents resulting in complaints being made, limited access, potential for delays at local road access points resulting in complaints.	P3	C2	R6	<ul style="list-style-type: none"> <li>• Deliveries of plant and materials shall be undertaken outside of peak periods where possible</li> <li>• Site vehicles shall be parked within the rail corridor and not affect public parking areas unless there is a standing plant permit applicable</li> <li>• Scheduled road movements shall be minimised where possible</li> <li>• Oversized deliveries would be undertaken in accordance with the requirements of NSW Police or Roads and Maritime Services.</li> <li>• Approved Traffic Management Plans in consultation with relevant authorities. Detour routes to be advertised/ notified.</li> <li>• Approved access routes, detailed Traffic Control Plans.</li> <li>• Clear notifications / signage.</li> </ul>	P1	C2	R4	Complete regular toolbox talks on how to minimise impacts in relation to traffic. Undertake regular inspections of worksite and adjacent streets.
<b>Utilities</b>									

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Utility management	strike leading to environmental degradation	P3	C3	R9	<ul style="list-style-type: none"> <li>• Develop and implement the Utilities Management Strategy in accordance with the Utilities Management Framework</li> <li>• Engage a Utilities Coordination Manager (UCM) to oversee the coordination of utility works across the project and with third part service providers. The UCM will collaborate with the Community and Stakeholder Manager, the Place Manager and, where required, the Community Complaint Mediator to mitigate impacts to the local community during utility works and to resolve any community complaints relating to utility works.</li> <li>• Implement a Permit to Disturb</li> <li>• Induction and toolbox talks</li> <li>• Detailed Site Survey to be managed by an appropriately qualified surveyor.</li> </ul>	P1	C4	R4	Permit to Disturb Service searching Detailed Site Survey management
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**Environmental Risk Assessment Rankings**

This table may be used as a guide in determining the level of risk for each environmental issue. For each identified issue, consider the ‘maximum credible’ (not absolute worst case) risk that could result with **minimal or no controls** other than existing and using normal construction practices.

Note: Any one of the listed consequences must result in the use of the applicable consequence grading.

<b>Probability:</b>	<b>Consequence:</b>
5 = Certain 4 = Likely 3 = Possible 2 = Unlikely 1 = Rare	5 = Severe 4 = Major 3 = Moderate 2 = Minor 1= Incidental

1- 4 Acceptable 5 - 9 Acceptable with control measures 10 - 16 Requires the implementation of best practice 17 and Above = UNACCEPTABLE					
Likelihood (Probability and Frequency of Occurrence)			Consequence (Outcome or Severity of Occurrence)		
5	Certain	Common or repeating occurrence Consequence can reasonably be expected to occur in life of Project.	5	Severe	<ul style="list-style-type: none"> <li>Major pollution incident causing significant and widespread damage or potential to health or the environment</li> <li>Persistent reduction in ecosystem function and value.</li> <li>Ongoing disruption and loss of protected species.</li> <li>Major prosecution likely, outcome in excess of \$500,000</li> </ul>
4	Likely	Known to have occurred / “has happened” Conditions may allow the consequence to occur on the Project during its lifetime The event has occurred within the Business Unit within the previous 5 years.	4	Major	<ul style="list-style-type: none"> <li>Significant widespread and persistent changes to habitat, species or environmental media</li> <li>Significant pollution incident causing damage or potential damage to health or the environment external to the site.</li> <li>Potential for prosecution. Potential outcome between \$50,000 - \$500,000</li> <li>Numerous substantial complaints</li> <li>Actual material environmental harm</li> </ul>
3	Possible	Could occur / “heard of it happening” Exceptional conditions may allow consequences to occur on the Project, or has occurred nationally within the Australian Business.	3	Moderate	<ul style="list-style-type: none"> <li>Localised irreversible habitat loss or effects on habitat, species or environmental media</li> <li>Reportable incident to the relevant environmental regulator or other authority.</li> <li>Demonstrated breach of legislative, licence or guideline requirements.</li> <li>Likely infringement notice or fine, potential for prosecution up to \$50,000.</li> <li>Will cause complaints.</li> </ul>
2	Unlikely	Not likely to occur Reasonable to expect that the consequence will not occur on the Project. Has occurred in industry but not in Business Unit.	2	Minor	<ul style="list-style-type: none"> <li>Localised degradation of habitat or short term impacts to habitat, species or environmental media.</li> <li>Pollution incident that marginally exceeds licence conditions or guidelines for acceptable pollution.</li> <li>Fine unlikely.</li> <li>Potential for complaints.</li> </ul>
1	Rare	Practically impossible Not known to have occurred in industry or unheard of.	1	Incidental	<ul style="list-style-type: none"> <li>Localised or short term effects on habitat, species or environmental media.</li> <li>Fully contained on site and can be fully remediated. Little potential for fine or complaints.</li> <li>Insignificant or trivial incident</li> </ul>



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Probability ► ▼Consequence	CERTAIN	LIKELY	POSSIBLE	UNLIKELY	RARE
5 – Severe	25	20	15	10	5
4 – Major	20	16	12	8	4
3 – Moderate	15	12	9	6	3
2 – Minor	10	8	6	4	2
1 – Incidental	5	4	3	2	1



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## Appendix 2: Environmental Control Map



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## Appendix 3: EPL 21147 OOH Approval

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## Appendix 3: Community Notification.

## **Appendix 4: Environmental Representative Supporting Letter.**