Appendix B6

Construction Landscape and Temporary Works Management Sub Plan

Infrastructure Works (Package 4)

Parramatta Light Rail – Stage 1

September 2021

PLR1INF-CPBD-ALL-TW-PLN-000001 REV 8

NSW GOVERNMENT

Construction Environment Management Plan Appendix B6

Landscape and Temporary Works Sub-plan

Project Name: Parramatta Light Rail Stage 1
Infrastructure Contract

Project number	N81080
Document number	PLR1INF-CPBD-ALL-TW-PLN-000001
Revision date	01/09/2021
Revision	8

Rev.	Date	Prepared By	Reviewed By	Approved By	Remarks
A	12/03/19	Element Environmental	[redacted]	[redacted]	nil
B	01/04/19	Element Environmental	[redacted]	[redacted]	nil
0	11/04/19	[redacted]	[redacted]	[redacted]	nil
1	11/05/19				nil
2	19/07/19				nil
3	1/08/19				nil
4	12/08/19				nil
5	26/08/20				nil
6	8/10/20				nil
7	14/01/21				nil
8	01/09/21				nil

Details of Revision Amendments

Document Control

The Project Director is responsible for ensuring that this plan is reviewed and approved. The Project Director is responsible for updating this plan to reflect changes to the project, legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Director and/or client before being distributed / implemented.

Revision	Details
Rev A	CPBD JV internal review
Rev B	Incorporation of CPBJV review comments
Rev 0	First draft submitted to TfNSW and ER. Revision issued for external stakeholder consultation.
Rev 1	Second draft submitted to TfNSW and ER for consultation.
Rev 2	Incorporation of external stakeholder consultation comments. Issued to ER for endorsement.
Rev 3	Incorporation of final ER comments and issued to the ER for endorsement.
Rev 4	Incorporation of ER Endorsement Letter and submission to the DPIE for information.
Rev 5	Annual review; minor amendments
Rev 6	Annual review; minor amendments
Rev 7	Minor amendments to align with Business Activation Plan
Rev 8	Annual review; minor amendments

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Glossary/ Abbreviations

Abbreviations	Expanded text
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval
CPTED	Crime Prevention Through Environmental Design
CSSI	Critical State Significant Infrastructure
DPIE	NSW Department of Planning, Industry and Environment (the responsibilities of the former Department of Environment and Planning are now administered by the Department of Planning, Industry and Environment).
DPI	NSW Department of Primary Industries
ECM	Environmental Control Map
EIS	Environmental Impact Statement
EP&A Act	*Environmental Planning and Assessment Act 1979*
ETS	Electronic Ticketing System
JV, the	CPB Contractors and Downer EDI Works Joint Venture (Parramatta Connect)
LTWMP	Landscape and Temporary Works Management Sub-plan
OEH	Office of Environment and Heritage *Where reference in the planning approval, this Plan and consultation has been made to OEH it should be noted that OEH has been abolished from 1 July 2019. The OEH (environment) section is taken as a reference to Department of Planning, Industry and Environment (DPIE) and the OEH (heritage) section is taken as a reference to Heritage NSW*
Project, the	Parramatta Light Rail – Stage 1
REMMM	Revised Environmental Mitigation and Management Measure
SaM	Stabling and Maintenance Facility
SPIR	Submissions and Preferred Infrastructure Report

1 Introduction

1.1 Context

This Landscape and Temporary Works Management Sub-plan (LTWMP or Sub-plan) forms part of the Construction Environmental Management Plan (CEMP) for the Parramatta Light Rail Stage 1, Package 4 Infrastructure Works (Infrastructure Works). This LTWMP has been prepared to address the requirements of the Minister's Conditions of Approval (CoA) SSI-8285, the revised environmental mitigation and management measures (REMMMs) and Environmental Performance Outcomes (EPO's) listed in *Parramatta Light Rail Stage 1 Westmead to Carlingford via Parramatta CBD and Camellia Environmental Impact Statement* (the EIS), as amended by the *Parramatta Light Rail (Stage 1) Westmead to Carlingford via Parramatta CBD and Camellia Submissions Report (incorporating Preferred Infrastructure Report)* (February 2018) (the SPIR). In addition, this Sub-plan addresses all applicable legislation and contractual requirements, including the PLR Stage 1 Infrastructure Contract Project Deed (ISD-17-6721).

1.2 Background

1.2.1 Parramatta Light Rail – Stage 1 description

Parramatta Light Rail is one of the NSW Government's major infrastructure projects being delivered to serve a growing Sydney.

Parramatta Light Rail Stage 1 (Stage 1) will connect Westmead to Carlingford via Parramatta Central Business District (CBD) and Camellia. Stage 1 is expected to be operational in 2023.

Stage 1 will create new communities, connect great places and help both local residents and visitors move around and explore what the region has to offer. The route will link Parramatta's CBD and train station to a number of key locations, including the Westmead Precinct, the Parramatta North Growth Centre, the new Western Sydney Stadium, the Camellia Town Centre, the new Powerhouse Museum and Riverside Theatre arts and cultural precinct, the private and social housing redevelopment at Telopea, the Rosehill Gardens Racecourse and the three Western Sydney University campuses.

In summary, the key features of Stage 1 include:

- A new dual track light rail network of approximately twelve (12) kilometres in length, including approximately seven (7) kilometres within the existing road corridor and approximately five (5) kilometres within the existing Carlingford Line and Sandown Line, replacing current heavy rail services
- Sixteen (16) stops that are fully accessible and integrated into the urban environment including a terminus stop at each end of Westmead and Carlingford
- High frequency 'turn-up-and-go' services operating seven days a week from 5am to 1am. Weekday services will operate approximately every 7.5 minutes in the peak period between 7am and 7pm
- Modern and comfortable air-conditioned light rail vehicles, nominally 45 metres long and driver-operated, each carrying up to 300 passengers
- Intermodal interchanges with existing public transport services at Westmead terminus, Parramatta CBD and the Carlingford terminus
- Creation of two light rail and pedestrian zones (no general vehicle access) within the Parramatta CBD along Church Street (generally between Market Street and Macquarie Street) and along Macquarie Street (generally between Horwood Place and Smith Street)

- A Stabling and Maintenance (SaM) Facility located in Camellia for light rail vehicles to be stabled, cleaned and maintained
- New bridge structures along the alignment including over James Ruse Drive and Clay Cliff Creek, Parramatta River (near the Cumberland Hospital), Kissing Point Road and Vineyard Creek, Rydalmere
- Alterations to the existing road network including line marking, additional traffic lanes and turning lanes, new traffic signals, and changes to traffic flows
- Relocation and protection of existing utilities
- Public domain and urban design works along the corridor and at Stop precincts
- Closure of the heavy rail line between Carlingford and Clyde
- Active transport corridors and additional urban design features along sections of the alignment and within Stop precincts
- Integration with the Opal Electronic Ticketing System (ETS)
- Real time information in light rail vehicles and at Stops via visual displays and audio.

An overview of Parramatta Light Rail Stage 1 route is shown in **Figure 1-1**.

Figure 1-1: Parramatta Light Rail Stage 1 Route

1.2.2 Statutory Context

The Parramatta Light Rail is subject to environmental impact assessment under the *Environmental Planning and Assessment Act 1979* (EP&A Act). It is classified as Critical State Significant Infrastructure (CSSI). The EIS assessed impacts for Parramatta Light Rail Stage 1 (Westmead to Carlingford). This covered the light rail and associated works including road enabling work.

Stage 1 received Infrastructure Approval from the Minister for Planning under Section 5.19 of the EP&A Act on 29 May 2018 (Critical State Significant Infrastructure Application SSI-8285), subject to the conditions provided in the Instrument of Approval, specifically Schedule B – Ministerial Conditions of Approval (CoA).

The Infrastructure Approval was subsequently modified under Section 5.25 of the EP&A Act on 21 December 2018 and 25 January 2019.

The planning approval, modifications and related environmental assessment documents are located at: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8285.

1.2.3 Stage 1 Delivery Strategy

Delivery of Stage 1 is achieved through the following five packages of work:

- Enabling Works (Package 1) – Local road network improvements including O'Connell Street and George Street (off-alignment)
- Westmead Precinct Works (Package 2) – Hawkesbury Road widening and demolition at Cumberland Hospital (east and west Campus)
- Early Works (Package 3) – Remediation of the Stabling and Maintenance (SaM) Facility
- Infrastructure Works (Package 4) (the subject of this Sub-plan) – Design and construction of civil works, public domain and light rail infrastructure up to road level/top of rail and to the top of the concrete slab at stops, including provision of utility services (excluding high-voltage power supply and cabling for rail systems), and decommissioning of the T6 Carlingford Line
- Supply, Operate and Maintain Works (Package 5) – Design and construction of the light rail systems, high-voltage power supply and stops above slab level, the supply of light rail vehicles, and the design and construction of the SaM Facility, including all light rail operations, customer service and asset management.

Each package of work is to be delivered under separate contracts on behalf of the proponent Transport for NSW (TfNSW). While the packages will commence at different times under separate construction approvals, there will be periods during which the packages works will overlap. The interactions between the packages are shown in **Figure 1-2**.

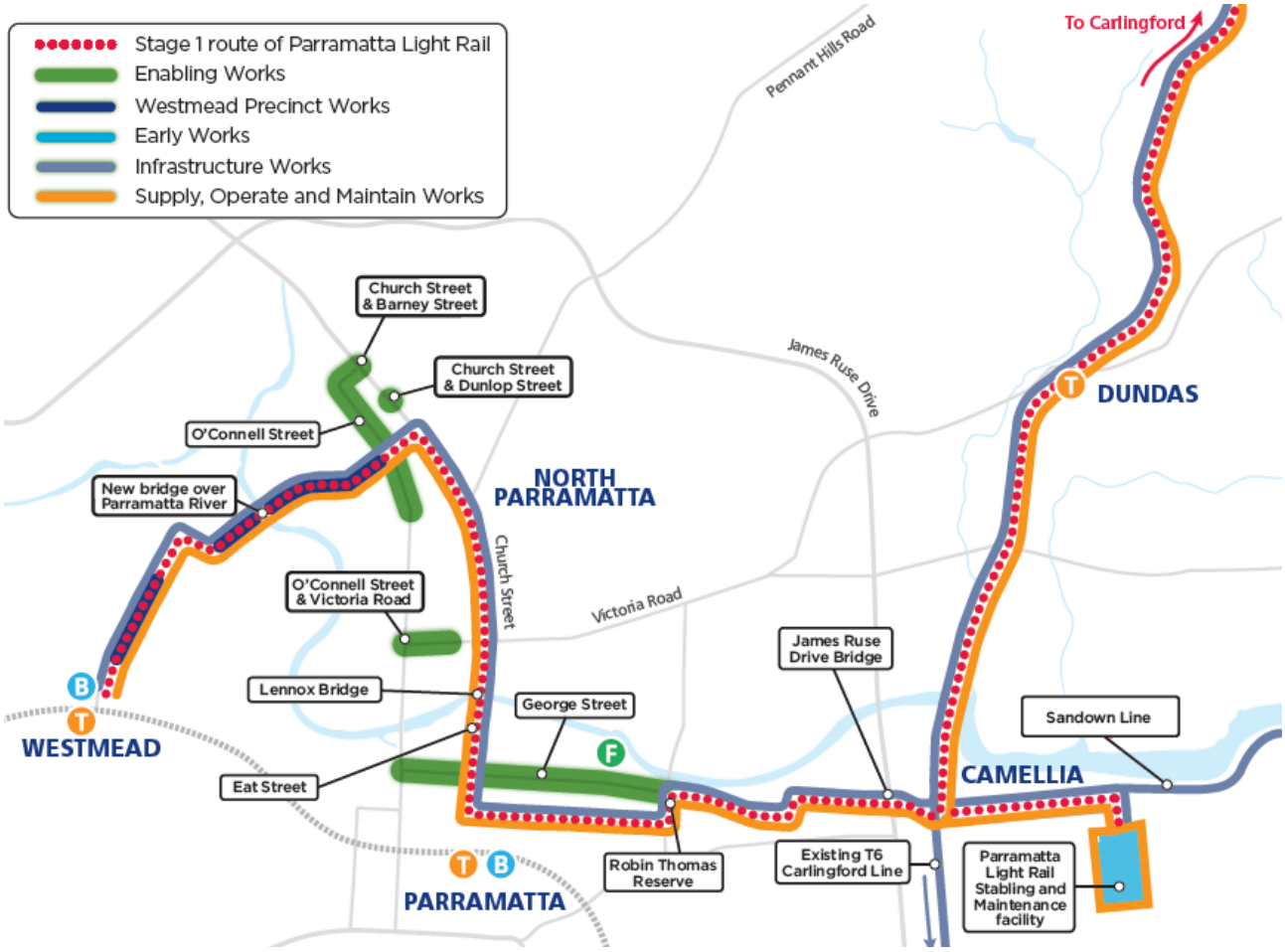

Figure 1-2 Parramatta Light Rail Stage 1 Delivery

1.3 Infrastructure Works

The CPB Contractors and Downer EDI Works Joint Venture (JV), Parramatta Connect, has been engaged to deliver Package 4 – Infrastructure Works (Infrastructure Works). In summary the Infrastructure Works include:

- Utility services adjustment and relocation works (for more than minor impact)
- Property demolition to make space for the light rail tracks and ancillary facilities
- Decommissioning of the existing Carlingford T6 heavy rail line and disused Sandown Line
- Earthworks and retaining structures
- Drainage works
- Intersection signalling works
- The light rail civil infrastructure and stop slabs
- Urban and architectural design and finishes of the corridor and public domain
- Rail, track slabs, ballasted track and grass tracks
- Footpath and kerb realignment including intersection works and road upgrades to accommodate light rail and other traffic (both temporary and permanent)
- New light rail bridges carrying the light rail over the Parramatta River (at Cumberland Hospital), James Ruse Drive, Vineyard Creek and Kissing Point Road and bridge strengthening and modifications to existing bridges as required

- Provision of the Active Transport Link for pedestrians and cyclists
- Staff and passenger facilities at each light rail terminus
- Rail/road interaction including traffic signals and road sharing
- Testing and commissioning of the Infrastructure Works.

1.4 Relationship with SOM

The Infrastructure Works is closely aligned to the Package 5, Supply, Operate and Maintain (SOM) Works which is being delivered by the Great River City Light Rail consortium. A graphical representation of the split in scope between the two packages is depicted in **Figure 1-3**.

The reasoning for dividing this work into two stages is to ensure that suitably qualified and experienced sub-contractors are in place for each specialised component; civil infrastructure, and operational systems. The Infrastructure Works will deliver the civil infrastructure components of Stage 1 and will not trigger the operational conditions with the exception of those that relate to detailed design.

An interface between the two Joint Ventures has been established to monitor cumulative impacts and the coordination of environmental complaints management, site management controls, and the delineation of incident reporting and non-conformance management. Opportunities to share information, materials and resources will also be explored to support achievement of landscape and temporary work targets.

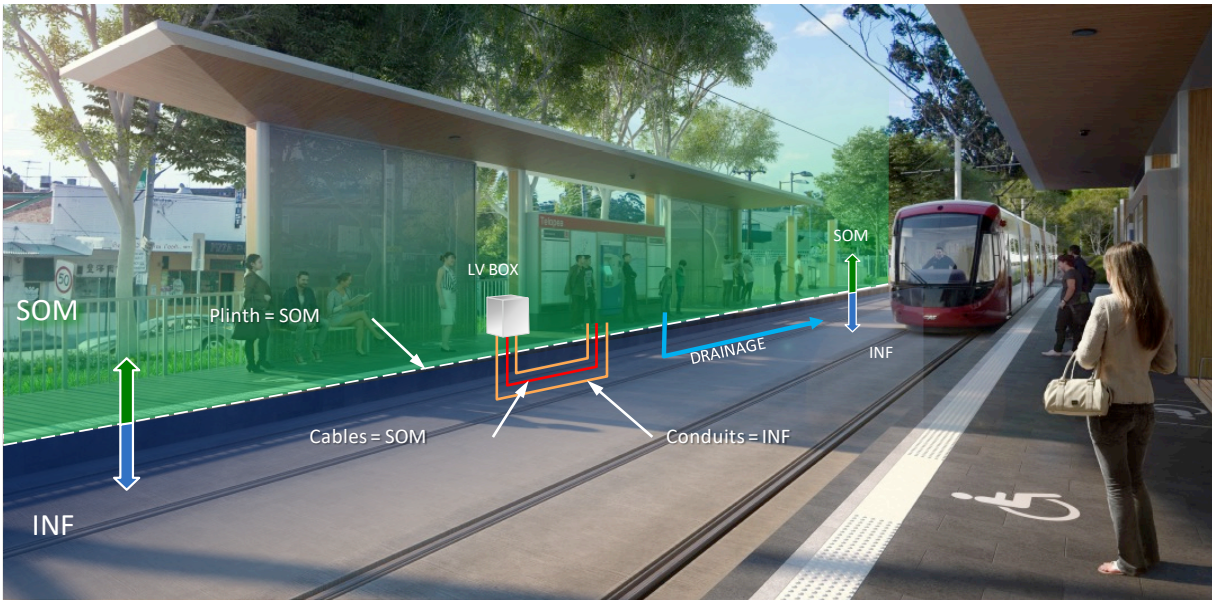

Figure 1-3 Relationship Between Infrastructure Works and the Supply, Operate and Maintain Works

1.5 Scope of the Sub-plan

This Sub-plan outlines the mitigation and management measures the CPB Contractors and Downer EDI Works Joint Venture (the JV) will use to address potential impacts arising from landscape and temporary works during design and construction of the Infrastructure Works, while complying with relevant approval, statutory and contract requirements. Sections 3.2, 3.3 and 3.4 provide compliance tables identifying where in this Sub-plan relevant requirements are addressed.

This Sub-plan is applicable to all activities during construction of the Infrastructure Works, including all areas where physical works will occur or areas that may be otherwise impacted by the

construction works, and under the control of the JV. All the JV staff and sub-contractors are required to operate fully under the requirements of this Sub-plan and related environmental management plans, over the full duration of the construction program.

1.6 Environmental management systems overview

The environmental management system overview is described in Section 1.5 of the CEMP and detailed in **Figure 1-4**.

Key interactions for this Sub-plan with other management plans include:

- Site Establishment Management Plan provides details on boundary fencing, screening and vegetation protection requirements for ancillary facilities
- Flora and Fauna Management Sub-plan establishes the controls for protecting and retaining existing vegetation.
- Urban Design Requirements Report which set urban design principles for the detailed design.

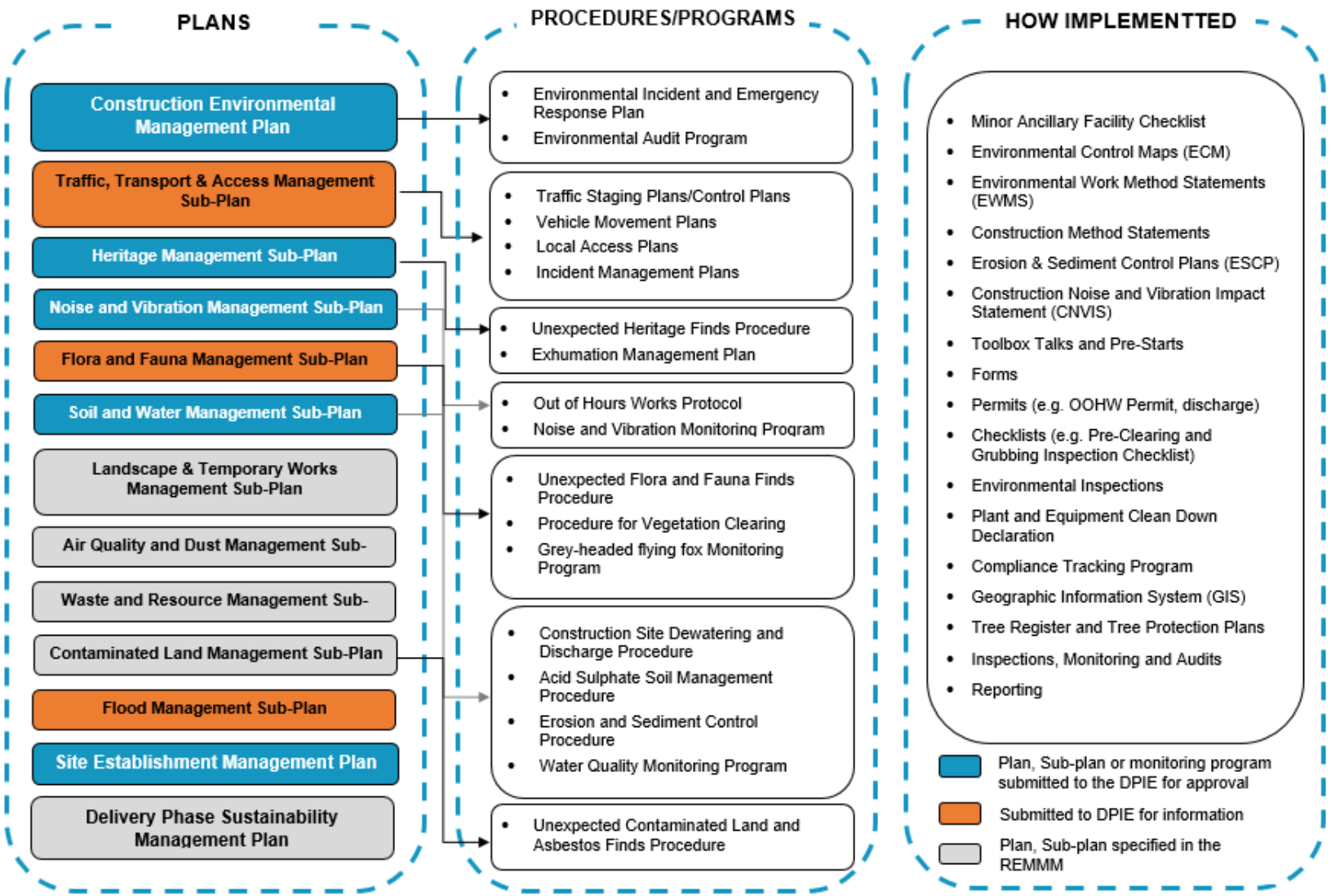

Figure 1-4 Environmental Management System

2 Purpose and objectives

2.1 Purpose

The purpose of this Sub-plan is to describe how the temporary works locations will be managed during the Infrastructure Works. The Sub-plan also establishes a framework for the integration and protection of landscape values during the construction stage of the Infrastructure Works through graphics, interpretation, wayfinding and signage.

This Sub-plan does not address overall landscaping, cultural, and visual amenity activities to be undertaken as part of the Infrastructure Works. These items are addressed in the Urban Design Requirements Report.

2.2 Objectives

The key objective of the LTWMP is to ensure the construction impacts relating to temporary works are minimised. To achieve this objective, the following will be undertaken:

- Ensure controls and procedures are implemented during construction to avoid, minimise or manage potential adverse impacts to landscapes and local visual amenity
- Ensure measures are implemented to address the relevant CoA (**Table 3-1**), REMMMs (**Table 3-2**) and EPOs (**Table 3-3**)
- Ensure measures are implemented to comply with all relevant legislation, Project Deed and other requirements as described in Section 3.1 of this Sub-plan.

2.3 Targets

The following targets have been established for the management of landscapes and temporary works during the Infrastructure Works:

- Ensure full compliance with the relevant legislative requirements, CoA and environmental mitigation measures addressed in this Sub-plan
- Ensure compliance with the principles of crime prevention through environmental design (CPTED) during design and construction of temporary work areas
- Minimise long-term impacts on the availability and quality of public open space and community facilities.

3 Environmental requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation

Legislation relevant to temporary works includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act)
- *Protection of the Environment Operations Act 1997* (POEO Act)
- *Parramatta Local Environmental Plan* (LEP) 2011.

3.1.2 Guidelines and standards

The main guidelines, specifications and policy documents relevant to this Sub-plan include:

- Government Resource Efficiency Policy (OEH 2014)
- Crime prevention and the assessment of development applications: guidelines under section 79c of the Environmental Planning and Assessment Act 1979, Department of Urban Affairs and Planning, 2001
- PLR Urban Design Requirements "Handbook" 2018 (PLR-ARA-UD-0000-RPT-00001)
- PLR Branding Guidelines for Contractors
- AS4282:1997 – Control of the obtrusive effects of outdoor lighting
- AS1158:2010 – Lighting for Roads and Public Spaces.

3.2 Crime Prevention through Environmental Design

Crime Prevention through Environmental Design (CPTED) is defined as a multi-disciplinary approach to deterring criminal behaviour through environmental design. CPTED strategies rely upon the ability to influence offender decisions that precede criminal acts by affecting the built, social and administrative environment.

3.2.1 CPTED principles

There are four principles identified for CPTED; surveillance, access control, territorial reinforcement and space management. Each of the principles are described in the sections that follow and management controls to demonstrate compliance are detailed in Section 6.

Surveillance

The attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical. Good surveillance means that people can see what others are doing. People feel safe in public areas when they can easily see and interact with others. Would be offenders are often deterred from committing crime in areas with high levels of surveillance. From a design perspective, ‘deterrence’ can be achieved by:

- Clear sightlines between public and private places
- Effective lighting of public places
- Landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims.

Access control

Physical and symbolic barriers can be used to attract, channel or restrict the movement of people. They minimise opportunities for crime and increase the effort required to commit crime. By making it clear where people are permitted to go or not go, it becomes difficult for potential offenders to reach and victimise people and their property. Effective access control can be achieved by creating:

- Landscapes and physical locations that channel and group pedestrians into target areas
- Public spaces which attract, rather than discourage people from gathering
- Restricted access to internal areas or high-risk areas (like carparks or other rarely visited areas).

Territorial reinforcement

Community ownership of public space sends positive signals. People often feel comfortable in, and are more likely to visit, places which feel owned and cared for. Well used places also reduce opportunities for crime and increase risk to criminals. If people feel that they have some ownership of public space, they are more likely to gather and to enjoy that space. Community ownership also increases the likelihood that people who witness crime will respond by quickly reporting it or by attempting to prevent it. Territorial reinforcement can be achieved through:

- Design that encourages people to gather in public space and to feel some responsibility for its use and condition
- Design with clear transitions and boundaries between public and private space
- Clear design cues on who is to use space and the purpose of use.

Space management

Popular public space is often attractive, well maintained and well used. Linked to the principle of territorial reinforcement, space management ensures that space is appropriately utilised and well cared for. Space management strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti, the replacement of burned out pedestrian and car park lighting and the removal or refurbishment of decayed physical elements.

3.3 Minister's Conditions of Approval

The CoA relevant to this Sub-plan are listed in **Table 3-1** below. A cross reference is also included to indicate where the condition is addressed in this Sub-plan or other project management documents.

Table 3-1: Conditions of Approval relevant to the LTWMP

CoA No.	Condition Requirements	Document Reference	How Addressed
C19	Boundary fencing that incorporates screening must be erected around all construction ancillary facilities that are adjacent to sensitive receivers for the duration of site establishment and construction of the CSSI unless otherwise agreed with Relevant Council(s), affected residents, business operators and/or landowners and in accordance with Condition B2(b).	Section 6.1.5 Table 6-1 – Mitigation measure TW12 Site Establishment Management Plan	Hoarding requirements for ancillary facilities are addressed in Section 6.1.5 and mitigation measures are detailed in **Table 6-1** (TW12). Hoarding will be installed as required in the construction process to delineate works areas and will remain in place until completion of construction unless otherwise agreed with relevant Council(s), affected residents, business operators and/or landowners and in accordance with Condition B2(b). Boundary fencing requirements for ancillary facility are also detailed in the Site Establishment Management Plan.
C20	Boundary screening required under Condition C19 of this approval must reduce visual, noise and air quality impacts on adjacent sensitive receivers.	Section 6.1.5 Table 6-1 – Mitigation measure TW12 Site Establishment Management Plan	Hoarding requirements for temporary works are addressed in Section 6.1.5 and mitigation measures are detailed in **Table 6-1** (TW12). Boundary screening requirements for ancillary facility are also detailed in the Site Establishment Management Plan.

CoA No.	Condition Requirements	Document Reference	How Addressed
E80	The Proponent must design and construct the CSSI in a manner that reduces visual and heritage setting impacts and ensures consolidation and rationalisation of kerbside infrastructure to avoid visual clutter.	Table 6-1 – Mitigation measure TW13 Section 6.2	The requirement to construct the Infrastructure Works in a manner that reduces visual and heritage setting impacts and ensures consolidation and rationalisation of kerbside infrastructure is detailed in **Table 6-1 (TW13)**. Requirements relating to design, including the Environmental Design Review process, are addressed in Section 6.2.
E82	Nothing in this approval permits advertising on any element of the CSSI.	Table 6-1 – Mitigation measure TW6	Advertisements will be removed within 24 hours from any element of the Infrastructure Works. Any signage on hoardings will comply with the TfNSW style guide for cobranding. This requirement has been addressed as mitigation measure TW6 in **Table 6-1**.
E83	The Proponent must design and construct the CSSI in a manner that minimises opportunities for graffiti.	Table 6-1 – Mitigation measure TW5, TW9 Section 6.2	Regular inspections will be undertaken for graffiti, damage and cleanliness. Offensive graffiti will be removed within 24 hours and non-offensive graffiti will be removed within 7 days. This requirement is included as mitigation measure TW5 and TW9 in **Table 6-1**. Requirements relating to design, including the Environmental Design Review process, are addressed in Section 6.2.

CoA No.	Condition Requirements	Document Reference	How Addressed
E86	The CSSI must be constructed in a manner that minimises visual impacts resulting from construction sites, including protecting and retaining existing vegetation around the perimeter of compound sites, providing temporary landscaping and screening where appropriate to soften views of the construction sites and minimising light spill to adjacent residential areas.	Section 6.1.6 Table 6-1 – Mitigation measure TW1, TW2, TW3, TW4, TW7 and TW11 Flora and Fauna Management Sub-plan	The Infrastructure Works will take into consideration visual and ecological impacts. This will be communicated through site induction, toolbox talks and pre-starts. Section 6.1.6 addresses temporary lighting on the Infrastructure Works. A number of mitigation measures have been developed to address vegetation retention/ protection, use of soft landscaping and light spill, including TW1, TW2, TW3, TW4, TW7 and TW11 (**Table 6-1)**. Vegetation protection measures are also detailed in the Flora and Fauna Management Sub-plan.
E97	All lighting to be implemented as part of the CSSI must have regard to the location of nearby residential dwellings. Lighting impacts must be minimised to the extent possible including the use of shields to reduce light spill and annoyance to adjacent residences.	Section 6.1.6 Table 6-1 – Mitigation measure TW2, TW3	Lighting equipment in work areas will be installed with a view to minimise disturbance to local residents and commuters. Deflection screens or fixtures will be installed if required. All lighting will be installed in accordance with AS4282:1997 – Control of the obtrusive effect of outdoor lighting and AS/NZ 1158 – Lighting for Roads and Public Spaces. Section 6.1.6 addresses temporary lighting on the Infrastructure Works. Mitigation measures relating to light spill are included in **Table 6-1** (TW2 and TW3).

CoA No.	Condition Requirements	Document Reference	How Addressed
E98	The Proponent must ensure that all external lighting associated with the operation of the CSSI (excluding light rail vehicles) is mounted, screened and directed in such a manner so as not to create nuisance to residences. The lighting must be the minimum level of illumination necessary and shall comply with AS 4282:1997 – Control of the Obtrusive Effects of Outdoor Lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces.	Section 6.1.6 Table 6-1 – Mitigation measure TW3	Lighting equipment will be placed to minimise disturbance to local residents and commuters. Deflection screens or fixtures will be installed if required. All lighting will be installed in accordance with AS4282:1997 – Control of the obtrusive effect of outdoor lighting and AS/NZ 1158 – Lighting for Roads and Public Spaces. Section 6.1.6 details key requirements for temporary lighting. Mitigation measures relating to light spill are included in **Table 6-1** (TW3).
E99	The placement, obstruction and removal of CCTV cameras must be undertaken in consultation with the relevant public authority and Relevant Council(s).	Table 6-1 – Mitigation measure TW17	As detailed in **Table 6-1** (TW17), the placement, obstruction and removal of CCTV cameras must be undertaken in consultation with the relevant public authority and City of Parramatta Council. This requirement will be reflected in ECMs.
E109	The Proponent must design and construct the CSSI with the objective of minimising impacts to, and interference with third party property and infrastructure, and that such infrastructure and property is protected during construction	Table 6-1 – Mitigation measure TW10	As detailed in **Table 6-1** (TW10), actions will be taken to minimise impacts/interference to third party property and infrastructure. This requirement will be reflected in ECMs. Requirements relating to design, including the Environmental Design Review process, are addressed in Section 6.2.

3.4 Revised Environmental Mitigation and Management Measures

Relevant REMMMs are listed in **Table 3-2** below. This includes reference to required outcomes, the timing of when the commitment applies and relevant documents or sections of the environmental assessment influencing the outcome and implementation.

Table 3-2: Revised environmental mitigation and management measures relevant to this LTWMP

Outcome	Ref #	Commitment	Timing	LTWMP Reference	How Addressed
Lighting	PR-4	Lighting within the project corridor would be required to address safety and consider the potential privacy impacts of light spill to adjoining properties, including the use of fixtures that prevent light within the light rail corridor from spilling upwards and/or beyond the required area to be lit and into adjacent residences or sensitive environmental areas. Permanent lighting would be designed by a specialist lighting consultant and would comply with relevant Australian Standards, including *AS4282.1997 (Control of the obtrusive effects of outdoor lighting)* and *AS 1158 Road lighting* and *AS 1158 Road lighting*. The final lighting design would consider the use of motion sensors to adjust light levels to balance the need to provide a safe environment while minimising potential light spill to the adjacent residential properties.	Pre-construction Construction	Section 6.1.6 Table 6-1 Section 6.2	Section 6.1.6 details how lighting requirements have been addressed in the LTWMP. This requirement is also included as a mitigation measure in **Table 6-1** (mitigation measure TW3). The location of temporary lighting towers required for evening and night work will be assessed in relation to sensitive receivers and adjoining properties. Requirements relating to design are addressed in Section 6.2.

Outcome	Ref #	Commitment	Timing	LTWMP Reference	How Addressed
Hoardings	PR-5	The design and placement of construction hoardings would consider opportunities to minimise privacy impacts on adjacent residents or other adjacent land uses sensitive to privacy concerns.	Pre-construction Construction	Table 6-1 – Mitigation measure TW4	Hoarding will be installed as early as reasonable to minimise visual impacts and preserve privacy. **Table 6-1** outlines the requirement to minimise privacy impacts during construction (mitigation measure TW4).
Wayfinding Signage	TT-1	A wayfinding and road signage strategy would be developed and incorporated into the detailed design of the project. This would include signage to communicate changes in turning / access restrictions, property access, and pedestrians/cyclist routes, and signage within Parramatta CBD to encourage use of alternative routes.	Pre-construction Construction	Table 6-1 – Mitigation measures TW4, TW14	**Table 6-1** note that a wayfinding and road signage strategy will be developed as part of detailed design. This includes measures to provide signage for altered conditions (mitigation measures TW4 and TW14).

Outcome	Ref #	Commitment	Timing	LTWMP Reference	How Addressed
Graphic / Artwork for hoardings	VL-1	Design of hoardings would feature graphics, artwork or project information wherever possible at appropriate locations to be determined in consultation with Transport for NSW. Guidelines for hoardings graphics, including location-specific guidelines, would be submitted by the contractor for approval by Transport for NSW prior to the commencement of works.	Pre-construction Construction	Section 6.1.5	Section 6.1.5 details hoarding requirements including the consideration of artwork and graphics. Where possible, hoarding will include graphics, artwork or information to minimise the need for additional signage and barriers in proximity to the Infrastructure Works. Graphics will be submitted to TfNSW for approval prior to commencement of works.

Outcome	Ref #	Commitment	Timing	LTWMP Reference	How Addressed
Landscape temporary works management plan	VL-13	A landscape and temporary works management plan would be developed as part of the CEMP. The plan would include the following: • Approaches to temporary construction works (hoardings etc.) that consider urban design and visual impacts, including: - Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations - Project information to raise awareness on benefits, explain the proposed works at each site and provide updates on construction progress - Community information, including contact numbers for enquiries/complaints - Signage and information to mitigate impacts on local businesses which may be obscured by the construction site.	Pre-construction	Section 6 Community and Engagement Management Plan	This document has been prepared to address the requirements of REMMM VL-13. This Sub-plan will be communicated to workers and will be implemented throughout the Infrastructure Works. Relevant mitigation measures to address the requirements of this commitment are detailed in **Table 6-1**, including TW4 and TW14. High visibility locations will be identified on the ECM. Community information requirements are detailed in the Community and Engagement Management Plan.

Outcome	Ref #	Commitment	Timing	LTWMP Reference	How Addressed
Landscape temporary works management plan	VL-13, con't	• Apply the principles of crime prevention through environmental design (CPTED) to all works, including temporary works that have a public interface • Apply the principles of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant safety design requirements and detail mitigation and management measures to minimise lighting impacts on sensitive receivers for all permanent, temporary and mobile light sources • Wherever feasible and reasonable, vegetation around the perimeter of the construction sites will be maintained • Measures to minimise direct and visual impacts on heritage items from works within the curtilage of or in the vicinity of heritage items • Regular inspections of construction hoardings and scaffolding to keep it clean and free of dust build up, with graffiti on construction hoardings and scaffolding to be removed or painted over promptly.	Pre-construction	Section 6 Heritage Management Sub-plan	This document has been prepared to address the requirements of REMMM VL-13. This Sub-plan will be communicated to workers and will be implemented throughout construction of the Infrastructure Works. Measures to minimise direct and visual impacts on heritage items from works within the curtilage of or in the vicinity of heritage items are detailed in the Heritage Management Sub-plan (Table 6-2 and Table 7-1, HW2).
Mitigation measures	VL-14	Visual mitigation and management measures identified below (VL-15, VL-16 and VL-17) would be implemented as soon as feasible and reasonable, and remain for the duration of the construction activities in that area.	Pre-construction Construction	Section 6	Mitigation and management measures VL-15, VL-16 and VL-17 have been included in Section 6 of this Sub-plan and will be implemented throughout the construction of the Infrastructure Works.

Outcome	Ref #	Commitment	Timing	LTWMP Reference	How Addressed
Hoardings	VL-15	Hoardings including graphics, artwork or project information as identified during detailed design would be installed as early as feasible and reasonable in the construction process. Hoardings would be kept in good condition including the prompt removal of graffiti.	Pre-construction Construction	Section 6.1.6 Table 6-1 – Mitigation measures TW-4, TW5, TW9, TW10	Hoarding will be installed as early as reasonable to minimise visual impacts and preserve privacy. Regular inspections will be undertaken to assess the need for repairs or replacement. **Table 6-1** includes mitigation measures to address hoarding management, including TW-4, TW5, TW9, TW10. Section 6.1.6 details hoarding requirements for the Infrastructure Works.
Light Spill, vegetation retention and visual impacts	VL-16	Where feasible and reasonable, the elements within worksites and construction compounds would: • Be located to minimise visual impact, for example materials and machinery would be stored behind fencing/hoarding • Include temporary lighting that would be orientated to minimise glare and light spill impact on adjacent receivers • Retain and protect existing vegetation around the perimeters where feasible and reasonable to act as a visual screen.	Construction	Table 6-1 – Mitigation measures TW1, TW2, TW3, TW4, TW8, TW9, TW12	Worksites and construction compounds will consider visual and ecological impacts. **Table 6-1** contains mitigation measures to address light spill, vegetation retention and visual impacts. Section 6.1.5 details light spill requirements for the Infrastructure Works.

Outcome	Ref #	Commitment	Timing	LTWMP Reference	How Addressed
Minimised footprint	VL-17	The footprint of construction compounds in open space areas would be minimised where feasible to reduce visual impacts. This includes the following areas: • Westmead compound • Parramatta North Compound • Parramatta River Bridge (north) • Dundas • Kissing Point Road • Carlingford.	Construction	Table 6-1 – Mitigation measure TW13	The size of the temporary footprint will be minimised, where feasible. **Table 6-1** contains mitigation measure TW13 to address compound footprint minimisation.

3.5 Environmental Performance Outcomes

Relevant EPOs are listed in **Table 3-3** below. This includes reference to required outcomes, the timing of when the commitment applies, and relevant documents or sections of the environmental assessment influencing the outcome and implementation.

Table 3-3: Environmental Performance Outcomes relevant to this HMP

ID Ref#	Environmental Performance Outcome	Timing	HMP reference	How Addressed
EPO-LU-2	The project would minimise property acquisition, where feasible and reasonable.	Pre-construction/ Construction	Table 6-1 – Mitigation measures TW13, TW15 and TW16	The design of temporary works would minimise property acquisition where feasible and reasonable. This EPO has been reflected in a number of mitigation measures, including TW13, TW15 and TW16 (**Table 6-1**).

4 Existing Environment

The following sections summarise what is known about existing landscapes and visual factors of relevance to the Infrastructure Works. Information below has been summarised from the EIS.

4.1 Corridor Land Use

The Stage 1 alignment is located in a highly urbanised area with a diversity of land uses within and adjacent to the alignment, including:

- Residential development either side of the existing rail corridor between Carlingford and Rydalmere
- University of Western Sydney's main campus at Rydalmere, as well as campuses at Parramatta and Westmead
- Light industrial land uses at Rydalmere and other industrial land uses at Camellia
- Rosehill Gardens Racecourse
- The Cumberland Hospital site
- The health and education precinct at Westmead including the Children's Hospital and Westmead Private Hospital (collectively referred to as the Westmead Health Precinct)
- Parramatta River and adjacent Riverside Theatres Cultural Hub
- High density mixed uses, retail and commercial development including 'Eat Street' and the Parramatta CBD
- Open space, significant parkland and heritage sites including the World Heritage listed Parramatta Park, National Heritage listed Parramatta Female Factory, state heritage listed St Patricks Cemetery and Lennox Bridge, and the locally listed Royal Oak Hotel.

4.2 Highly visible locations

High adverse impacts during construction would occur where the project is located within or adjacent to areas of landscape or visual sensitivity, such as:

- Heritage or natural landscapes (such as the Cumberland Hospital heritage precinct)
- Open spaces (such as Prince Alfred Square and Robin Thomas Reserve)
- Key urban landscapes (such as Church Street).

5 Environmental aspects and impacts

5.1 Construction activities

Key aspects of the Infrastructure Works that could result in adverse impacts as a result of temporary working environments include:

- Reduction of public access areas
- Installation of hoarding and fencing
- Relocation of services in public areas (roadways, footpaths, etc)
- Clearing and/or grubbing of vegetation
- Construction of site compounds and stockpile areas
- Removal and/or relocation of existing signage and installation of new signage.

5.2 Impacts

The potential for impacts on the landscape as a result of temporary works will be dependent on the specific location, nature, extent and magnitude of construction activities and their interaction with the surrounding landforms, built heritage and public service provisions. Potential impacts attributed to temporary construction activities include:

- Loss of aesthetics and vista due to vegetation removal, hoarding and construction activities
- Social effects that arise from visual changes and alternate pathways
- Need for increased signage and wayfinding to direct the general public
- Light spill upon sensitive receivers and adjacent properties
- Graffiti and unauthorised advertising
- Disruption to access areas and pathways resulting in community unrest and delays in commuting
- Loss of public area / recreation space due to compound / construction areas
- Increase in criminal activity.

Section 7 provides a suite of mitigation measures that will be implemented to avoid or minimise these impacts.

6 Environmental control measures

Specific measures and requirements to meet the objectives of this Sub-plan and to address impacts arising from temporary work locations are outlined in **Table 6-1**. Detailed below are general principles and initiatives that will be implemented to address significant issues.

6.1 Landscape and Temporary Works Principles

The following urban design principles will be implemented to minimise impacts to the local landscape and visual amenity as a result of temporary works.

6.1.1 The Travel Experience

The Infrastructure Works will be undertaken in a manner that minimises impacts to commuter services and provides continued access to service locations where feasible (bus stops, stations etc.). Measures to ensure access continuation will include wayfinding and signage to direct the general public to service locations and significant landmarks.

6.1.2 Integrated Landscape Management

With a view to integrate landscapes and provide a seamless transition along the corridor, vegetated areas will be preserved as far as possible. This will enhance the bushland experience and provide a physical barrier to the works. Rehabilitation planting species will be specific to the locality.

6.1.3 Safety in Design

Stage 1 will provide an environment which not only offers amenity and is functional, but also one which is safe, for both operators and users alike.

Opportunities to incorporate CPTED principles will be explored and implemented as part of construction, including hoarding design, lighting, site maintenance, worksite establishment and community access.

The final design will similarly be aligned to CPTED through ease of access to communal space, soft landscaping (vegetated areas) and bespoke treatments and architecture.

6.1.4 Sustainability Initiatives

Several sustainability initiatives will be included as part of the design and construction management, including:

- Inclusion of Water Sensitive Urban Design into landscape areas to promote water quality and natural infiltration
- Passive irrigation of landscape areas through grading of footpaths and grassed areas
- Protection and re-use of site topsoil to allow for natural regeneration of native species
- Restoration of impacted areas with locally occurring species.

6.1.5 Hoarding

Hoarding will be required throughout the alignment to isolate work areas, maintain worker and public safety and to control access to the Infrastructure Works. The hoarding will be installed as required in the construction process to delineate the works areas and will remain in place to the completion of construction. Where possible, hoarding will also include graphics and artwork to enhance the appearance of temporary works in highly visible locations.

The hoarding will be used to communicate information, including:

- Stage 1 scope and benefits
- Construction progress
- CPBDJV contact information
- Complaints line number
- Locally significant services or areas of interest (including heritage items)
- Wayfinding and information to mitigate impacts on local businesses and commuters.

Boundary fencing or hoarding will be installed around compounds, including ancillary facilities, that are adjacent to sensitive receivers for the duration of site establishment and construction works. The screening will aim to reduce potential visual, noise and air quality impacts arising from the ancillary facility activities.

Hoardings would be maintained throughout construction, including the prompt removal of graffiti and advertising, cleaning of excess dust and timely repairs of damage.

6.1.6 Light Spill

Temporary lighting towers will be required to provide lighting for evening and night work activities and for pedestrian access. The location of lighting towers will be assessed as part of the ECM to minimise light spill resulting in disturbance and annoyance to residential and commuting receivers. Lighting will be directed away from residents wherever possible and assessment of temporary lighting towers will be documented through site setup checklists. If required, deflection screens will be installed to manage light spill. Lighting will be installed in accordance with AS4282:1997 – Control of the obtrusive effect of outdoor lighting and AS1158:2010 – Lighting for Roads and Public Spaces.

6.2 Environmental Design Review

As detailed in the CEMP (Section 1.5.3), an Environmental Design Review process has been established to ensure design documentation complies with the Planning Approval, REMMMs, EPOs and contractual requirements. The key output of the process, the Environmental Design Review Report, will include the following details:

- Evidence of how environmental constraints were considered and opportunities to avoid or reduce impacts were realised (e.g. St. Patrick's Roman Catholic Cemetery, Prince Alfred Square, Robin Thomas Reserve and Lennox Bridge)
- Justification for proposed design where it has not been possible to avoid or further reduce identified impacts
- Demonstration of compliance against the Planning Approval and contractual requirements
- Consideration of feasible and reasonable opportunities for Aboriginal and non-Aboriginal heritage interpretation and promotion of significant environmental features/sites (e.g. Dundas stop)
- Recommendations of the Design Review Panel.

The Requirements Verification Traceability Matrix (RVTM) is an assurance framework that has been developed to allocate requirements to appropriate design packages, nominate the design stage for design verification for each requirement and nominate the verification method for each requirement. Requirements are derived from the Infrastructure Contract Exhibit B - Scope and Performance Requirements, Management Requirements and Third-Party Agreements. Derived requirements including the Planning Approval Conditions and REMMMs that need to be addressed during detailed design have also been included.

Table 6-1: Landscape and Temporary Works Management and Mitigation Measures

ID	Measure/Requirement	How Implemented	When to implement	Responsibility	Reference
TW1	Protect and preserve existing vegetation around the perimeter of the works and provide temporary landscaping where appropriate to soften views around construction sites.	Environmental Control Map (ECM)	Construction	Project Manager Engineers	CoA E86 REMMM VL-16
TW2	Locate equipment and materials in compounds and stockpile areas with a view to minimise disturbance to local residents and commuters as far a practical.	ECM	Construction	Foreman	CoA E86 CoA E97 REMMM VL-16
TW3	Direct lighting towers toward site works and surrounding access routes/public spaces. If required, install deflection screens or fixtures to manage light spill and minimise impacts to sensitive receivers. Install lighting in accordance with AS4282:1997 – Control of the obtrusive effect of outdoor lighting and AS/NZ 1158 – Lighting for Roads and Public Spaces.	ECM Temporary lighting technical specification Project training (induction, toolbox or specific training)	Construction	Foreman Engineers	CoA E86 CoA E97 CoA E98 REMMM PR-4 REMMM VL-13 REMMM VL-16

ID	Measure/Requirement	How Implemented	When to implement	Responsibility	Reference
TW4	Install hoarding as early as reasonable in the construction process to minimise visual impacts and preserve privacy (specifically in high visibility locations as determined within the ECM). Incorporate graphics, artwork, Stage 1 progress information, community information and way-finding signage into hoardings where practicable and relevant to minimise visual impact, raise awareness, direct road users and customers to local businesses and minimise the impact of construction. Signage, advertising, branding or artwork must be approved by TfNSW prior to implementation.	Principal Risk Assessment ECM Environmental inspections	Construction	Foreman Engineers	CoA E86 REMMM TT-1 REMMM VL-1 REMMM VL-13 REMMM VL-15 REMMM VL-16 REMMM PR-6
TW5	Hoarding will be kept free from advertising and graffiti. Offensive graffiti or unauthorised advertising material will be cleaned or covered within 24 hours. Highly visible yet non-offensive graffiti will be cleaned or covered within 5 working days. Graffiti that is neither offensive nor highly visible will be cleaned or covered within three weeks.	Environmental inspections	Construction	Foreman	CoA E83 REMMM VL-13 REMMM VL-15
TW6	Remove or cover advertisements on any element of the Infrastructure Works within 24 hours. Ensure all signage on hoardings complies with the TfNSW style guide for cobranding (TfNSW, Nov 2012).	Environmental inspections	Construction	Foreman	CoA E82

ID	Measure/Requirement	How Implemented	When to implement	Responsibility	Reference
TW7	Maintain compounds and work areas in a clean and tidy manner; regularly collect litter and dispose in accordance with legislative requirements. Replace site hoarding and fencing banners every 12 months unless otherwise agreed with TfNSW.	ECM Environmental inspections Project training (induction, toolbox or specific training)	Construction	Foreman	CoA E83 CoA E86 REMMM VL-13 REMMM VL-15 REMMM VL-16
TW8	Stockpile materials in an orderly manner in designated areas that do not pose a safety/access risk or create excessive visual impact.	ECM Environmental inspections	Construction	Foreman	REMMM VL-16
TW9	Conduct daily inspections of facilities, hoarding and display areas for graffiti, unauthorised advertising, damage, cleanliness and accuracy of information. Close corrective actions in a timely manner.	Environmental inspections Foreman Inspections (Site Diary)	Construction	Forman Environment and Sustainability Manager	REMMM VL-13 REMMM VL-15
TW10	Incorporate temporary landscaping and screening within major compounds where appropriate to soften views of the construction sites and minimise impacts/ interference to third party property and infrastructure.	ECM	Construction	Foreman Engineers	CoA E86 CoA E109

ID	Measure/Requirement	How Implemented	When to implement	Responsibility	Reference
TW11	Incorporate the following controls into temporary works where possible to enhance the safety of the site and surrounds: • Maintain clear sightlines between public and private places (may involve the reduction of hoarding/mash where protection from dust/noise is not required) • Provide effective lighting of adjacent public places • Restrict access to site compounds and worksites • Adequately maintain hoarding and remove rubbish.	ECM Environmental inspections	Pre-Construction / Construction	Engineers	REMMM VL-13 REMMM VL-16
TW12	Install boundary fencing and screening around all compounds/construction sites that are adjacent to sensitive receivers for the duration of site establishment and construction works unless otherwise agreed with relevant Council(s), affected residents, business operators and/or landowners. The screening will reduce potential visual, noise and air quality impacts arising from the ancillary facility activities.	ECM	Construction	Project Manager Engineers	CoA C19 CoA C20 REMMM VL-14 REMMM VL-15
TW13	Minimise the size and duration of the temporary footprint where feasible and consolidate/ rationalise kerbside infrastructure.	ECM	Construction	Foreman Engineers	CoA E80 CoA E86 REMMM VL-13 REMMM VL-17

ID	Measure/Requirement	How Implemented	When to implement	Responsibility	Reference
TW14	Establish a wayfinding and road signage strategy as part of the detailed design. The strategy will include signage to communicate changes in turning/access restrictions, property access, pedestrian/cyclist routes, and signage within Parramatta CBD to encourage use of alternative routes.	Wayfinding and road signage strategy	Pre-construction	Design Team	REMMM TT-1
TW15	Remove all temporary works from 'Eat Street' (Church Street from George Street to Market Street) where required by the Business Activation Plan and Business Reference Group. Prior to handback: • Reinstate a safe temporary road and footpath surface in accordance with CoPC and RMS standards • Remove all mid-block barriers and fencing except as approved by TfNSW and the Sydney Coordination Office • Establish and maintain traffic control which allows pedestrians to use the area and prevents vehicles from entering.	ECM CEP Notifications	Construction	Area Manager	Project Deed

ID	Measure/Requirement	How Implemented	When to implement	Responsibility	Reference
TW16	To support businesses in the CBD, remove temporary works from a 100m^2 space for a period of two weeks, once every three months (where required by the Business Activation Plan), in each of the following areas: • Church Street – George Street to Phillip Street • Church Street – Phillip Street to Lennox Bridge • Church Street – Lennox Bridge to Market Street • Church Street – Market Street to Victoria Road • Church Street – Victoria Road to Fennell Street • Church Street – Fennell Street to Albert Street The period of handback will generally coincide with festivals within the Parramatta area. Where construction staging allows additional areas to be available for temporary handback, this space must be provided at the request of TfNSW.	ECM CEP Notifications	Construction	Area Manager	Project Deed
TW17	Placement, obstruction and removal of CCTV cameras must be undertaken in consultation with the relevant public authority and Council(s).	ECM Traffic and Transport Liaison Group	Construction	Area Manager Site Supervisor	CoA E99

7 Compliance management

7.1 Roles and responsibilities

The JV Project Team's organisational structure and overall roles and responsibilities are outlined in Section 3.2 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Section 6 of this Sub-plan.

7.2 Training

All employees, contractors and utility staff working on site will undergo site induction training relating to landscape and temporary works issues. The induction training will address elements related to temporary works management including:

- Site housekeeping
- Temporary lighting
- ECM.

Targeted training in the form of toolbox talks, pre-starts or specific training will also be provided to personnel with a key role in landscapes and temporary works.

Further details regarding staff induction and training are outlined in Section 3.4 of the CEMP.

7.3 Monitoring and inspection

Monitoring and Inspections requirements relevant to the management of landscape and temporary works including avoidance, minimisation and management of impacts are identified in **Table 7-1**.

7.4 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this Sub-plan, CoA and other relevant approvals, licenses and guidelines.

Audit requirements are detailed in Section 3.8.4 of the CEMP.

7.5 Reporting

Reporting requirements relevant to the management of landscape and temporary works including avoidance, minimisation and management of impacts are identified in **Table 7-2**.

Table 7-1: Inspection and Monitoring Requirements

Item	Scope	Timing	Frequency	Responsibility	Records / Reporting
Daily visual observations	Keep hoarding free from advertising and graffiti	Construction	During any works	Site Supervisors	Report by exception in Daily Diary Notification of issues / incidents / non-compliance to Environmental Coordinator
Weekly Inspections	Inspection of the environmental controls and implementation of the landscape and temporary works mitigation measures outlined in Section 6 including: • accuracy of site information • Compound clean, tidy and free of litter • Removal of advertising and graffiti • Safe site access.	Construction	Weekly	Environmental Coordinator & Site Supervisor	Weekly Environmental Inspection Checklist ER Inspection Report
Site hoarding and fencing banners	Replace site hoarding and fencing banners every 12 months unless otherwise agreed with TfNSW	Construction	Annually	Environmental Coordinator	Suitable photographic evidence

Item	Scope	Timing	Frequency	Responsibility	Records / Reporting
CPTED & Pubic Safety Inspections – construction sites and temporary works	Ensure compliance with the principles of crime prevention through environmental design (CPTED) including • Maintain clear sightlines between public and private places • Provide effective lighting of adjacent public places • Restrict access to site compounds and worksites • Adequately maintain hoarding and remove rubbish • Safe pedestrian and cyclist access around site.	Construction	Quarterly	Engineers	Weekly Environmental Inspection Checklist
Light spill	Light spill observations during night works	Construction	During any night works	Site Supervisors	Weekly Environmental Inspection Checklist Noise and Vibration Monitoring form Report by exception in Daily Diary

Item	Scope	Timing	Frequency	Responsibility	Records / Reporting
Urban design implementation **(ISCA v1.2 Urb-2)**	Periodic inspection reviews / audits during and at the end of construction of the urban and landscape design components to verify high level of compliance with urban design.	Construction (once final urban design elements are being implemented) Completion	Quarterly	Suitably qualified professional with an urban and/or landscape design qualification and >5 years' experience.	Urban Design Implementation Inspection reports Final Urban Design Implementation Compliance Reports

Table 7-2: Reporting Requirements

Report	Scope	Timing	Frequency	Responsibility	Submission
Environmental Design Review Reports	Consideration of environmental constraints and opportunities including urban design and temporary works	Design	With each stage of each design package	Environment and Sustainability Manager with input from JV's Arborist	Independent Certifier
Monthly Progress Reports	Summary of months inspection and monitoring and key inspection observations or non-compliances. Reporting in relation to landscape and temporary works will also include any complaints or incidents relating to access and signage, including any responses provided or actions undertaken in response to the complaint.	Within seven Business Days after the relevant month end	Monthly	Environment and Sustainability Manager	TfNSW IC
Quarterly Environment Report (Compliance Tracking Program)	Compliance reporting against the Planning Approval and CEMP including the requirements identified in this plan (Table 3-2 and Table 3-3).	Within seven Business Days after the relevant quarter end	Quarterly	Environment and Sustainability Manager	TfNSW IC

Report	Scope	Timing	Frequency	Responsibility	Submission
Annual Environment Report	Annual review of the inspection and reporting requirements of the CEMP Sub-plans including this Sub-plan.	Within ten Business Days after the end of the relevant calendar year	Annually	Environment and Sustainability Manager	TfNSW IC DPIE DoI Water EPA City of Parramatta Council Cumberland Council
Urban Design Implementation Inspection reports	Periodic updated on the compliance of the implementation of the urban design based on the periodic inspection reviews / audits.		Quarterly	Suitably qualified professional with an urban and/or landscape design qualification and >5 years' experience.	Internal
Final Urban Design Implementation Compliance Reports	Final statement on level of compliance of the implementation of the urban design based on the periodic inspection reviews / audits.	Completion	May be staged	Suitably qualified professional with an urban and/or landscape design qualification and >5 years' experience.	Internal ISCA

8 Review and improvement

8.1 Continuous improvement

Continuous improvement of this Sub-plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets.

The continuous improvement process is designed to:

- Identify areas of opportunity for improvement of environmental management and performance
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets.

8.2 LTWMP update and amendment

The processes described in Section 3.8 to Section 3.12 of the CEMP may result in the need to update or revise this Sub-plan. This will occur as needed.

Only the Environment and Sustainability Manager, or delegate, has the authority to change any of the environmental management documentation.

A copy of the updated Sub-plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 3.10.2 of the CEMP.

Appendix A – Environmental Representative Endorsement

18 October 2021

Transport for NSW

Attention to: [redacted]
Senior Manager Environment
Parramatta Light Rail
130 George St, Parramatta, NSW 2150

Review of Appendix B6 – Landscape and Temporary Works Sub-Plan.
Infrastructure Works Stage 1 - Parramatta Light Rail
(PLR1INF-CPBD-ALL-TW-PLN-000001 Rev 8)

Pursuant to SSI8285 Condition of Approval A23 (d) i), as the approved Environmental Representative, I confirm that I have reviewed the updated document, Appendix B6 – Landscape and Temporary Works Sub-Plan. Infrastructure Works Stage 1 - Parramatta Light Rail (PLR1INF-CPBD-ALL-TW-PLN-000001, Rev 8), dated 01/09/2021, prepared by Parramatta Connect, for consistency with the requirements of the Conditions of Approval.

The amendments to the aforementioned document are editorial in nature and do not increase the type or magnitude of impact on the environment. These amendments are classified as minor and are approved in accordance with Condition of Approval C8. The document continues to be consistent with the requirements included in or required under the terms of the Conditions of Approval for the Parramatta Light Rail (Stage 1) development

Yours sincerely,

Australian Quality Assurance & Superintendence Pty Ltd (AQUAS)

[redacted]

Filename : *AQ1148.05 PLR CPBD LTWMP rev8 endorsement 211018*

For more information about the Parramatta Light Rail project, visit Parramattalightrail.nsw.gov.au

Call: 1800 139 389

Email: Parramattalightrail@transport.nsw.gov.au

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