Visual Amenity Management Plan

SMCSWSSJ-JHL-WSS-EM-PLN-000032

Document and Revision History

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Terms and definitions

The following terms, abbreviations and definitions are used in this plan.

Terms	Explanation
AHD	Australian Heritage Database
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval
CSSI	Critical State Significance Infrastructure
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EPL	Environment Protection Licence
ER	Environmental Representative
HSEMS	Health, Safety and Environment Management System
HWW	Hassell Weston Williamson
IWC	Inner West Council
JH	John Holland Group Pty Limited
JHLOR	John Holland and Laing O'Rourke Joint Venture
Laing O'Rourke	Laing O'Rourke Australia Construction Pty Limited
Minister, the	NSW Minister for Planning
RTS	Response to Submissions
SMCSW	Sydney Metro City and Southwest
SMu	Sydenham Metro upgrade project
VAMP	Visual Amenity Management Plan

1. Introduction

1.1 Purpose

This Visual Amenity Management Plan (VAMP) outlines the Sydenham Metro upgrade (SMu) Project's approach to implementing visual amenity related measures to achieve planning and contractual requirements.

1.2 Background and Scope

The project site is located within the rail corridor at Sydenham Station and several hundred meters to the north and south of the station, 11 Sydenham Road, Marrickville, NSW, the Sydenham Pit and Drainage Pump Station and future precinct areas on Railway Parade and Burrows Avenue, Sydenham, NSW.

The works will be undertaken by a John Holland Group Pty Limited (John Holland) and Laing O'Rourke Construction Pty Limited (Laing O'Rourke) joint venture referred to as JHLOR. Laing O'Rourke has been nominated as Principal Contractor and as such the works will occur under Laing O'Rourke's Health Safety Environment Management System (HSEMS).

The VAMP has been developed for the Construction phase of the project, in compliance with the Client's requirements and Laing O'Rourke's environmental management system. It identifies visual amenity related measures that will be implemented to achieve objectives outlined within Section 1.6 of this plan including processes and measures that will be used to incorporate principles of crime prevention through environmental design in the design and construction of temporary site facilities.

1.3 Overview of the Sydenham Metro Upgrade (SMu) Project

Sydney Metro City & Southwest is a new 30km metro line extending metro rail from the end of Sydney Metro Northwest at Chatswood under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the capacity to run a metro train every two minutes each way through the centre of Sydney. The SMu project forms part of the Sydney Metro City & Southwest project and includes upgrades to Sydenham Station, the surrounding network and other ancillary infrastructure to accommodate Sydney Metro trains.

The SMu works were not assessed under the planning approval for the Sydney City Metro Chatswood to Sydenham that was approved by the Minister on 9 January 2017 under Part 5.1 of the Environmental Assessment & Planning Act 1979. The Sydenham to Bankstown State Significant Infrastructure Application Report identified an opportunity to accelerate the phased opening of the Chatswood to Sydenham Metro Service, through to Sydenham Station if Sydenham Station and Junction works commence earlier under a separate planning approval. As such, the works have been assessed as a modification to the Sydney City Metro Chatswood to Sydenham Environmental Impact Statement to allow the phased opening of the Metro services from Chatswood to Sydenham Station.

1.4 SMu Scope of Works

1.4.1 Permanent Works

The works include all permanent new infrastructure and modifications to existing infrastructure, which must be constructed to enable the construction of SMu. The permanent new infrastructure and modifications to existing infrastructure to be constructed includes:

- Sydenham Station and precinct works – demolition and reconstruction of platforms 1 and 2 for metro rail operations and a new aerial concourse connecting to new station entries at Railway Parade and Burrows Avenue. Upgrades to transport interchange facilities and provision for active transport would be delivered as part of the station works
- Track and rail system facilities – reconfiguration of existing track and rail systems to segregate the T3 Bankstown Line and the Goods Line, installation of metro tracks and rail systems including crossover and turnback facilities
- Adjustments to the Sydenham Pit and Drainage Pumping Station – including a new aqueduct over the pit, new pumping station and new maintenance access ramp
- Ancillary infrastructure and works – including fencing, maintenance access, utilities works, drainage, noise barriers, road and transport network works, bridge works, and temporary facilities to support construction.

1.4.2 Temporary Works

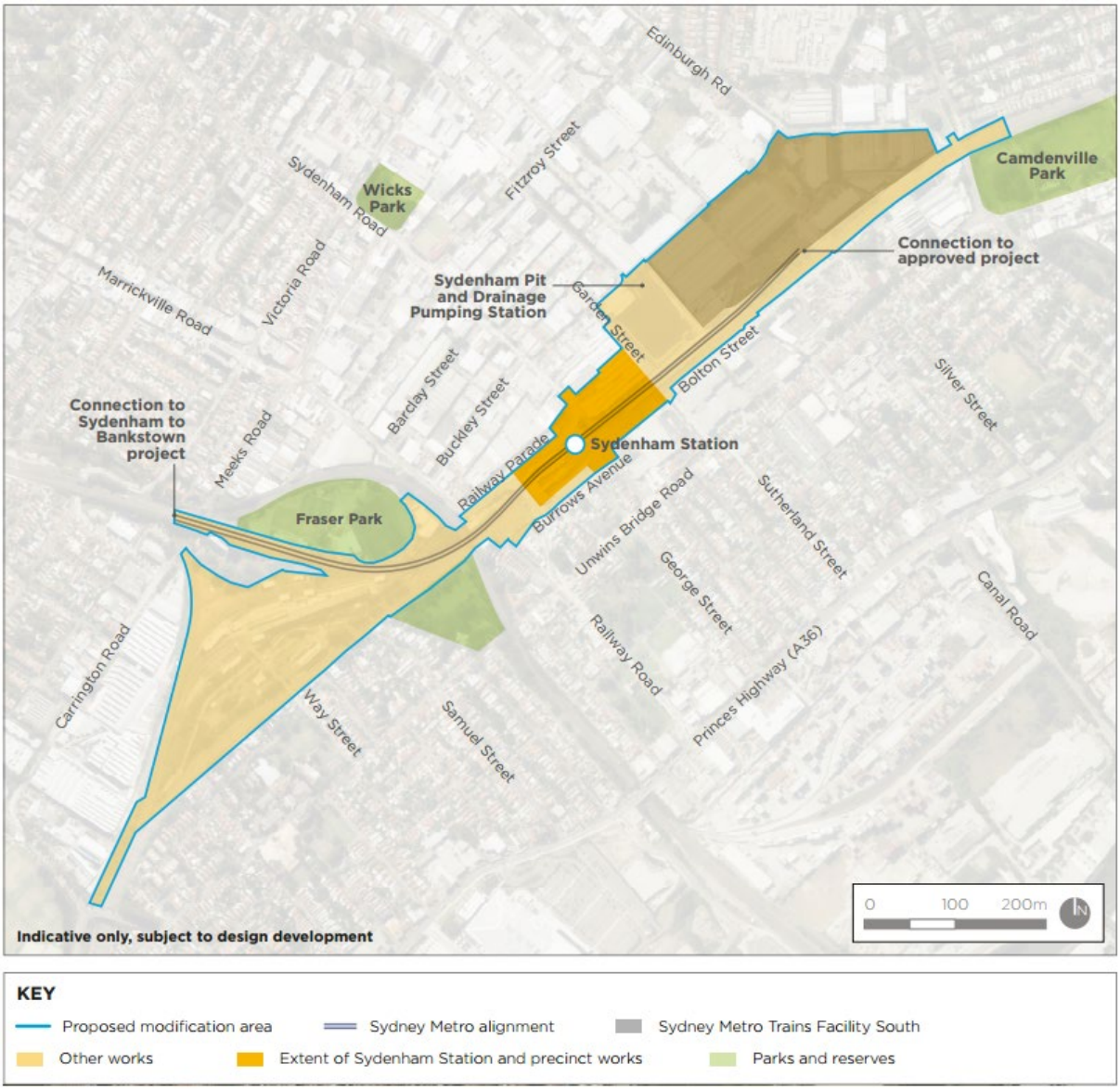
The SMu temporary works include:

- temporary arrangements to divert and control pedestrians, public transport users, cyclists, public transport and traffic and to provide public access, amenity, security and safety during all stages of design and construction of the Works;
- temporary arrangements for people and vehicles to safely access all property, including publicly accessible space affected by the Contractor's Activities;
- temporary arrangements for people and vehicles to safely access the Site;
- temporary access stairs, walkways and platforms within the Site;
- temporary construction hoardings, fencing, noise walls, access gates and barriers on and around the Site;
- all environmental safeguards and measures necessary to mitigate environmental effects which may arise during the design and construction of the Works;
- cleaning, maintenance, repair, replacement and reinstatement, as required, of all areas occupied by the Contractor during design and construction of the Works;
- temporary site facilities required for design and construction of the Works,;
- temporary infrastructure, safety screens and ground support installed or erected to undertake design and construction of the Works;
- temporary arrangements for Utility Services including water, electricity, stormwater, sewerage, gas and electronic communications;
- temporary works and measures required as a consequence of requirements arising from the stakeholder and community liaison process; and
- all other temporary works and measures required for the construction of the Works.

1.5 Works Location and Site Layout

The SMu work location and site layout is highlighted in Figure 1 below.

Figure 1 Sydenham Station and Junction Project Site



1.6 Objectives and Targets

The objectives of the VAMP are as follows:

- Minimise impacts on existing landscape features as far as feasible and reasonable.
- Ensure the successful implementation of the Landscape Design.
- Reduce visual impact of construction to surrounding community.

These objectives conform to Sydney Metro (SM) objectives as described in the Construction Environmental Management Framework.

Furthermore, in accordance with the Environmental Performance Outcomes as stated within the Sydney Metro City & Southwest Chatswood to Sydenham Submissions and Preferred Infrastructure Report, the project *"…minimises adverse impacts on the visual amenity of the built and natural environment (including public open space) and capitalises on opportunities to improve visual amenity.*"

The Compliance Matrix in Appendix A provides a comprehensive list of compliance requirements, environmental documents and the contract documents

2. Legal and Other Requirements

Table 1 below details the legislation and planning instruments considered during development of this Plan.

Table 1 Legislation and Planning Instruments

Legislation	Description	Relevance to this VAMP
Environmental Planning and Assessment Act 1979	This Act establishes a system of environmental planning and assessment of development proposals for the State.	The approval conditions and obligations are incorporated into this VAMP.
Commonwealth Copyright Act 1968	This Act establishes the notification process in relation to moral rights for public art and architecture under Commonwealth Copyright Act 1968	The notification process for public art.

The VAMP addresses applicable requirements within the following documents:

- The Sydney Metro City and Southwest – Project Approval – Determination, dated 9th January 2017
- The Sydney Metro City and Southwest - Environmental Impact Statement, dated 3rd May 2016;
- The Sydney Metro City and Southwest - Sydenham Station and Sydney Metro Trains Facility South Modification Report, June 2017
- The Sydney Metro City and Southwest - Sydenham Station and Sydney Metro Trains Facility South Submissions Report October 2017
- Sydney Metro City and Southwest Heritage Interpretation Plan
- The Sydney Metro City and Southwest Modification 4 Instrument of Approval
- Sydney Metro City & Southwest - Chatswood to Sydenham Staging Report
- The Sydney Metro Construction Environmental Management Framework v3;
- The Sydenham Station and Junction Project Deed

2.1 Guidelines

Guidelines and standards relating to the management of visual amenity include:

- Crime Prevention through Environmental Design (CPTED) principles
- Sydney Metro Brand Style Guidelines
- AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties
- AS 4282-1997 Control of the Obtrusive Effects of Outdoor Lighting; and
- AS/NZ 1158 - Lighting for Roads and Public Spaces (where relevant Australian Standards are applicable to SMu works)

2.2 ISCA

JHLOR will pursue a rating under the IS Rating Scheme. This Plan relates to two credits within the IS Technical Manual V1.2

2.2.1 Hea-2 Crime Prevention

This Plan details how crime will be reduced during the construction phase through the implementation of CPTED measures. A crime risk assessment is included in Appendix B.

2.2.2 Dis-5 Light Pollution

This Plan details how measures to prevent light spill will be implemented during the construction phase. A Temporary Diversion and lighting checklist has been developed and is included within Appendix C.

3. Roles and Responsibilities

The roles and responsibilities of key SMu Personnel with respect to visual amenity are as follows:

Table 2 Roles and Responsibilities

Project Director	Managing the delivery of the SMu Works including overseeing implementation of visual amenity management measures Act as Contractor's Representative
Environment Manager	Oversee the implementation of all visual amenity management initiatives Responsible for managing ongoing compliance with the CoA and environmental document requirements
Commercial Manager	Ensure that relevant visual amenity management requirements are considered in procuring materials and services
Construction Managers **Site Superintendent**	Manage the delivery of the construction process, in relation to visual amenity management across all sites in conjunction with the Environment Manager
Sustainability Manager	Track and report visual amenity elements against sustainability targets
Environment Coordinator	Manage the on-ground application of visual amenity management measures during construction
Project Engineer	Implement visual amenity management activities during construction works
Independent Environment Representative	• Receive and respond to communications from the Secretary in relation to the environmental performance of the Critical State Significant Infrastructure (CSSI); • Consider and inform the Secretary on matters specified in the terms of the planning approval; • Consider and recommend any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community; • Review all documents required to be prepared under the terms of the planning approval, ensure they address any requirements in or under the planning approval and if so, endorse them before submission to the Secretary (if required to be submitted to the Secretary) or before implementation (if not required to be submitted to the Secretary); • Regularly monitor the implementation of all documents required by the terms of the planning approval for implementation in accordance with what is stated in the document and the terms of the planning approval; • Review the Proponent's notification of incidents in accordance with Condition A41 of this approval; • As may be requested by the Secretary, help plan, attend or undertake Department audits of the CSSI, briefings, and site visits; • Consider any minor amendments to be made to the CEMP, CEMP sub-plans and monitoring programs that comprise updating or are of an administrative nature, and are consistent with the terms of the planning approval and the CEMP, CEMP sub-plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of the planning approval; • Perform the roles under CoA A24 Must complete project induction covering LORs' health safety and environment management system.

4. Existing Environment

The SMu site is described in Table 3. For the purposes of this plan the project site has been split into three components. These descriptions have been taken from the EIS Modification Report.

Table 3 Description of SMu Site

Construction Site	Site character from EIS SSI-15_7400	Visual elements during construction	Potentially Sensitive Receivers
Sydenham Station	Existing Character Sydenham Station is of State heritage significance and dated to the 19th and early 20th centuries. The station contains several Victorian buildings and structures with unique architectural detailing. The topography of the area is gently undulating and rises to the west of the station at Gleeson Avenue, providing city views to the east. The station fronts Gleeson Avenue, which functions as the commercial centre of Sydenham and contains shops, restaurants, offices and 'shop top' housing extending south from the station. The character of the area surrounding the station is strongly influenced by its industrial history and the transport network, including rail, busy main roads and Sydney Airport. Areas to the north and west of the station are predominantly single and double storey industrial buildings. The Goods Line to Port Botany crosses the commuter rail corridor via a pratt truss bridge to the immediate south-west of the station. The area surrounding the station includes several recreation and open space areas, including Fraser Park to the south-west, and Sydenham Green and Tillman Park to the south. A mixture of residential and commercial exists around Sydenham station, which services the surrounding area. Building heights are predominately single and double storey industrial buildings, intermixed with some three to four storey commercial and industrial buildings. The narrowness of the surrounding streets and the high proportion of built development generally contribute to a lack of street trees within the area.	The following elements and activities are likely to be visible during construction: Construction of the new canopy and footbridge Removal of buildings on Platform 1 and Platform 6 Extension and realignment of Platforms 1 and 2 Establishment of new entries and landscaping on Railway Parade and Burrows Avenue Construction of the services building.	Surrounding residents and businesses
Rail Corridor	Existing Character The area between and the approved project boundary in the north and Marrickville Station in the south is characterised by rail related development and flanked by parkland and vegetated areas. In this area, the Goods Line crosses the commuter rail corridor via a pratt truss bridge, a visual feature in nearby parts of Sydenham and a heritage item (Section 170 Heritage and Conservation Register). To the west, the rail corridor splits into the T3 Bankstown Line to the north and the T4 Illawarra Line to the south. The Sydenham Maintenance Centre is located between these two lines at Way Street. Fraser Park is situated to the north of the T3 Bankstown Line. Fraser Park is located in a large pocket of flat land between the Goods Line and the Sydenham	The following elements and activities are likely to be visible during construction: Trackworks, including construction of new track and track infrastructure	Surrounding residents and businesses

Construction Site	Site character from EIS SSI-15_7400	Visual elements during construction	Potentially Sensitive Receivers
	Maintenance Centre. The park includes a synthetic football field, grandstand and club house building, three smaller soccer pitches, perimeter road (alongside the rail corridor) and three car parks. Tillman Park is located on Unwins Bridge Road, adjacent to the T4 Illawarra Line and Goods Line, immediately south of the pratt truss bridge. The park includes a central playground with park equipment, pathways, seating and amenities set amid mature trees and grassy mounds. North of the playground, the park opens up into a large lawn area used for informal recreation and community events. The rail corridor is well screened by a wide strip of mature trees, shrubs and native grasses along the northern boundary of the park and glimpses to the pratt truss bridge can be seen above this vegetation.		
Sydenham Drainage Pit and Pump House	The Sydenham Pit is a large area of stormwater detention located on the western side of the corridor, adjacent to Garden Street Marrickville. The Sydenham Pit receives water from a number of culverts and channels that covey water from local catchment. A large channel runs along the eastern side of the pit. Water is discharged into this channel by a pump station located in the north-eastern corner of the pit. Graffiti and commissioned street art are found on nearby industrial buildings, along concrete drainage channels and on Sydenham Pit and Drainage Pumping Station.	The following elements and activities are likely to be visible during construction: Construction of the aqueduct and access Construction of a new pump house	Surrounding businesses

5. Crime Prevention Through Environmental Design Principles

The principle of *Crime Prevention Through Environmental Design* will be incorporated throughout the design and construction of temporary and permanent facilities. The key principles adopted in relation to the public realm at the Project site include:

- Increasing the perception of risk to criminals by increasing the possibility of detection, challenge and capture.
- Increasing the effort required to commit crime by increasing the time, energy of resources which need to be expended.
- Reducing the potential rewards of crime minimising by removing or concealing “crime benefits”.
- Removing conditions that create confusion about required norms of behaviour.

Access control 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. Fence and barriers are required to be secure however not create a hostile environment.

Natural surveillance increases the threat of apprehension by taking steps to increase the perception that people can be seen. Natural surveillance occurs by designing the placement of physical features, activities and people in such a way as to maximize visibility and foster positive social interaction among legitimate users of private and public space. Potential offenders feel increased scrutiny and limitations on their escape routes.

Territorial reinforcement promotes social control through increased definition of space and improved proprietary concern. By using fences, pavement, signs, lighting and landscape to express ownership and define public, semi-public and private space, natural territorial reinforcement occurs. Territorial reinforcement measures make the normal user feel safe and make the potential offender aware of a substantial risk of apprehension or scrutiny. Display security system signage at access points.

6. Aspects and Potential Impacts

The key aspects and potential impacts associated with the management of visual amenity during the delivery of Sydenham Station and Junction Works are listed in Table 4.

These identified impacts and opportunities have been taken into account in the development of the Visual Amenity management strategy and site-specific procedures for the works.

Table 4 Summary of Overall Aspects and Potential Impacts

Aspects	Potential impacts/opportunities
Litter	• Potential for waste to not be placed in appropriate bins and result in litter around the construction worksites • Increase security may reduce illegal dumping
Graffiti	• Potential for site hoardings or other exposed surfaces to be vandalised.
Lighting	• Potential for site lighting to affect the amenity of surrounding land uses
Traffic and transport	• Potential for required traffic control signage to increase visual clutter surrounding construction sites
Landscaping	• Potential for landscaping not being implemented as per design • Potential for landscaping features to conceal people or funnel them into an area • Potential for visual impact from weeds during construction prior to landscaping
Fencing/Hoarding/Temporary Site Sheds	• Potential to create visual impacts and graffiti space

Visual amenity related risks are assessed within Appendix C of the Construction Environmental management Plan (CEMP).

7. Visual Amenity Management

7.1 Project Urban Design and Landscape Team

JHLOR have engaged Hassell Weston Williamson (HWW) to carry out the Urban Design and Landscaping design for the SMu Project. HWW's involvement with respect to the input into this plan and visual amenity is detailed below in 7.2

7.2 Visual Amenity Mitigation Measures

Table 5 lists the visual amenity mitigation measures to be implemented during the course of the project works.

Table 5 Visual Amenity Mitigation Measures

Item	Responsibility
General	
Visual mitigation measures will be implemented as soon a feasible and practical and remain in place during the construction period.	Environment Manager Communications and Community Liaison Manager Project Engineer Site Superintendent HWW
Opportunities for the retention and protection of existing trees will be identified during detailed construction planning	Construction Manager/ Superintendent / Environmental Manager
Existing trees to be retained (within the Project Footprint) will be protected with suitable tree protection measures prior to the commencement of construction (refer AS 4970 the *Australian Standard for Protection of trees on Development Sites and Adjoining Properties*)	Environment Manager Project Engineer Site Superintendent
The placement of CCTV cameras associated with SMu works will be undertaken in consultation with the relevant public authority and the NSW Police.	Construction Manager / Design Manager / Superintendent
Permanent Works	
CPTED principals will be incorporated into each relevant design package, and detailed in the Station Design and Precinct Plan	Design Manager
The Station Design and Precinct Plan will be developed in accordance with CoA E101 and CoA E102 requirements (refer conditions of approval for further detail in Appendix A.	Environment Manager Design Manager HWW
Vegetation will be provided to screen and visually integrate sites with the surrounding area, where feasible and reasonable Planting and landscaping works will take into consideration local conditions, species and maintain clear sight lines (for example at any road intersections)	Design Manager/Project Design Team HWW
A suitably qualified individual with an urban and/or landscape design qualification will undertake reviews of the implementation of the Landscape Design	HWW
Temporary Works	
Temporary Works to be designed and constructed in accordance with the CPTED principles, including the use of Exterior surfaces and finishes with a high level of vandal resistance (graffiti shield)	Construction Manager / Design Manager
Elements (for example material stockpiles) within construction sites would be located to minimise visual impacts, where feasible and reasonable	Superintendent / Environmental Coordinator

Item	Responsibility
Site sheds will be located to minimise visual impact where it is feasible and reasonable to do so.	Project Engineer Environmental Coordinator
Site sheds to be maintained in an appropriate condition. Existing buildings will be used where practical and feasible will be maintained to a high standard.	Construction Manager
Temporary impacts to public open space would be rehabilitated in consultation with the relevant local council and /or landowner	Construction Manager/ Project Engineer/ Environmental Coordinator
Temporary site facilities must satisfy the sustainability requirements of C1 - SWTC Appendix B7.0 - Sustainability Requirements.	Construction Manager Sustainability Manager
Lighting Consideration	
Lighting of construction sites will be oriented to minimise glare and light spill impact on adjacent receivers, where practical and safe to do so.	Superintendent / Project Engineer / Environmental Coordinator
Cut off and direct light fittings (or similar technologies) will be used to minimise glare and light spill onto private property, where feasible and practical	Design Manager / Project Design Team
All permanent external lighting will 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 (as relevant to SMu works).	Design Manager / Project Design Team HWW
Hoarding Banners, Fencing and Signs	
Early stage hoarding interpretation requirements as per Sydney Metro's Heritage interpretation Plan will be considered and investigated for implementation where practical and safe to do so (for example platform hoardings installed in a confined environment may be able to accommodate only directional/mandatory signage to ensure commuter safety and constant circulation).	Metro Heritage Manager / Communications Team to liaise with Project Communications and Community Liaison Manager HWW
The design and maintenance of construction site hoardings will aim to minimise visual amenity and landscape character impacts, including the prompt removal of graffiti (refer section on Graffiti within this table). Public art opportunities would be considered	Environment Manager Site Superintendent Project Engineer Communications and Community Liaison Manager Environment Manager Site Superintendent Project Engineer Communications and Community Liaison Manager
Site hoarding and fencing banners including vinyl (on solid hoarding), shade cloth or other material on the external face of any hoarding or fence will be installed within 30 days of Site establishment.	Construction Manager / Project Engineer/ Site Superintendent
Site hoarding and fencing banners must be replaced every 12 months to ensure they remain clean and appropriate for their intended use.	Construction Manager / Project Engineer / Site Superintendent
Hoarding / noise barriers (during construction phase) will be maintained in an excellent condition with prompt removal of graffiti.	Superintendent / Environmental Coordinator
Fencing, walls, and hoarding will be designed and implemented to increase natural surveillance with straight runs.	Construction Manager / Design Manager/ Communications and

Item	Responsibility
	Community Liaison Manager/Project Engineer
Fencing, walls, and hoarding will be designed and implemented with set back from infrastructure to avoid being used as a climbing aid. Including investigation of pruning vegetation if limbs are close to infrastructure	Construction Manager / Project Engineer Communications and Community Liaison Manager
Signage will be utilised to clearly define and designate areas with respect to their intended use to the public and construction workers on access.	Superintendent / Project Engineer / Communications and Community Liaison Manager
Submit the following: • Installation plans for all hoardings or fencing banners, including shade cloth or other material on the external face of any hoarding or fence • Banner artwork print proofs / plans and details of all signage (other than signage containing safety advice or instruction only), advertising or branding on the external face of any hoarding, fence or structure to the Principal for review. The banner artwork print proofs/plans must be approved by the Principal's Representative prior to being used for their intended purpose.	Construction Manager / Project Engineer / Communications and Community Liaison Manager
Install and maintain hoarding banners for the external faces (visible to the public) of hoardings and fences that are constructed as well as signage that provides the community with details of the Sydenham Station and Junction Project information line and out of hours contact details. The hoarding and fencing banners must be in full colour and produced in accordance with designs provided by SM and to comply with the hoarding requirements of the Sydney Metro Brand Style Guidelines.	Construction Manager / Project Engineer/ Communications and Community Liaison Manager
Provision of viewing holes and transparent panels in hoardings at various locations will be considered in consultation with the Principal's Representative and installed where appropriate taking into consideration compliance with safety requirements and commuter/pedestrian flow	Construction Manager / Project Engineer/ Communications and Community Liaison Manager
Install way-finding signage to direct pedestrians, commuters and vehicles around the Construction Site.	Construction Manager / Project Engineer / Communications and Community Liaison Manager
Hoardings and fencing installed must be made from as-new materials and must at all times be maintained in a neat and tidy condition and be sympathetic with the surroundings.	Construction Manager / Project Engineer/Superintendent
Graffiti	
SMu must monitor and remove graffiti within the following timeframes: Offensive graffiti must be removed or covered within 24 hours Highly visible yet non-offensive graffiti must be cleaned or covered within one week; Graffiti that is neither offensive nor highly visible must be cleaned or covered during normal operations within one month; and Any advertising material including bill posters must be removed or covered within 24 hours.	Construction Manager / Project Engineer/Site Superintendent

8. Training

All personnel working on the site will undertake a site induction, which will provide initial training on various environmental aspects including visual amenity.

Additional training will be provided to the workforce during toolbox talk, which will explain the visual amenity requirements related to issues such as

- Hoarding
- Graffiti removal
- Lighting direction
- Vegetation planted/retained for screening purposes.

9. Monitoring, Auditing and Reporting

Weekly Environmental Site inspections will be undertaken by the Environmental Manager / Coordinator, Site Supervisor and nominated Site and Project Engineers. The visual inspections will target:

- Rubbish
- Litter
- Graffiti
- Surplus Material
- Weeds

Daily inspections by Site Supervisors, including inspection of the following:

- Construction site hoarding and perimeter site areas
- Scaffolding, and other site structures
- Lighting structures

Periodic Joint Environment Inspections attended by representatives of the Environment and Sustainability Team, Environment Representative, and representatives from SM. This will include inspection of the following:

- Health of retained vegetation around site boundaries
- The condition of any site hoarding and fencing
- Position and direction of any site lighting
- Landscaping works.

Inspection reports will be prepared following site inspections to document any relevant observations made and identify any issues to be rectified in relation to visual amenity and timing for rectification.

Typical Compliance records would consist of:

- Inspections undertaken in relation to visual amenity measures management measures (such as graffiti and deterioration of hoarding or vegetation)
- Weekly Environmental Inspection forms
- Toolbox training records.

Results and outcomes of inspections, monitoring and auditing will be reported internally on a monthly basis. Six-monthly construction compliance reports will be prepared to report on compliance with the Project Approval.

In accordance with the IS Rating Scheme V1.2 Urban and Landscape Design credit Urb-2 Implementation, a suitably qualified individual with an urban and/or landscape design qualification will undertake reviews of the implementation of the Landscape Design.

10. Review and Improvement

The VAMP will be reviewed and updated at least annually. JHLOR will undertake the ongoing development, amendment and updating of the VAMP to ensure it remains consistent with Project priorities, risk management, client requirements and Project objectives, taking into account:

- The status and progress of JHLOR's activities
- Changes in the design, delivery and operations processes and conditions
- Lessons learnt during delivery and operations
- Changes in other related Project Plans
- Requirements and matters not covered by the existing Project Plans
- Changes to Project Plans as directed by SM's Representative under the Deed.
- Where deemed appropriate in relation to items raised within inspections or audits

10.1 Review of Mitigation Measures

Where a review of visual amenity performance, based on inspection and audit results, indicates that current mitigation measures are not effective (i.e. they are not meeting the Environmental Performance Outcomes as stated within the Sydney Metro City & Southwest Chatswood to Sydenham Submissions and Preferred Infrastructure Report), the Environmental Manager will consult with the construction team in regards to additional mitigation measures. These additional mitigation measures may include additional controls or changed work practices.

10.2 Records

Records associated with this management plan and monitoring programme will be maintained in accordance with Section 12 of the CEMP.

11. Enquiries, Complaints and Incident Management

Environmental incidents and complaints are to be investigated, reported, documented, actioned and closed out as per the details provided in the Community Consultation Strategy and the CEMP.

Appendix A - Visual Amenity Management Measures and Compliance Matrix

No.	Measure	Timing	Requirement	Responsibility	Reference
	Project Approval – Specific Management Plan Requirements				
1.	The CSSI must be constructed in a manner that minimises visual impacts of construction sites, including, providing temporary landscaping where appropriate to soften views of the construction sites, minimising light spill, and incorporating architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located.	During Construction	C2S SSI 15_7400 COA – E99	Environment Manager Project Engineer Site Superintendent	Noted
2.	The Proponent must establish a Design Review Panel (DRP) to refine design objectives for place making, public realm and urban and heritage integration applicable to the length of the project and provide advice on the application of the objectives to key design elements in relation to place making, architecture, heritage, urban and landscape design and artistic aspects of the CSSI. The DRP must: (a) comprise five members who are experts in one of the identified design elements; (b) include: i. the NSW Government Architect as Chair (or their representative); ii. a representative from the Heritage Council, (c) Invite the Heritage Council (or delegate) to participate in meetings on matters that have been referred to it by the Proponent in consultation with the Heritage Office. The Independent Heritage Architect must also be invited to advise on matters relating to other heritage issues where this capability is not held by one of the other members referred to in (a) or (b). (d) Invite relevant Councils and other key stakeholders (such as UrbanGrowth NSW) to participate in meetings to advise on local issues and applicability of design review outcomes as they relate to the local context of each station; (e) meet at least four times a year, or any other timeframe agreed by the DRP; and (f) keep meeting minutes and a schedule of action items arising from each meeting. Relevant Council(s) and other key stakeholders such as UrbanGrowth NSW and must be invited to participate in DRP meetings to advise on local issues and applicability of design review outcomes as they relate to the local context of each station location.	During Construction	C2S SSI 15_7400 COA – E100	SM	Noted
3.	Before commencement of permanent built surface works and/or landscaping, the Proponent must prepare Station Design and Precinct Plans (SDPP) for each station. The SDPP must be prepared by a suitably qualified and experienced person(s), in collaboration and consultation with relevant stakeholders including but not limited to relevant council(s), UrbanGrowth NSW, the Department, Chambers of Commerce and the local community. The SDPP(s) must present an integrated urban and place making outcome for each station or end state element. The SDPP(s) must be approved by the Secretary	Prior to permanent aboveground work	C2S SSI 15_7400 COA – E101	Environment Manager Design Manager HWW	Noted (requirement included in Section 7.12 Table 5)

No.	Measure	Timing	Requirement	Responsibility	Reference
	following review by the DRP and before commencement of permanent aboveground work. Each SDPP must include, but not be limited to: (a) identification of specific design objectives, principles and standards based on i. the project design objectives as refined by the DRP; ii. maximising the amenity of public spaces and permeability around entrances to stations; iii. local environmental, heritage and place making values; iv. urban design context; v. sustainable design and maintenance; vi. community safety, amenity and privacy, including 'safer by design' principles where relevant; vii. relevant urban design and infrastructure standards and guidelines (including relevant council standards, policies and guidelines); viii. minimising the footprint of the project (including at operational facilities); (b) opportunities for public art; (c) landscaping and building design opportunities to mitigate the visual impacts of rail infrastructure and operational fixed facilities (including the Chatswood Dive, Marrickville Dive, Sydney Metro Trains Facility South, Artarmon Substation, station structures and services, noise walls etc.); (d) the incorporation of salvaged historic and artistic elements onto the project design, including but not limited to the Tom Bass P&O fountain, the Douglas Annand glass screen (if present), the Douglas Annand wall frieze and heritage fabric from Martin Place Station, unless otherwise agreed by the Secretary; (e) details on the location of existing vegetation and proposed landscaping (including use of endemic and advanced tree species where practicable). Details of species to be replanted/revegetated must be provided, including their appropriateness to the area and habitat for threatened species; (f) a description of the CSSI design features, including graphics such as sections, perspective views and sketches for key elements of the CSSI; (g) the location, design and impacts of operational lighting associated with the CSSI and measures proposed to minimise lighting impacts; (h) details of where and how recommendations from the DRP have been considered in the plan; (i) the timing for implementation of access, landscaping and public realm initiatives; (j) monitoring and maintenance procedures for vegetation and landscaping (including weed control), performance indicators, responsibilities, timing and duration and contingencies where rehabilitation of vegetation and landscaping measures fail; and (k) evidence of consultation with the community, local Councils and agencies in the preparation of on the SDPP(s) and how feedback has been addressed before seeking endorsement by the DRP. Elements covered by SDPP(s) must be complete no later than the commencement of operation of the Sydney Metro to paid services, unless otherwise agreed with the Secretary. Note: The SDPP may be submitted in stages to address the built elements of the CSSI and landscaping aspects of the CSSI.	commencing as per this CoA. Noting that The SDPP may be submitted in stages to address the built elements of the CSSI and landscaping aspects of the CSSI.			

No.	Measure	Timing	Requirement	Responsibility	Reference
4.	The SDPP must achieve a minimum visual impact rating of at least "Minor Benefit" as defined in the EIS, as amended by the documents listed in A1, for all design elements of the project, where feasible and reasonable. Where it can be demonstrated, to the DRP's satisfaction, that a "Minor Benefit" is not achievable, then a "Negligible" visual impact rating must be achieved as a minimum.		C2S SSI 15_7400 COA – E102	Environment Manager Design Manager HWW	Noted (requirement included in Section 7.2, Table 5)
5.	All permanent external lighting must be the minimum level of illumination necessary and must 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.		C2S SSI 15_7400 COA – E104	Design Manager Project Design Team	Section 7.2, Table 5
6.	The placement of CCTV cameras associated with the CSSI must be undertaken in consultation with the relevant public authority and the NSW Police.		C2S SSI 15_7400 COA – E105	Design Manager / Construction Manager / Superintendent	Section 7.2, Table 5
	EIS Environmental Management Measures				
7.	Where feasible and reasonable, the elements within construction sites would be located to minimise visual impacts, for example materials and machinery would be stored behind fencing.	During Construction	C2S EIS REMM - LV1	Environment Coordinator Project Engineer Site Superintendent	Section 7.2 Table 5
8.	Existing trees to be retained would be protected prior to the commencement of construction in accordance with Australian Standard AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties	Prior to construction	C2S EIS REMM - LV2	Environment Manager Project Engineer Site Superintendent	Section 7.2 Table 5
9.	Lighting of construction sites would be oriented to minimise glare and light spill impact on adjacent receivers.	During Construction	C2S EIS REMM - LV3	Site Superintendent Project Engineer Environment Coordinator	Section 7.2 Table 5
10.	Visual mitigation would be implemented as soon as feasible and reasonable after the commencement of construction, and remain for the duration of the construction period.	During Construction	C2S EIS REMM - LV4	Environment Manager Project Engineer	Section 7.2 Table 5

No.	Measure	Timing	Requirement	Responsibility	Reference
				Communications and Community Liaison Manager Site Superintendent	
11.	Opportunities for the retention and protection of existing trees would be identified during detailed construction planning	Prior to construction	C2S EIS REMM - LV5	Design Manager Construction Manager	Section 7.2 Table 5
12.	The design and maintenance of construction site hoardings would aim to minimise visual amenity and landscape character impacts, including the prompt removal of graffiti. Public art opportunities would be considered.	During Construction	C2S EIS REMM - LV6	Environment Manager Site Superintendent Project Engineer Communications and Community Liaison Manager	Section 7.2 Table 5
13.	Temporary impacts to public open space would be rehabilitated in consultation with the relevant local council and / or landowner.	During Construction	C2S EIS REMM - LV10	Environment Coordinator Project Engineer Construction Manager	Section 7.2 Table 5
14.	Cut off and direct light fittings (or similar technologies) would be used to minimise glare and light spill onto private property	During Construction	C2S EIS REMM - LV11	Design Manager/Project Design Team	Section 7.2 Table 5
15.	Where feasible and reasonable, vegetation would be provided to screen and visually integrate sites with the surrounding area	During Construction	C2S EIS REMM - LV12	Design Manager/Project Design Team	Section 7.2 Table 5
16.	Notification processes in relation to moral rights for public art and architecture under Commonwealth Copyright Act 1968 would be carried out	During Construction	C2S EIS REMM – LV19	Environment Manager Communications and Community Liaison Manager	Section 7.2 Table 5

No.	Measure	Timing	Requirement	Responsibility	Reference
	EIS Environmental Performance Outcomes				
17.	• During operation, the project would make a positive contribution to the quality of the urban environment at each station site • The project would be visually integrated with its surroundings.	During Construction	C2S EIS EPO – Landscape character and visual amenity	Design Manager Environment Manager Project Engineer	Noted – Station Design and Precinct Plan to be developed would address this
	Contractual Requirements				
18.	In carrying out the SSJ Contractor's Activities, the SSJ Contractor must: (a) keep the Construction Site, Extra Land and the Project Works clean and tidy and free of refuse; (b) regularly remove rubbish, litter, graffiti and surplus material from the Construction Site and Extra Land; and (c) as a condition precedent to Construction Completion of a Portion, remove all rubbish, surplus materials, Construction Plant and Temporary Works from the Construction Site and Extra Land or the part of the Construction Site or Extra Land relevant to the Project Works or the Portion, except where the retention of any of these are required for the correction of Defects during the Defects Correction Period and this is approved in writing by the Principal's Representative.	During Construction	General Conditions – 3.10	Environment Manager Project Engineer Site Superintendent	Section 7.2
19.	The SSJ Contractor must: (iv) install hoardings and fencing from new materials and must at all times be maintained in a neat and tidy condition and be sympathetic with the surroundings. Hoardings are to be clean, painted free of snagging or sharp protrusions on both the worksite side and the public side and also comply with the relevant hoarding standards; (v) maintain hoardings, fencing or walls on or around the Site free of graffiti and any advertising material not authorised by the Principal's Representative until the Date of Construction Completion of the last Portion to achieve Construction Completion;	During Construction	Schedule Part C SWTC Main Body – 5.10 Hoarding and Temporary Fencing	Environment Manager Project Engineer Site Superintendent	Section 7.2
20.	The SSJ Contractor must: (v) not store rubbish or loose items on the Site for any extended period; (vi) maintain existing landscaping and ground vegetation within the Site;	During Construction	Schedule Part C SWTC Main Body – 5.11 Maintenance	Environment Manager Project Engineer Site Superintendent	Section 7.2

No.	Measure	Timing	Requirement	Responsibility	Reference
21.	The Contractor must arrange for the production and installation of any site hoarding and fencing banners including vinyl (on solid hoarding), shade cloth or other material on the external face of any hoarding or fence within 30 days of Site establishment.	During Construction	Schedule Part D – MR-C -12.1a)	Construction Manager Project Engineer Site Superintendent	Section 7.2
22.	Site hoarding and fencing banners must be replaced every 12 months to ensure they remain clean and appropriate for their intended use.	During Construction	Schedule Part D – MR-C -12.1b)	Construction Manager Project Engineer Site Superintendent	Section 7.2
23.	All banner artwork print proofs must be submitted to and approved by the Principal's Representative prior to being used by the Contractor in the production of banner artwork. The Principal's Representative must be given a minimum of five Business Days to review the banner artwork print proofs. The Contractor must address all the Principal's comments on the print proofs to the satisfaction of the Principal's Representative, prior to being approved.	During Construction	Schedule Part D – MR-C -12.1c)	Project Engineer Construction Manager Communications and Community Liaison Manager	Section 7.2 and also refer SMu Community Communication Strategy (Section 7.4 and Appendix A for Approvals Process)
24.	The Principal's Representative's approval of banner artwork print proofs is a Hold Point.	During Construction	Schedule Part D – MR-C -12.1d)	Project Engineer Construction Manager Communications and Community Liaison Manager	Section 7.2 and also refer SMu Community Communication Strategy (Section 7.4 and Appendix A for Approvals Process)
25.	Installation plans for all hoardings or fencing banners, including shade cloth or other material on the external face of any hoarding or fence, must be submitted to and approved by the Principal's Representative prior to being erected by the Contractor. The Principal's Representative must be given a minimum of 10 Business Days to review and comment on banner installation plans. The Contractor must address the Principal's comments on the submitted Documents to the satisfaction of the Principal's Representative, prior to them being approved.	During Construction	Schedule Part D – MR-C -12.1e)	Project Engineer Construction Manager Communications and Community Liaison Manager	Section 7.2 and also refer SMu Community Communication Strategy (Section 7.4 and Appendix A for Approvals Process)

No.	Measure	Timing	Requirement	Responsibility	Reference
26.	The Principal's Representative's approval of banner installation plans is a Hold Point.	During Construction	Schedule Part D – MR-C -12.1f)	Project Engineer Construction Manager Communications and Community Liaison Manager	Section 7.2 and also refer SMu Community Communication Strategy (Section 7.4 and Appendix A for Approvals Process)
27.	Viewing holes and transparent panels must be provided in the hoardings at various locations, to be determined by the Principal's Representative in consultation with the Contractor.	During Construction	Schedule Part D – MR-C -12.1g)	SM in consultation with the Project Engineer / Communications and Community Liaison Manager	Section 7.2
28.	12.1 Visual Amenity Management Objectives 12.2 Visual Amenity Management Implementation 12.3 Visual Amenity Mitigation	During Construction	Schedule Part D – MR-E	Environment Manager Project Engineer	This Plan
Construction Environmental Management Framework					
29.	Principal Contractors will ensure as a minimum: i. Temporary construction works including site hoardings and acoustic sheds 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 business which may be obscured by the construction site; • Sydney Metro advertising / public awareness campaigns; and, • Logos / branding, including Sydney Metro, NSW Government, and Contractor branding	During Construction	CEMF Section 4.4a)	Environment Manager Project Engineer Communications and Community Liaison Manager	This Plan Refer SMu Community Communication Strategy (Sections 4.4, 6, 7.4 and Appendix A for Approvals Process)

No.	Measure	Timing	Requirement	Responsibility	Reference
30.	The design of all temporary works will require TfNSW approval in relation to urban design and visual impacts	During Construction	CEMF Section 4.4b)	Environment Manager Design Manager Communications and Community Liaison Manager Project Engineer	Noted and also refer SMu Community Communication Strategy (Appendix A for Approvals Process)
31.	Construction hoardings, scaffolding and acoustic sheds will be regularly inspected and kept clean and free of dust build up. Graffiti on construction hoardings, scaffolding or acoustic sheds will be removed or painted over promptly.	During Construction	CEMF Section 4.4c)	Environment Manager Project Engineer Site Superintendent	Section 9
32.	The principles of Crime Prevention Through Environmental Design will be applied to all works, including temporary works, which have a public interface.	During Construction	CEMF Section 4.4d)	Environment Manager Project Engineer Site Superintendent	Section 5 Appendix B Appendix D
33.	The following visual and landscape management objectives will apply to the construction of the project: • Minimise impacts on existing landscape features as far as feasible and reasonable. • Ensure the successful implementation of the Landscape Design. • Reduce visual impact of construction to surrounding community.	During Construction	CEMF Section 12.1		Section 1.6
34.	Principal Contractors will develop and implement a Visual Amenity Management Plan for temporary works which will include as a minimum: • The visual mitigation measures as detailed in the environmental approval documentation for construction. • Input from an experienced Landscape or Urban Designer. • The maintenance of outward facing elements of site hoarding or noise barriers, including the removal of graffiti and weeds. • Apply the principles of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant safety design requirements and detail mitigation measures to minimise lighting impacts on sensitive receivers for all permanent, temporary and mobile light sources.	During Construction	CEMF Section 12.2a)	Environment Manager HWW	This Plan Section 7.1 and 7.2 Section 9

No.	Measure	Timing	Requirement	Responsibility	Reference
	• Identify the processes and procedures that will be used for the incorporation of the principles of the Crime Prevention Through Environmental Design (CPTED) in the design and construction of any temporary site facilities; and. • Compliance record generation and management.				
35.	Visual and landscape measures will be incorporated into the Principal Contractor's regular inspections including checking the health of retained vegetation around site boundaries, checking the condition of any site hoarding and acoustic sheds, and checking the position and direction of any sight lighting.	During Construction	CEMF Section 12.2b)	Environment Manager Project Engineer Site Superintendent	Section 9
36.	The Contractor will retain compliance records of any inspections undertaken in relation to visual and landscape measures.	During Construction	CEMF Section 12.2c)	Environment Manager	Section 10.2
37.	Examples of visual amenity mitigation measures include: • Wherever feasible and reasonable, vegetation around the perimeter of the construction sites will be maintained. • Temporary construction works will be designed with consideration of urban design and visual amenity as per Section 4.4. • Temporary site lighting, for security purposes or night works will be installed and operated in accordance with AS4282:1997 Control of the Obtrusive Effect of Outdoor Lighting.	During Construction	CEMF Section 12.3	Environment Manager	Section 7 identifies visual amenity measures that would be implemented on SMu

Appendix B - Construction Crime Risk Assessment

Typical crime risks and associated impacts that may occur on SMu have been assessed in accordance with the table below:

Risk Assessment Rankings: E = Extreme H = High M = Medium L = Low

The risks must be reassessed following the consideration of control measures.

Mitigation measures are not compulsory if a subsequent risk assessment is carried out for particular circumstances and controls are agreed to by the appropriate personnel including the Construction Manager (or delegate) and Safety Representative.

Issues or activities that represent an Extreme risk after the application of control measures are not to be undertaken.

Risk	Potential Impact	Risk areas	Initial Risk Rating			Control Measures	Residual Risk Rating		
			P X	C =	Risk		P X	C =	Risk
Assault against Construction Staff/workers	Injury to staff/workers due to assault from a member of the public	Site boundary, nearby roads, access points, site wide	P	3	M	Inform staff/workers to contact Construction Manager if member of public shows aggression. Walk away and do not engage. Contact police if there is a threat of assault. CPTED Measures: Main access points to be in areas with natural surveillance, lots of passers-by. Access points clearly indicate that the site is a construction site and that there is to be no unauthorised access. Fencing around site erected to demarcate construction site and public domain. Sufficient lighting at access points and on-site boundary.	U	3	M
Assault against members of Public	Injury/robbery of members of member of public enabled by the setup of the construction site	Site boundary, nearby roads	P	3	M	CPTED Measures: Enable natural surveillance by maintaining transparent screening (i.e. use shade cloth rather than a hard barrier), lots of passers-by. Clearly indicate boundaries between public and private spaces. Sufficient lighting on site boundary. Do not leave any equipment or materials that could allow someone to hide. Ensure any walkway hoarding	U	3	M

Risk	Potential Impact	Risk areas	Initial Risk Rating			Control Measures	Residual Risk Rating		
			P X	C =	Risk		P X	C =	Risk
						is positioned so that people can see end to end – if not install mirrors.			
Arson	Injury/death of staff or worker Damage to built or temporary construction infrastructure	Construction compounds, temporary hoarding, fencing, new aerial concourse, services building, aqueduct structure/ new pump house	U	1	H	Report suspicious behaviour immediately to the Construction Manager and police. Do not leave items lying around that could be used in arson – welding kits, etc. Fire control systems to be in place Ensure all access points are locked when not manned Site security to patrol after hours. CPTED Measures: Main access points to be in areas with natural surveillance, lots of passers-by. Access points clearly indicate that the site is a construction site and that there is to be no unauthorised access. Fencing around site erected to demarcate construction site and public domain. Sufficient lighting at access points and on-site boundary. Limit places for people to hide on site.	R	1	M
Protests	Damage to built or temporary construction infrastructure	Construction compounds, temporary hoarding, fencing, new aerial concourse, services building, aqueduct structure /new pump house	U	3	M	Inform Construction Manager, Community Liaison Manager and police. Shut site entry points Do not engage with protesters If possible, remove any plant and equipment away from site boundaries where it may be damaged. CPTED Measures: Main access points to be in areas with natural surveillance, access points clearly indicate that the site is a construction site and that there is to be no unauthorised access. Fencing around site erected to demarcate construction site and public domain.	R	3	L
Theft	Theft of construction materials (copper wire, etc.) Theft of computers, appliances from construction compound,	Construction lay down areas, construction compounds, services building, aqueduct structure/new pump house	P	4	M	Do not leave materials in places where there is no surveillance Use concrete barriers to prevent wheels of wire being rolled away	U	4	L

Risk	Potential Impact	Risk areas	Initial Risk Rating			Control Measures	Residual Risk Rating		
			P X	C =	Risk		P X	C =	Risk
	services building, new pump house during fit out stage					Lock all plant and equipment within containers at the end of each day Lock up site compounds and interchange building Install CCTV cameras Site security to patrol compounds and interchange building CPTED Measures: Main access points to be in areas with natural surveillance, lots of passers-by. Access points clearly indicate that the site is a construction site and that there is to be no unauthorised access. Fencing around site erected to demarcate construction site and public domain. Sufficient lighting at access points and on-site boundary. Limit places for people to hide on site.			
Vandalism	Vandalism of plant and construction compounds, services building, new pump house	Construction lay down areas, construction compounds, services building, aqueduct structure/new pump house	P	4	M	Do not leave plant/equipment in areas where there is no surveillance Security guards to patrol construction compound / services buildings Report suspicious activity immediately CPTED Measures: Main access points to be in areas with natural surveillance, lots of passers-by. Access points clearly indicate that the site is a construction site and that there is to be no unauthorised access. Fencing around site erected to demarcate construction site and public domain. Sufficient lighting at access points and on-site boundary. Limit places for people to hide on site.	U	4	L

This table may be used as a guide in determining the level of risk for each crime risk.

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.

Select a letter and a number from each column. Plot letter and number selections on the Risk Ranking Matrix to determine applicable ranking:

Likelihood (Probability and Frequency of Occurrence)			Consequence (Outcome or Severity of Occurrence)		
C	Certain	• Common or repeating occurrence • Consequence can reasonably be expected to occur in life of Project.	1	Severe	• Multiple/Single Fatality • Major pollution incident causing significant and widespread damage or potential to health or the environment • Persistent reduction in ecosystem function and value. • Ongoing disruption and loss of protected species. • Major prosecution likely, outcome in excess of $500,000
L	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.	2	Major	• Non-fatal but permanent injury • Significant widespread and persistent changes to habitat, species or environmental media • Significant pollution incident causing damage or potential damage to health or the environment external to the site. • Potential for prosecution. Potential outcome between $50,000 - $500,000 • Numerous substantial complaints • Actual material environmental harm
P	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	• Injury – Not returned to work – major injury (LTI) • Localised irreversible habitat loss or effects on habitat, species or environmental media • Reportable incident to the relevant environmental regulator or other authority. • Demonstrated breach of legislative, licence or guideline requirements.

Likelihood (Probability and Frequency of Occurrence)			Consequence (Outcome or Severity of Occurrence)		
					• Likely infringement notice or fine, potential for prosecution up to $50,000. • Will cause complaints.
U	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.	4	Minor	• Injured – returned to work – restricted duty • Localised degradation of habitat or short-term impacts to habitat, species or environmental media. • Pollution incident that marginally exceeds licence conditions or guidelines for acceptable pollution. • Fine unlikely. • Potential for complaints.
R	Rare	• Practically impossible • Not known to have occurred in industry or unheard of.	5	Incidental	• First aid insignificant • Localised or short-term effects on habitat, species or environmental media. • Fully contained on site and can be fully remediated. Little potential for fine or complaints. • Insignificant or trivial incident

Probability ► ▼Consequence	CERTAIN	LIKELY	POSSIBLE	UNLIKELY	RARE
1 – Severe	E	E	E	H	M
2 – Major	E	E	H	M	M
3 - Moderate	H	H	M	M	L
4 – Minor	M	M	M	L	L
5 - Incidental	M	L	L	L	L

Appendix C Temporary Diversion and Lighting Checklist

Please refer to attached template *'VAMP App C_SSJ-Crime Prevention - CPTED Checklist Template'*.

Checklist no.: xxxx	**CPTED Checklist** **Temporary Construction Diversions and Lighting**	
	SSJ Project	

The aim of Crime Prevention Through Environmental Design (CPTED) is *"to design urban environments such that opportunities for offending are reduced and feelings of safety are enhanced"* (Western Australian Planning Commission, 2006.)

Section 1: Work Details

Person Undertaking Checklist:					
Date undertaken:		**Required Start Date of works:**		**Expected End Date of works:**	
Brief Description of Work:					

Section 2: Checklist

Checklist questions relate to temporary diversions for construction and construction lighting required for security purposes	**Yes**	**No**	**N/A**	**Comments/Control Measures**
Is a temporary diversion or temporary construction lighting required?	☐	☐	☐	
Does a temporary diversion need to be utilised or can the original route be used with some modification? (consider how modifications may affect security)	☐	☐	☐	
Does the route result in a decrease in natural surveillance (i.e. by nearby residents, businesses, pedestrians, facility users or road users?)	☐	☐	☐	
Does the route result in a decrease in technical surveillance/ (i.e. are there less security cameras or is security camera vision blocked by modifications, fences, buildings etc.)	☐	☐	☐	
Can the route be clearly delineated or marked to show access points and egress points?	☐	☐	☐	
Is it clear what areas are private spaces?	☐	☐	☐	
Can the route be accessed at all times?	☐	☐	☐	
Are there any buildings, landscape or other features that could provide cover for or in any way assist in making crime easier?	☐	☐	☐	
Is there a sufficient line of sight along the route? (end-to-end line of sight where possible)	☐	☐	☐	
Is there appropriate signage, fencing or other to define ownership and reduce ambiguity between private and public spaces?	☐	☐	☐	
Is there sufficient lighting in the area or will additional lighting be required?	☐	☐	☐	
Are there any areas with shadows that require additional lighting?	☐	☐	☐	
Are there any other environmental design elements that could be introduced to mitigate the risk of crime?	☐	☐	☐	

Section 3: Map Sketch – Provide a sketch of the temporary diversion/lighting showing all prominent features related to security and crime prevention through environmental design

**Photos should be added to this checklist in addition to this sketch*

Section 4: Actions Required – List of Actions required to ensure temporary diversion/lighting complies with CPTED principles

No.	Action	Action by	Date to be completed by	Comments
1				
2				
3				
4				
5				

6				
7				

Section 5: Checklist sign-off					
Assessor Name:	Dan Keegan	**Signature:**		**Date:**	