Sustainability Management Plan

Line-wide Works Contract Sydney Metro City & Southwest

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Document Approval

Rev.	Date	Prepared by	Reviewed by	Recommended by	Approved by	Remarks
A	07/02/2019	James Logie	David Fox	N/A	Julian Sharp	Issued to Sydney Metro for review
B	01/05/2019	James Logie	Julian Sharp	N/A	Julian Sharp	Issued to Sydney Metro for approval
00	30/05/2019	James Logie	Julian Sharp	N/A	Julian Sharp	Final
01	30/03/2020	Riley Thompson	Karli Grumley	Mathew Billings	Scott Hunter	Annual Review
02	29/03/2021	Danny Huang	Karli Grumley	Mathew Billings	Scott Hunter	Annual Review
Signature:						

Details of Revision Amendments

Document Control

The Project Director is responsible for ensuring that this plan is reviewed and approved. The Project Environment and Sustainability Manager is responsible for updating this plan to reflect changes to contract 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

Revision	Details
A	Draft issued for Sydney Metro review
B	Issued for Sydney Metro approval
00	Final
01	Annual Review – Formatting
02	Annual Review- Formatting and corrections Section 3.4 CMS document references update Element 8. Roles and responsibilities updated to capture SHEQ Manger and correct Environment and Sustainability Manager

Compliance table

Contract Reference	Requirements	Where addressed
SWTC Appendix F02 Section 2.9 (b)	The **Sustainability Management Plan** must, as a minimum, address and detail:	
	(i) the items identified in Section 3.2(a), (b), (c)(ii) and (c)(iii) of the Sydney Metro Construction Environmental Management Framework;	This table (Table 15.3)
	(ii) the processes and procedures for the identification and implementation of climate change adaption measures;	Part C: Section 13
	(iii) the approach to the identification and implementation of community benefit initiatives;	Part A: Section 4.1
	(iv) estimates of: A. the quantity of mains water which will be consumed during construction (Mains Water Consumption Target); B. the quantity of water from non-potable sources which will be consumed during construction (Non-Potable Water Consumption Target); and C. the Portland cement reduction which will be achieved in concrete (averaged across all mixes), compared to a reference case.	Part A: Section 4.1 Part C: Section 15.3
	(v) a carbon and energy management chapter within the Sustainability Management Plan, which addresses the requirements identified in Section 13 of the Sydney Metro Construction Environmental Management Framework; and A. a description of the overall approach to the identification of opportunities to reduce carbon emissions, energy use and embodied lifecycle impacts of the Contractor's Activities; B. low carbon strategies and initiatives that will be implemented to minimise carbon emissions and embodied carbon during design and construction; C. energy efficiency strategies and initiatives that will be implemented to minimise energy use during design and construction; D. estimates of 'Scope 1', 'Scope 2', 'Scope 3' and total carbon emissions (Carbon Emission Targets) determined using a carbon footprint assessment undertaken in accordance with ISO 14064-1, ISO14064-2 and ISO14064-3 that incorporates direct and indirect emissions associated with electricity and fuel consumption, on-site process emissions and embodied emissions for all main materials used in Contractor's Activities; E. an estimate of fuel consumption (Fuel Consumption Target); F. an estimate of electricity consumption (Electricity Consumption Target) for the Contractor's Activities; and G. in relation to the Electricity Consumption Software Model: [SM-CSW-MP-SWTC-A54-756] the protocols which will be used to provide inputs into the Operator's Electricity Consumption Software Model; and	Part C: Section 14
Sydney Metro Construction Environmental Management Framework Section 3.2 (a)	Principal Contractors are required to prepare and implement a **Sustainability Management Plan (SMP)** relevant to the scale and nature of their scope of works. The SMP shall comprise of a main SMP document and issue-specific sub-plans.	This Plan. See Part C for issue specific sub-plans
Sydney Metro Construction Environmental Management	Depending on the scope and scale of the works, Sydney Metro may decide to streamline the SMP and sub-plan requirements. As a minimum the SMP will address and detail:	
	(i)The requirements of the relevant planning approval documentation, any relevant conditions of all other permits and licences, the Contractor's	This table (Table 15.3),

Contract Reference	Requirements	Where addressed
Framework Section 3.2 (b)	corporate EMS, the sustainability provisions of the contract documentation, and this Construction Environmental Management Framework;	Part A: Section 3.4
	(ii) The sustainability management team structure, including key personnel authority and roles of key personnel, lines of responsibility and communication, minimum skill levels of each role and interfaces with the overall project organisation structure;	Part A: Section 12
	(iii) A sustainability policy statement and strategies for adaptation to climate change, resource management (including energy, water and waste), workforce development, procurement and biodiversity enhancement;	Part A: Section 4 Part D: Appendix A
	(iv) Sustainability initiatives to be implemented during the project;	Part A: Section 4.1
	(v) How sustainability initiatives will be identified and implemented;	Part A: Section 5
	(vi) The processes and methodologies for assurance, monitoring, auditing, corrective action, continuous improvement and reporting on sustainability performance;	Part A: Section 10
	(vii) The processes and methodologies which will be used to achieve the required scores under rating systems identified in contract documents;	Part C: Section 12
	(viii) The processes and procedures for undertaking climate change risk assessments;	Part C: Section 13
	(ix) The processes and procedures for the identification and implementation of climate change adaption measures;	Part C: Section 13
	(x) The approach to sustainable procurement including: The processes and procedures that will be used to provide environmental and social improvement; The processes and environmental and social criteria that will be used for the selection of Subcontractors; The processes that will be used to ensure ethical sourcing of labour and materials; Where equipment, materials or labour are procured from locations outside Australia, the processes that will be used to ensure human rights impacts and risks are identified and mitigated; and Interfaces with other Project Plans.	Part A: Section 7
Sydney Metro Construction Environmental Management Framework Section 3.2 (c)	Depending on the scope of the works, the SMP will also include, as a separate sub-plan: (ii) A **Construction Carbon and Energy Management Plan** (iii) A **Materials Management Plan.**	Part C: Section 14 Part C: Section 15
Sydney Metro Construction Environmental Management Framework Section 14.2 (a)	Principal Contractors will be required to develop and implement a **Sustainable Procurement Policy** that will include as a minimum: i. The materials mitigation measures as detailed in the environmental approval documentation; ii. The relevant requirements of the City & Southwest Environment and Sustainability Policy and the City & Southwest Sustainability Strategy; iii. The responsibilities of key project personnel with respect to the implementation of the policy; iv. Compliance record generation and management; v. Ethical sourcing of materials; and	Part A: Section 7 and Part D: Appendix C

Contract Reference	Requirements	Where addressed
	vi. Local sourcing.	
SWTC Appendix F02 Section 4.2 (a)	(vi) the requirements identified in Section 14 of the Sydney Metro Construction Environmental Management Framework including: A. A description of the processes for considering environmental and social aspects in the identification, engagement, evaluation and selection of suppliers and Subcontractors; and B. A description of how the environmental and sustainability performance of Subcontractors and suppliers will be monitored and managed during the delivery of supplies / services.	Part A: Section 7

This Compliance table includes requirements from SWTC Appendix F02 and the Sydney Metro Construction Environmental Management Framework that refer to the specific contents and structure of this Sustainability Management Plan. For further detailed requirements that relate to sustainability governance, reporting, review and auditing see Part C Appendix D, for key contract sustainability requirements relating to this Plan.

Contents

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Table of Abbreviations

Abbreviation	Description
CEMP	Construction Environmental Management Plan
CIMIC	Construction Infrastructure Mining & Concessions
CPB	CPB Contractors Pty Ltd
ESD	Ecologically Sustainable Development
EPA	Environment Protection Authority
GHG	Greenhouse Gas
IS	Infrastructure Sustainability
ISAP	Infrastructure Sustainability Accredited Professional
KPI	Key Performance Indicator
LW	Line Wide
LWW	Line Wide Works
MCA	Multi Criteria Analysis
MTS	Metro Trains Sydney
NGER	National Greenhouse & Energy Reporting
NCR	Non-Conformance Report
NWRL	North West Rail Link (now renamed as Sydney Metro Northwest)
NRT	Northwest Rapid Transit
OHW	Over Head Wiring
RFI	Request For Information
SWTC	Scope of Works and Technical Criteria
SME	Small Medium Enterprise
SM	Sydney Metro
SMCSW	Sydney Metro City & Southwest
SMNW	Sydney Metro NorthWest

SMTF	Sydney Metro Train Facility
SMTF-S	Sydney Metro Train Facility - South (Sydenham)
TSOM	Trains, Systems, Operations & Maintenance
TfNSW	Transport for New South Wales
TfNSW CERT	TfNSW Carbon Estimate and Reporting Tool

Part A: Overview & Strategy

1 PURPOSE, BACKGROUND AND PROJECT SCOPE

1.1 PURPOSE

The purpose of this Sustainability Management Plan (this Plan) is to describe how Systems Connect (CPB and UGL JV) will consider and apply the principles of ecologically sustainable development (ESD) to the Line-Wide Works Package (LW Works) of the Sydney Metro City & South West Program of works (the Project). The Sydney Metro Delivery Authority (Sydney Metro) is delivering the Project on behalf of the NSW Government. Sydney Metro has a clear vision for the Project to demonstrate best-practice environmental, social and economic outcomes in delivery and operation. The approach to addressing sustainability for the Project is built on that adopted for Sydney Metro Northwest, incorporating lessons learned, and responding to intervening drivers and location-specific opportunities and constraints.

The Transport for NSW (TfNSW) Environment and Sustainability Policy reflects a commitment to 'delivering transport services, projects, operations and programs in a manner that balances economic, environmental and social issues to ensure a sustainable transport system for NSW.' For Sydney Metro, 'sustainability' means building a metro system for current and future generations, that optimises environmental and social sustainability outcomes, transport service quality and cost effectiveness.

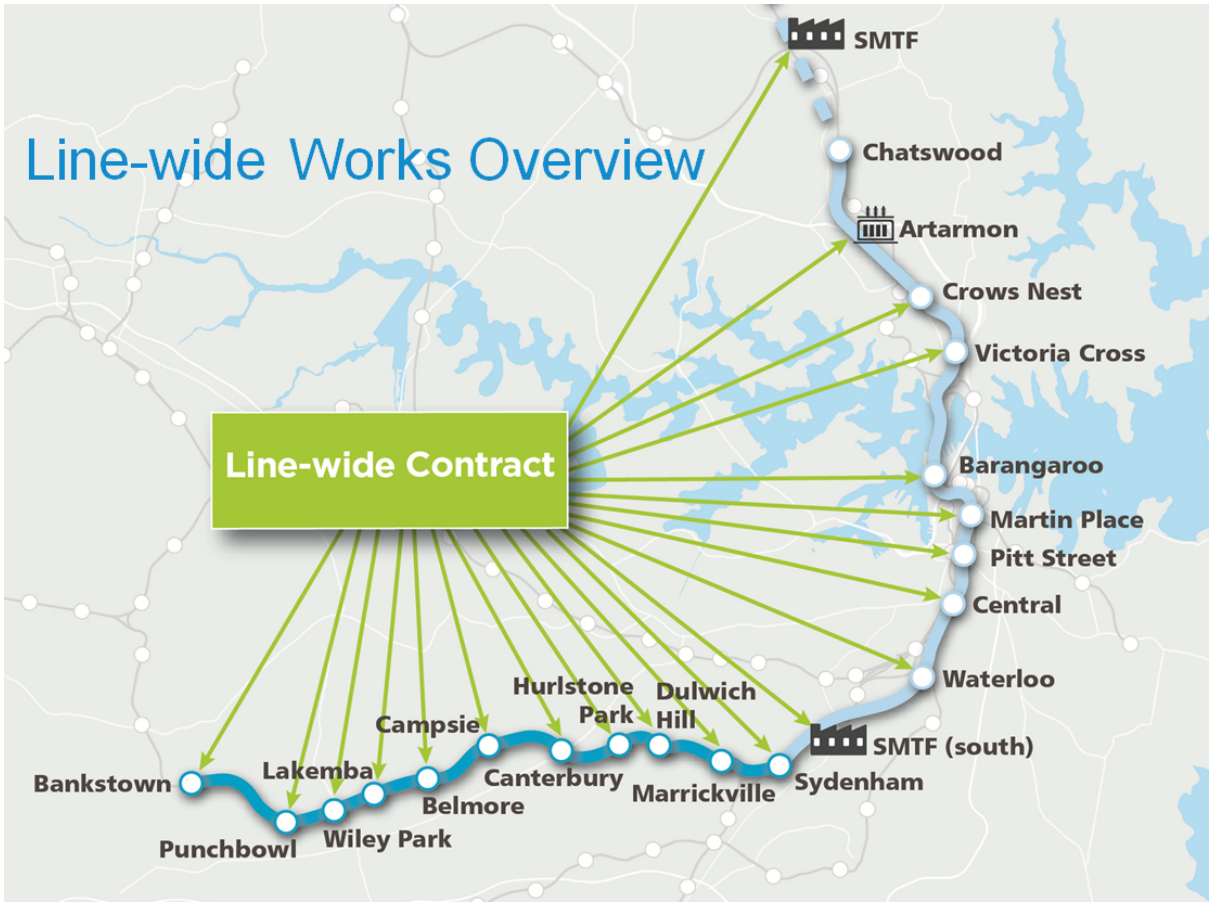
This Plan has been prepared to address the relevant requirements of TfNSW's Construction Environmental Management Framework (CEMF), the Project Planning Approval, applicable legislation, and contractual requirements, including the LW Works Project Deed and Scope of Work and Technical Criteria (SWTC).

1.2 BACKGROUND AND PROJECT SCOPE

The Sydney Metro City & Southwest (SMCSW) project will extend Sydney Metro Northwest to the CBD and beyond to Bankstown. The project is being delivered through a suite of contracts for the tunnels, stations, line-wide infrastructure and systems.

The Line-wide Works (LW Works) package is a key component of SMCSW with works taking place over the full length of the Project area. The package includes:

- The fit out of the Sydney Metro City & Southwest tunnels and stations including provision of track, overhead wiring, HV reticulation, tunnel ventilation, fire services tunnel services
- Delivery of bulk power feeds to meet the Sydney Metro City & Southwest high voltage reticulation and traction power requirements
- Expansion of the Sydney Metro Trains Facility at Tallawong
- The delivery of a new train stabling and infrastructure maintenance facility at Sydenham
- The open northern dive works to tie Sydney Metro City & Southwest into the Sydney Metro Northwest at Chatswood
- Provision of HV reticulation and traction power for the Southwest corridor from Sydenham to Bankstown



The key items of scope related to the $1.4Bn Line-wide Contract being delivered by Systems Connect (an unincorporated Joint Venture between CPB Contractors and UGL Engineering) include:

- 31 kilometres of underground railway track to be laid in the twin railway tunnels from Chatswood to Sydenham;

- 31 kilometres of overhead power equipment and 11 new substations to power the metro from Chatswood to Bankstown;
- Installation of over 350km of high voltage, low voltage and tunnel services cables;
- The expansion of the Sydney Metro Trains Facility at Rouse Hill to accommodate 37 new six car Sydney Metro trains for Sydney Metro City & Southwest;
- The construction of the Sydney Metro Trains Facility (South) at Marrickville to provide stabling for 16 six car Sydney Metro trains;
- Installation of tunnel equipment such as ventilation, drainage and emergency evacuation and monitoring equipment; as well as the fit out of the tunnel ventilation and high voltage equipment in the seven new underground stations.

The summary scope of the project is found in the Contract Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000001).

2 PLAN STRUCTURE AND RELATIONSHIP WITH OTHER PLANS

2.1 PLAN STRUCTURE

Part A	**Purpose, Background and Project Scope** **Plan Structure and Relationship with other Plans** **Our Approach** **Project Application of the Sustainability Management Elements** **Key Sustainability Initiatives**	**Purpose, Background and Project Scope** • Purpose • Background and Project Scope **Plan Structure and Relationship with other Plans** **Our Approach** • Our 8 Sustainability Management Elements • Aligned with Sydney Metro • Integrating Sustainability into Project Delivery • Structure of the Sustainability Management System **Project Application of the Sustainability Management Elements** • Project Commitment to Sustainability • Risk and Opportunity Identification • Embed Sustainability Requirements in Design & Construction • Embed Sustainability in Procurement • People and Capability • Engagement and Knowledge Sharing • Reporting, Review and Improvement • Monitoring, Review & Improvement **Key Sustainability Initiatives** • Key initiatives to be implemented and/or to be investigated further for feasibility
Part B	**Mandatory Sustainability Actions**	**Mandatory Sustainability Actions** • Summary of the mandatory actions/steps for each of the 8 Sustainability Management Elements including responsibilities and deliverables
Part C	**Sustainability Sub-Plans**	**Sub-Plans** • Infrastructure Sustainability Rating Strategy • Climate Change Risk Assessment methodology • Energy and Carbon Management • Materials Management
Part D	**Appendices**	**Appendices** This section provides information supporting this Plan including: • Environment and Sustainability Policy • Sustainable Procurement Policy • IS Scorecard • Key Line-Wide Contract Requirements • Tender Questionnaire – Environment & Sustainability

2.2 RELATIONSHIP WITH OTHER PLANS

The Contract Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000001) provides a hierarchy of plans for the Line-wide Works. The Project Plans that interface with the Sustainability Management Plan include:

- Contract Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000001)
- Technical Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000009)
- Risk Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000021)
- Procurement Plan (SMCSWLWC-SYC-1NL-PM-PLN-000037)
- Construction and Site Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000026)
- Construction Environmental Management Plan SMTF (SMCSWLWC-SYC-1NL-PM-PLN-000031)
- Construction Environmental Management Plan C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033)
- Community Communications Plan (SMCSWLWC-SYC-1NL-PM-PLN-000027)
- Quality Plan (SMCSWLWC-SYC-1NL-PM-PLN-000023)
- Interface Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000040)
- Planning and Project Controls Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000045)
- Workforce Development and Industry Participation Plan (SMCSWLWC-SYC-1NL-PM-PLN-000028)

3 OUR APPROACH

Our approach to managing sustainability is to ensure that it is a key part of decision making throughout the entire project and build on what was developed during the Proposal Phase, into thein design, procurement and construction phases.

For key issues, we will use a multi criteria analysis (MCA) framework which considers:

- Financial and non-financial factors
- Value for money across the asset life cycle, and
- A broad set of environmental, social and economic benefits and impacts

Functional sustainability specifications will cover design, procurement and construction planning and will be included in design specifications, contracts, scope of works documents, and construction plans. Improvements on sustainability specifications, including innovations beyond SWTC compliance are being investigated through Sustainability in Design Workshops, Innovation Workshops and sustainability sessions held with suppliers.

3.1 ALIGNED WITH SYDNEY METRO

Systems Connect understands that for Sydney Metro, 'sustainability' means optimising social sustainability and environmental outcomes, transport service quality, and cost effectiveness. Our approach to sustainability has therefore been developed to ensure alignment with the Sydney Metro City & Southwest Sustainability Strategy 2017-2024, by building on the achievements and legacy of Sydney Metro Northwest (SMNW), and lessons learnt from our past projects to drive improvements and innovations to deliver world best practice sustainability outcomes.

As required by the Sydney Metro Construction Environmental Management Framework, Systems Connect will undertake works in accordance with the Sydney Metro Environment and Sustainability Policy. The policy reflecting a commitment in the delivery of the project to:

- Align with, and support, the Transport for NSW (TfNSW) Environment & Sustainability Policy.
- Optimise sustainability outcomes, transport service quality, and cost effectiveness.
- Develop effective and appropriate responses to the challenges of climate change, carbon management, resource and waste management, land use integration, customer and community expectation, and heritage and biodiversity conservation.
- Be environmentally responsible, by avoiding pollution, enhancing the natural environment and reducing the project ecological footprint, while complying with all applicable environmental laws, regulations and statutory obligations.
- Be socially responsible by delivering a workforce legacy which benefits individuals, communities, the project and industry, and is achieved through collaboration and partnerships.

The project Environmental and Sustainability Management Systems are aligned with the Sydney Metro Environment and Sustainability Management System (see Figure 3.1) Sydney Metro Construction Environmental Management Framework. Sustainability targets and requirements relating to Environmental Management are incorporated into the Construction Environmental Management Plan and will form part of Environmental Reporting. As required by SWTC F02, this Plan aligns with the Sydney Metro Construction Environmental Management Framework as shown in Figure 3.1.

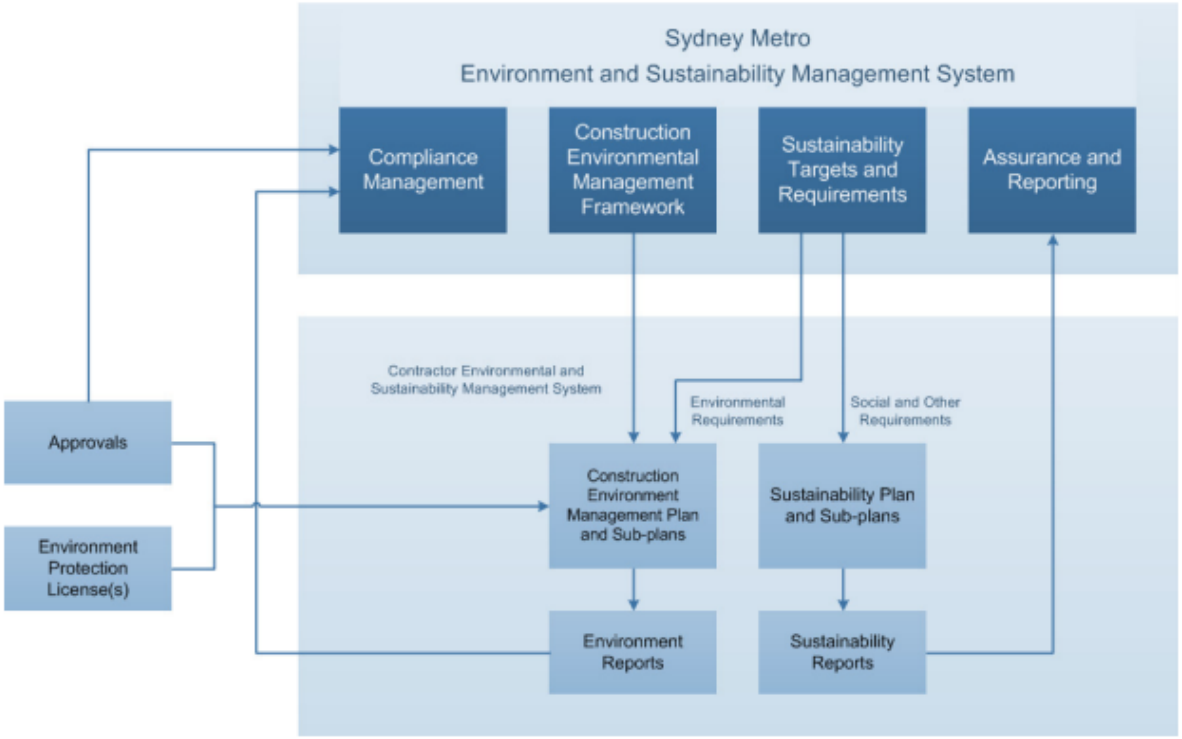


Figure 3.1 Figure 2 from the Sydney Metro Environment and Sustainability Management System

3.2 INTEGRATING SUSTAINABILITY INTO PROJECT DELIVERY

Integrating sustainability into the delivery of the LW Works will require responsibility and accountability across the whole delivery team, as well as direction from and consultation with Sydney Metro and other stakeholders. Key sustainability roles and responsibilities have been identified as shown in Figure 3.2.

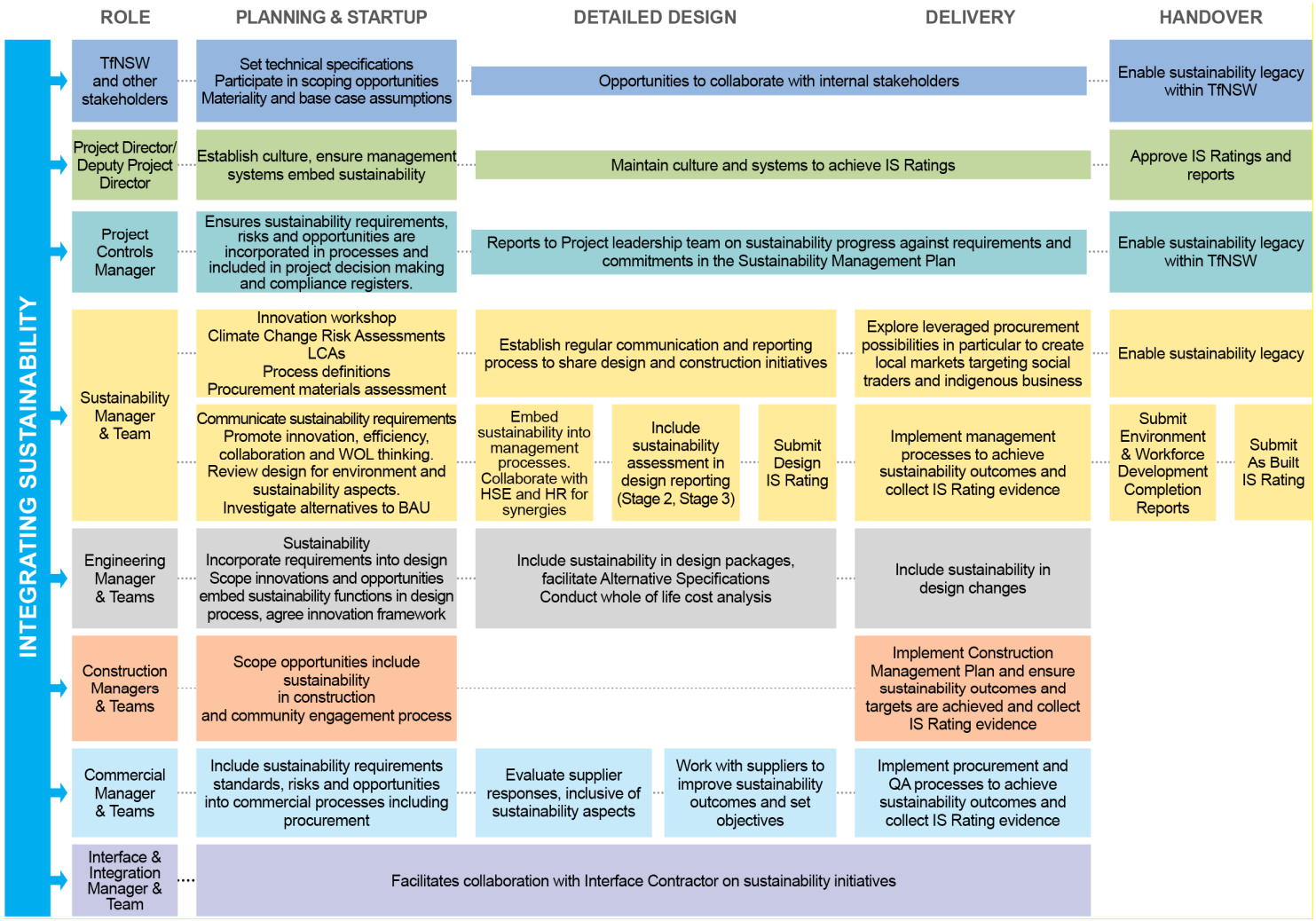


Figure 3.2 Approach to integrating Sustainability across project delivery

3.3 OUR 8 SUSTAINABILITY MANAGEMENT ELEMENTS

This Sustainability Management Plan (this Plan) outlines 'Our Approach to Managing Sustainability' by applying our **8 Sustainability Management Elements**. These elements identify sustainability risks and opportunities and integrate sustainability resources and commitments into the project. Part B 'Mandatory Sustainability Actions' provides a summary of the mandatory actions/steps for implementing these Elements.

Figure 3.3 CPB Contractors 8 Sustainability Management Elements

8 SUSTAINABILITY MANAGEMENT ELEMENTS

1. PROJECT COMMITMENT TO SUSTAINABILITY Outline project requirements and targets Identify actions to achieve Systems Connects' sustainability commitments **Key Deliverables:** Adopt Sustainability Policy Defined Targets and Requirements	***5. PEOPLE AND CAPABILITY*** Define sustainability roles and responsibilities Identify sustainability training opportunities **Key Deliverables:** Roles and Responsibilities Table/Org Chart Project Training Matrix
2. RISK & OPPORTUNITY MANAGEMENT Identify sustainability & innovation opportunities Identify sustainability and climate change risks **Key Deliverables:** Sustainability & Innovation Opportunity Register Climate Change Risk Assessment and/or Project Risk Register	***6. ENGAGEMENT AND KNOWLEDGE SHARING*** Engage with key stakeholders on sustainability aspects Share Knowledge and increase sustainability awareness **Key Deliverables**: Key Stakeholder List Case Studies and Lessons Learnt Reports
3. EMBED SUSTAINABILITY REQUIREMENTS IN DESIGN & CONSTRUCTION Include sustainability requirements in key design and construction packages Account for sustainability cost/benefit in cost plan **Key Deliverables:** Sustainability Requirements RVTM Cost Plan Inclusions Sustainability Requirements Master Register	***7. REPORTING, REVIEW AND IMPROVEMENT*** Target, track and report sustainability performance Conduct audits, reviews and inspections **Key Deliverables:** Sustainability Progress Reports Audit/Review Reports

4. EMBED SUSTAINABILITY IN PROCUREMENT	8. DOCUMENT AND RECORDS MANAGEMENT
Incorporate sustainability criteria in prequalification and evaluation Include sustainability performance requirements in contracts Include reporting requirements for sustainability **Key Deliverables:** Pre-qualification questionnaire Multi-criteria analysis Sustainability Contract Clauses	Communicate sustainability data requirements / management responsibilities Manage and store sustainability information **Key Deliverables:** Energy, Water and Waste data Sustainability ISCA Rating evidence where required

Implementation of this Plan will enable the project to:

- Identify the sustainability obligations attached to the project and the opportunities and risks associated with the works
- Fulfil the Client's sustainability requirements as defined in the Contract
- Integrate sustainability opportunities for the design, construction and operation of the Project
- Identify, assess and implement initiatives to achieve sustainability outcomes
- Reduce environmental and social impacts and improve resilience to climate change
- Quantify costs and benefits associated with sustainability initiatives and ratings, and
- Identify actions to achieve an Excellent ISCA IS Rating '>75' under the ISCA v1.2 Rating Scheme

The Sustainability Manager is responsible for the implementation and update of this Plan during design and construction.

For Systems Connect, sustainability is about ensuring the long-term success of our projects, people, communities and ecosystems by integrating environmental, social, economic and governance factors into our decision making.

As members of the CIMIC Group, CPB Contractors and UGL Limited recognise the global commitment of governments and businesses to the United Nations 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs), a universal call to action to end poverty, protect the planet and ensure that all peoples enjoy peace and prosperity.

3.4 CPB SUSTAINABILITY MANAGEMENT SYSTEM

Systems Connect has adopted CPB's Management System (CMS), which guides how we will manage the project and meet the project requirements. The CMS provides a knowledge bank of procedures, templates and tools that will assist the project to achieve efficient and consistent start-up and delivery of systems for the Works. Project specific Procedures and tools will be develop as required and incorporated into the Project Management Systems (PMS) developed for delivery of Line wide works It will foster an integrated approach across all operations and functions, ensuring third party certifications are maintained. The CMS includes a set of sustainability related components, which form the Sustainability Management System (SMS).

Table 3.1: CPB Management System Sustainability Components

CMS Category	Key Sustainability Components
Policy	• CIMIC Sustainability Policy • Procurement Policy
Procedure	• Establishing the Sustainability Rating Framework • Manage Sustainability Rating Framework • Manage Energy • Report on Water supply, energy use and Waste Management • Manage Sustainable Procurement
Tools	• JDE energy Data Upload Template • Subcontractor Fuel Reporting Form • Systems Connect Monthly Reporting • Procurement Prequalification Questionnaire & Multi criteria analysis • Sustainability and Innovation Opportunity Register • Sustainability Requirements Matrix (under Development) • SHEQ Lessons Learnt
Knowledge Docs	• Climate Change Risk Assessment Guidance • Lessons Learnt Template • Sustainability Capability Statement • Internal and External SHEQS Reporting Requirements • CPB Procurement Training Pack T1 • Achieving IS Credits through the CPB CMS

3.4.1 SUSTAINABILITY COMMUNITY OF PRACTICE AND INNOVATION PROGRAM

EIC Activities (CIMIC Group's engineering and technical services) maintains an online repository of documents and project learnings available to all CIMIC Group employees called the **iPKL (interactive Project Knowledge Library)**. The iPKL also features a **Sustainability Community of Practice** with over 75 members sharing knowledge using discussion boards, a wiki, and other useful documents.

Table 3.2: Key iPKL Sustainability Resources

Key Resources
• Projects list of IS Ratings, the credits they achieved, and who to contact for more information
• Sustainability discussions topics
• Sustainability Case Studies

A CIMIC Group Innovation Program is also available to all CIMIC Group employees to propose ways to make our operations safer, more efficient and identify new innovative products and services.

3.4.2 IMPROVEMENT & CERTIFICATIONS

This Plan details activities to be performed to deliver continual improvement in sustainability performance including measurement and evaluation and audit and review of the effectiveness of the Plan and CPB Contractors SMS. The CPB Management System has been developed to ensure compliance with the following external certifications:

- ISO 9001:2015 Quality Management
- ISO 14001:2015 Environment Management
- AS/NZS 4801:2001 Occupational Health & Safety
- OHSAS 18001:2007 Occupational Health & Safety
- Office of Federal Safety Commission (OFSC)

4 ELEMENT 1: COMMITMENT TO SUSTAINABILITY

4.1 CONTRACT REQUIREMENTS

A table of key contract requirements for sustainability governance and reporting is listed in Appendix D, Part C. This shows where each requirement has been addressed within this Plan. These key requirements are defined in the:

- SWTC Appendix F02 (Project Administration)
- SWTC Appendix F08 (Sustainability)
- SWTC Appendix B09 (Sustainability)

Additional sustainability related requirements are also outlined in other SWTC Contracts. The complete set of SWTC requirements will be tracked using a '**Sustainability Requirements Compliance Table'** and compliance will be tracked in the IMB Rational DOORS requirements management program.

4.2 OBJECTIVES, TARGETS AND INITIATIVES

The objectives and targets for the project are aligned with the Sydney Metro City and Southwest Sustainability Strategy 2017-2024, which has been used to develop the projects objectives, targets and initiatives with Sydney Metro's overarching goals. The projects objectives, targets and initiatives are outlined below in Table 4.1. This table includes the targets outlined under the SWTC B09, Section 2.10 (a), and initiatives have been developed to respond to meeting these targets. This table includes high level objectives, targets and initiatives which are detailed further in other plans, including:

- Construction Environmental Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000031 and 000033)
- Community Communications Plan (SMCSWLWC-SYC-1NL-PM-PLN-000027)
- Heritage Interpretation Management Plans (site specific, in development) (SMCSWLWC-SYC-1NL-PM-PLN-0000XX)
- Workforce Development and Industry Participation Plan (SMCSWLWC-SYC-1NL-PM-PLN-000028)

Table 4.1 Sustainability objectives, targets and initiatives

Theme	Objectives	Targets and KPIs	Key Initiatives
GOVERNANCE	• Demonstrate leadership by embedding sustainability objectives into decision making. • Demonstrate a high level of performance against objectives and appropriate benchmarks.	• Achieve a minimum ISCA IS Rating Scheme version 1.2 'design' score of 75. • Achieve a minimum ISCA IS Rating Scheme version 1.2 'as built' score of 75.	• Project specific Environment and Sustainability Policy and Sustainable Procurement Policy • Establish team culture to drive innovation and improve project sustainability outcomes, through internal communications e.g. team briefings and training • Decision making protocols in design and construction include sustainability • Monthly progress reporting on risks, opportunities and potential non-conformances to project sustainability requirements • Detailed quarterly reporting on sustainability performance • Independent Sustainability Professional (ISP) to review and audit sustainability performance throughout the project

CARBON & ENERGY MANAGEMENT	• Improve the shift toward lower carbon transport. • Support innovative and cost-effective approaches to energy efficiency, low-carbon / renewable energy sources and energy procurement. • Support innovative and cost-effective approaches to energy efficiency, low-carbon / renewable energy • Reduce energy use and carbon emissions during construction. • Reduce energy use and carbon emissions during operation.	**Construction targets:** • Use a minimum 5% bio diesel mix for all diesel-powered plant and equipment and a minimum 10% blended ethanol mix for all petrol-powered plant and equipment wherever possible. • Offset at least 25% of the total electrical needs of the through construction. • Achieve a 20% reduction in construction greenhouse gas emissions, measures against a base case generated through the TfNSW Carbon Estimation and Reporting Tool (CERT). • Greenhouse gas emissions must be less than the Carbon Emission Target of [150,000] tCO2e during the LW Contractor's Activities. **Operational targets:** • Reduce traction power by 10% through capture and utilisation of regenerative braking • Achieve a 20% reduction on greenhouse gas emissions across construction and operation, compared to a business as usual base case*. • Reduce operational energy consumption from SMTF South by a minimum 15% on a reference facility in line with NCC Section J	• Undertake GHG assessment throughout design and construction process, including options assessment for improvement opportunities. • Undertaken renewable energy feasibility study on options for renewable energy in construction and operation • Select efficient plant and equipment for construction activities and in design **Construction initiatives:** • Pursue electrification and automation of plant and equipment where feasible, and procure at least 25% renewable electricity for construction activities • Implement initiatives to encourage workforce to use public and active transport modes to reduce local traffic impacts and parking issues. • Procure energy efficient site offices e.g. efficient HVAC, lighting and appliances • Pursue opportunities for innovation to reduce energy use and carbon emissions in construction **Operation initiatives:** • Trackside regenerative energy storage (RES) equipment to capture and store braking energy from trains • Passive design at SMTF South - natural daylight, natural ventilation, and optimised shading and thermal mass for limited mechanical conditioning • Efficient trackside ventilation system using thermal sensors to operate only when needed • Variable Speed Drives (VSD) on all fans to reduce power consumptions when demand is low • Sized fans according to ventilation demand in tunnels, and considering the natural 'piston effect' of train movements • Fan use controls and temperature sensors for the tunnels and stations to allow for idling of ventilation fans • Unpowered Saccardo Nozzles to reduce the burden on the ventilation system and remove the need for powered jet fans

Theme	Objectives	Targets and KPIs	Key Initiatives
		• A maximum consumption of [**6,000,000**] kWh of electricity during the LW Contractor's Activities. • A maximum consumption of [**6,000**] kL of fuel during the LW Contractor's Activities.	• Sub metering installed to monitor and report electricity use through a Building Management Control System (BMCS) or Power Control System (PCS) for key power systems • Provide solar photovoltaic systems at the SMTF South with a minimum capacity of 250 kW.
ENVIRONMENTAL PERFORMANCE	• Reduce sources of pollution and optimise control at source to avoid environmental harm • Reduce impacts on receiving waterways • Reduce noise and vibration impacts • Comply with environmental obligations outlined in applicable project planning approvals.	• No recurring or major exceedances of air quality, noise & vibration goals • No adverse impacts on receiving water environment values **Stormwater quality targets:** • Litter – retention of litter greater than 50mm for flows up to 50% of the ARI peak flow • Coarse sediment – Retention of sediment coarser than 0.125mm for flows up to 50% of the 1-year ARI peak flow • Oil and Grease – In areas with concentrated hydrocarbon deposition, no visible oils for flows up to 50% of the 1-year ARI peak flow.	• Implement environmental modelling and monitoring to ensure environmental goals and targets are met • Water Sensitive Urban Design (WSUD) will be incorporated into the SMTF South and SMTF North sites through swales, bio retention basins and the existing sedimentation basin at SMTF North. • Pursue electrification of plant and equipment to improve air quality in tunnels (improve work environment and safety).

Theme	Objectives	Targets and KPIs	Key Initiatives

CLIMATE CHANGE RESILIENCE	• Infrastructure and operations will be resilient to the impacts of climate change.	• Identify all necessary adaptation measures that comprehensively address risks classified as 'extreme', 'high' and 'medium'
		• Implement measures to mitigate all climate change risks classified as 'extreme' and 'high' and at least 25% of all climate change risks classified as 'medium'.
			• Build on the Climate Change Resilience Report prepared from the reference design to determine appropriate adaptation measures for the LW Works
			• Undertaken Climate Change Risk Assessment and investigate climate adaptation measures throughout design
			• Investigate the implementation of key initiatives such as:
			  • Passive design consideration for buildings such as natural shading, natural ventilation and high-performance building envelopes
			  • Landscaping, shade trees and increasing the Solar Reflective Index (SRI) of roofing materials to minimise heat island effect
			  • Designing HVAC equipment that allow an increase in average maximum temperature.

RESOURCES - WATER	• Minimise use of potable water. • Maximise opportunities for reuse of rainwater, stormwater, wastewater and groundwater.	• Achieve a reduction in water use of 10% across construction and operation compared to a business as usual base case* • Demonstrate that at least 33% of water used during construction and operation is from non-potable sources • Use a maximum total construction water demand of consisting of **[preliminary target = 100,000]** kL of water from potable sources and **[preliminary target = 50,000]** kL of water from non-potable sources.	• Connect to the recycled water supply at SMTF North • Rainwater capture and reuse to offset potable water • Treatment and reuse of tunnel stormwater at SMTF South as a backup non-potable water supply to rainwater tanks, reducing reliance on mains water • Implement temporary water treatment plants for use during construction • Design and implement temporary and permanent waste water treatment to meet the urban stormwater pollutant targets.

Theme	Objectives	Targets and KPIs	Key Initiatives

RESOURCES – MATERIALS AND WASTE	• Minimise waste through the Project lifecycle
	• Reduce materials consumption
	• Consider embodied impacts in materials selection
	• Maximise beneficial reuse of spoil
	• Adopt an integrated approach to urban water cycle management and minimise impacts on stormwater quality.
		• Achieve a 15% reduction in materials lifecycle impact compared to a base case footprint*
		• Reduce Portland cement content in concrete by an average of 25% through replacement by supplementary cementitious materials such as fly ash, slag, or alternative materials
		• Recycle or reuse at least 95% of inert and non-hazardous construction and demolition recyclable waste, excluding spoil
		• Recycle or reuse 60% of office waste
		• Beneficially reuse 100% of reusable spoil
		• 60% of reinforcing bar and mesh used during construction to be produced through energy reduction processes.
			• Undertake Life Cycle Assessments to inform material selection and target reductions in life cycle impacts
			• Optimise design for dematerialisation. Initiatives already implemented include:
			  • Reduction in cable containment structure
			  • Canted invert track slab with overall reduction in Portland cement
			  • Optimisation of OHW support structure
			  • Reduction in bulk power supply route distances
			• Use of low impact alternatives to steel bar reinforcement (i.e. lightweight synthetic fibres for track form structural reinforcement)
			• Use alternatives to Portland cement in concrete mixes e.g. flyash and slag
			• Optimise design to reduce use of materials and embodied impacts.

BIODIERSITY CONSERVATION	• Protect and create biodiversity through appropriate planning, management and financial controls.	• Maintain or enhance ecological value from the project's activities. Refer to Construction Environmental Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000031 & 33) for further detail.	• Minimise clearing of trees and vegetation • Implementation of Design and Landscaping Plan. Refer to Construction Environmental Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000031 & 33) for further detail.

Theme	Objectives	Targets and KPIs	Key Initiatives
HERITAGE CONSERVATION	• Protect and promote heritage through appropriate design, planning, and management controls.	N/A	• Heritage Interpretation Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000035) and implement to promote local heritage values • Undertake construction in accordance with the Construction Heritage Management Plan. Refer to Construction Environmental Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000031 & 33) for further detail.

WORKFORCE DEVELOPMENT	• Increase opportunities for employment of local people, participation of local businesses, and participation of SME's. • Enable targeted and transferable skills development which resolves local and national skills shortages, supports industry to compete in home and global markets, and embeds a health and safety culture within all induction and training activities, promoting continuous improvement. • Increase workforce diversity and inclusion, targeting indigenous workers and businesses, female representation in non-traditional trades, and long term unemployed. • Inspire future talent and develop capacity in the sector, engaging young people via	Refer to Workforce Development and Industry Participation Plan (SMCSWLWC-SYC-1NL-PM-PLN-000028) for further detail. *	Refer to Workforce Development and Industry Participation Plan (SMCSWLWC-SYC-1NL-PM-PLN-000028) for further detail.

Theme	Objectives	Targets and KPIs	Key Initiatives
	education and work experience, collaborating with higher education institutions to provide programs responding to rapid transit and other infrastructure requirement, and supporting vocational career development through apprenticeships and traineeships.		

Theme	Objectives	Targets and KPIs	Key Initiatives
COMMUNITY BENEFIT	• Make a positive contribution to community health and well-being • Ensure community and local stakeholder engagement and involvement in the development of the Project • Contribute to the delivery of legacy projects to benefit local communities • Create opportunities for local business involvement during the delivery and operations phases • Minimise negative impacts on the community and local businesses during construction and operation.	• Identify and implement at least five social sustainability initiatives which provide demonstrable and tangible benefits to: (i) local community groups during the construction period; and (ii) the broader local community beyond the construction period. Refer to Community Communications Plan (SMCSWLWC-SYC-1NL-PM-PLN-000027) for further detail.	• Implement initiatives to encourage workforce to use public and active transport modes to reduce local traffic impacts and parking issues. • Develop partnerships with, or supporting, two not-for-profit organisations who provide beneficial services to the homeless community • Develop and implement a program to encourage the workforce to volunteer time with local organisations which work for the benefit of local communities • Investigating and implementing a supply chain financing solution which will enable increased participation of SMEs, including local and Aboriginal businesses, in the supply chain • Working to incorporate indigenous design and knowledge concepts into the LW Works, in consultation with the Principal. Stakeholder consultation and design solutions must be pre-approved by the Principal • Consult with businesses neighbouring construction sites in the preparation of a Business Management Plan to minimise disruption to their operations from LW Works • Participate in STEM/FEED education program by providing skilled personnel contributing to education resources. Refer to Community Communications Plan (SMCSWLWC-SYC-1NL-PM-PLN-000027) and Business Management Plan for further detail.

Theme	Objectives	Targets and KPIs	Key Initiatives
SUPPLY CHAIN	• Influence subcontractors and materials suppliers to adopt sustainability objectives in their works and procurement.	• **KPI:** High Impact Materials procured from developing countries • **KPI:** Portion of procurement spend from Australia / overseas.	• Prepare sustainable procurement policy and embed sustainability considerations into the procurement process • Engage with suppliers on sustainability requirements and objectives • Consider non-financial impacts and benefits during tender evaluation • Hold supplier forums where the sustainability objectives and targets are discussed • Source sustainable steel rails from responsible suppliers • Preference local suppliers to reduce transport impacts.
ECONOMIC	• Strive to achieve both 'best for Project' and 'best for Sydney Metro' economic performance through considering whole of life costs and costs to interface contractors • Consider non-financial impacts and benefits in decision making.	• **KPI:** Capital cost savings from project ($) • **KPI:** Annual operational cost savings for Sydney Metro and the TSOM Contractor ($/year) • **KPI:** Program savings from improvements and innovation implemented (weeks) • **KPI:** Australian and NSW firsts in technology and processes delivering sustainability benefits to the project • **KPI:** Externality cost of carbon ($/t CO2-e)	• Drive optimisation and value engineering in design to reduce costs • Design for whole of life costs, considering durability, maintainability and adaptability • Undertake whole of life cost analysis during options assessment and decision making.

Theme	Objectives	Targets and KPIs	Key Initiatives
INNOVATION	• Seek to continually improve on existing benchmarks and performance from past projects • Create a culture of innovation to break through existing barriers and constraints to improvement.	• **KPI:** Number of improvement and innovation ideas generated throughout the project • **KPI:** Number of improvement and innovation ideas implemented throughout the project.	• Establish Continual Improvement Working Group (CIWG) and Improvement and Innovation Register to drive improvement and innovation on the project • Hold 'Da Vinci' moments in meetings and workshops to capture innovation ideas • Reward innovation with a monthly 'Da Vinci' award • Produce innovation reports to share knowledge and lessons learnt with Sydney Metro and Interface Contractors. The following innovation opportunities will also be investigated during delivery: • Battery and hybrid alternatives to supercapacitors for track side Regenerative Energy Storage (RES) • Hybrid solar and biodiesel generators • Solar powered 3G/4G security solution • Renewable energy Power Purchase Agreement (PPA) for construction phase electricity • Prysmian 33 kV and 11kV energy saving power cables.

* Using the ISCA Base Case framework as a reference

4.3 APPROVAL CONDITIONS AND REQUIREMENTS

Works by Systems Connect, delivered under LWW, have been assessed and approved via number of applications under the Environmental Planning and Assessment Act 1979 (EP&A Act) and are classified as Critical State Significant Infrastructure;

- SSI 5319. Rapid Transit Rail Facility.
- SSI 7400. Sydney Metro City & Southwest Chatswood to Sydenham and
- SSI 8256. Sydney Metro City & Southwest Sydenham to Bankstown.

Planning Approval compliance obligations and Revised Environmental Mitigation Measures (REMM's) associated with sustainability, are managed via the project compliance matrix. A web-based platform is utilised to administer the compliance matrix during design and delivery of the project. This compliance matrix will be included in the CEMP.

4.4 SYSTEMS CONNECT SUSTAINABILITY COMMITMENTS

The Systems Connect Line-wide Environment and Sustainability Policy and Sustainable Procurement Policy are attached in Appendix A and Appendix B respectively. These have been based on the CIMIC Group Sustainability Policy and Procurement Policy, and address requirements in the Line-wide Contract and Sydney Metro Construction Environmental Management Framework.

4.5 KEY MILESTONE TASKS AND TIMELINES:

The following table (Table 4.2) gives the key sustainability milestones and tasks during the design phase. Later versions of this Plan will include key sustainability milestones and tasks relevant to the construction phase will be developed in later issues of this Plan.

Table 4.2 Key sustainability milestones and tasks (design phase)

Key milestones and tasks	Month / Year
Project Deed	**20 Nov 2018**
IS Rating Agreement executed	May 2019
Submit Sustainability Management Plan	20 May 2019
ISCA Kick-off & Weightings Assessment Workshop	29 May 2019
First Quarterly Sustainability Report	20 Feb 2019
ISCA Base Case Proposal	March 2020
ISCA Weightings Assessment submission	March 2020
First Independent Sustainability Review (ISP)	19 March 2019
Climate risk assessment workshop	May 2019
Develop and launch training and awareness program (Sustainability in Design workshops (2019) and the Sustainability in Construction Workshops (2020))	2019 / 2020
Life Cycle Assessment Report (Stage 2)	February 2020
Report on inputs into the Operators Electricity Consumption Software Model (Stage 2)	February 2020

Key milestones and tasks	Month / Year
Greenhouse Gas Assessment Report (Stage 2)	February 2020
Stage 2 Design (70%) Reporting Milestone	**February 2020**
Construction begins at SMTF	**September 2019**
Stage 3 Design (100%) Reporting Milestone	**July 2021**
IS Design Rating Submission	**July 2021**
Case Studies, Lessons Learnt and Communication	TBC

5 ELEMENT 2: RISK AND OPPORTUNITY MANAGEMENT

Actions to improve sustainability outcomes and identify initiatives and innovations will include:

- **Environment and Sustainability Manager to act as Innovation Champion**, facilitating the innovation process including monthly committee reviews and awards to the best innovation ideas on the project
- Sustainability Manager participation in project risk & value engineering workshops/ processes
- Dedicated sustainability workshops to identify design and construction phase sustainability risks and opportunities
- Development of an **Improvements and Innovation Register**, Improvements and Innovation Committee, and program for a monthly '**Da Vinci Award**'. This register will be aimed at targeting the projects KPI incentive payments
- **Continual Improvement Working Group (CIWG)** to meet at least monthly throughout the project to review proposed improvements and innovations. Sydney Metro representative to sit on CIWG and provide ongoing review and feedback
- A **Sustainability in Design Register** captures and drives all sustainability benefits in design against the ISCA Base Case. This feeds into the main Improvements and Innovation Register for opportunities that require a decision from the project leadership team
- Sustainability risks will be assessed in accordance with the project risk management framework
- Design and construction packages which have a material influence on sustainability requirements will be assessed for sustainability risks and opportunities
- For sustainability opportunities, a preliminary feasibility assessment will be conducted based on high level estimated cost/benefit, feasibility and alignment with project priorities. Shortlisted opportunities will be more thoroughly assessed for feasibility, and evaluated against key project criteria
- Sustainability Risks include including Climate Change Risks will be incorporated into the Project Risk Register or stand-alone Sustainability Risk Register where appropriate. The Risk Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000021) details the project's risk management processes

Innovation Opportunities will be reported as part of the Quarterly Sustainability Report to the Principal, as appropriate throughout delivery. The following innovation opportunities from Annexure B SWTC F8 will be investigated and reported on throughout design and delivery:

- Battery and hybrid Regenerative Energy Storage (RES) alternatives and provide findings to the Principal before procurement of trackside RES commences
- Hybrid solar and biodiesel generators
- Solar powered 3G/4G security solution
- Renewable energy Power Purchase Agreement (PPA) for construction phase electricity and
- Prysmian 33 kV and 11kV energy saving power cables.

5.1 WORKSHOPS & SUSTAINABLE DECISION MAKING

To facilitate multi-disciplinary input on key sustainability aspects a project sustainability risk and opportunity workshop will be undertaken. The following targeted workshops will also be undertaken:

- Sustainability in Design Workshop with key design leads
- Climate Change Risk Assessment Workshop (external key stakeholders may attend)
- Life Cycle Assessment Workshop
- Sustainability in Construction Workshops to outline expectations from design and identify construction initiatives (key functions such as Procurement and Construction Managers will attend)
- Sustainable Procurement Workshop will identify socio-economic opportunities for workforce engagement and environmentally responsible supplier/material selection (external key stakeholders may attend)
- Lessons Learnt workshop will be undertaken following the ISCA Design verification and the As Built verification to knowledge share and enable learning experiences for the Client and Project Team (external key stakeholders may attend).

Minutes from workshops and key meetings will be retained as relevant.

6 ELEMENT 3: EMBED SUSTAINABILITY REQUIREMENTS IN DESIGN & CONSTRUCTION

6.1 SUSTAINABILITY REQUIREMENTS RVTM MATRIX

Sustainability requirements for key Design and Construction Scopes will be articulated in a **'Sustainability Requirements RVTM'** Matrix. Primary and secondary responsibilities will be allocated to relevant Design / Construction discipline leads. Discipline leads will be required to review and respond to requirements for which they are responsible for integrating into design, raising any potential non-conformance and providing documentation to evidence that requirements are addressed.

Sufficient provisions will be included in design consultant scopes and construction scopes/packages to ensure clear accountability for contributing to the achievement of sustainability compliance requirements and identification of opportunities. Sustainability expectations and, where relevant, KPIs, are defined in consultant contracts.

Project cost budget will account for increased or decreased costs associated with sustainability initiatives. The key sustainability initiatives from the tender phase have already been included in the cost estimate.

Specific records and documentation which are required during design / construction phase to evidence the delivery of sustainability requirements such as Sustainability details captured in the Design Reports for each Design Package, or construction activities in construction reports will be defined for key packages.

6.2 SUSTAINABILITY SPECIFICATION

Building from the '**Sustainability Requirements RVTM Matrix'**, a '**Sustainability Specification**' will act as a reference document for sustainability requirements and objectives to be included in design and procurement documentation. Beyond including the sustainability requirements from the SWTCs and IS Rating pathway, this document will provide context and consider design specifications and constructability requirements. For relevant procurement packages, specific clauses from the specification will either be copied into procurement contracts and scope of works documents, or the '**Sustainability Specification Checklist'** will be issued as a reference document to be complied with.

6.3 EMBED SUSTAINABILITY INTO DESIGN

Systems Connect's Sustainability team will work with key design disciplines to ensure the LW Works' sustainability objectives, IS Rating benchmarks, requirements and performance targets are incorporated in design decision making. The sustainability team will review design reports to ensure that sustainability requirements are met.

To ensure the design process considers sustainability outcomes, Sustainability in Design workshops will be conducted, and options investigations will be integrated into design reporting milestones. Our environmental Life Cycle Assessments, energy modelling and water balance assessments will focus on options to target the most material impacts and effective sustainability initiatives.

The below framework identifies key steps for integrating sustainability considerations into the Systems Connect design process.

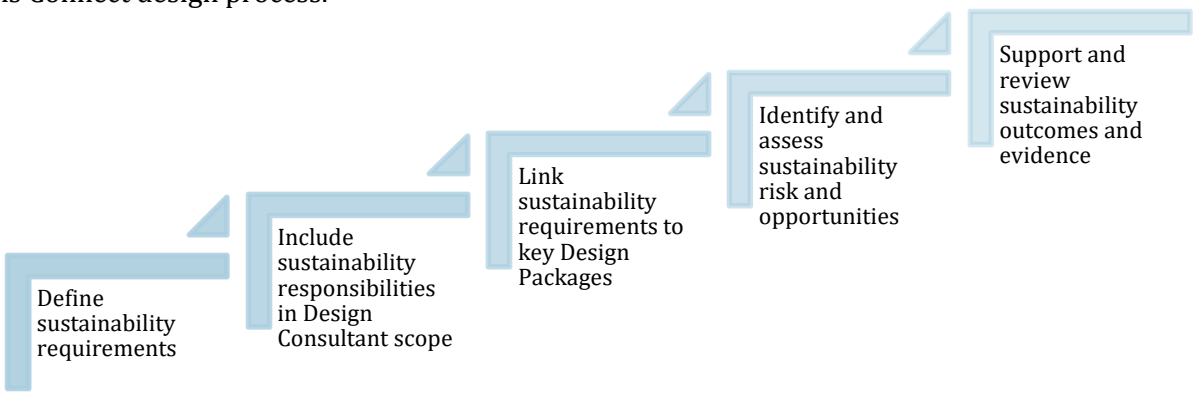


Figure 6.1 Integrating Sustainability in Design

6.4 EMBED SUSTAINABILITY INTO CONSTRUCTION

The Sustainability team will work with the construction team to optimise construction processes, reduce waste and include sustainability in planning. The Construction and Site Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000026) and Construction Area Plans include sustainability tasks, issues, inspections and requirements to ensure the construction team, including Subcontractors, incorporate sustainability outcomes into construction plans and documentation. The construction team will also be made aware of their sustainability reporting and documentation requirements. Sustainability will be incorporated into project induction and toolbox talks, ensuring the entire project workforce is aware of their responsibilities and that progress is communicated to incentivise performance.

Systems Connect will engage Subcontractors based on demonstrated sustainability performance, experience with sustainability ratings, and a demonstrated cultural willingness to embrace sustainability outcomes.

7 ELEMENT 4: EMBED SUSTAINABILITY IN PROCUREMENT

The CIMIC Group Procurement Policy establishes the framework for 'transparent, competitive, compliant and sustainable' procurement. The Policy context states that procurement is "*a key element of CIMIC and its Operating Companies (the Group) operations that is crucial for project delivery, cost control, sustainability and financial performance – for the Group and for its clients. Appropriate procurement behaviour supports compliance with legal requirements and achieves strong procurement value".*

Building off this Policy context, System Connect has developed a project specific Sustainable Procurement Policy (see Part C Appendix B) to include a commitment to align with ISO2400:2017 and the Sydney Metro Construction Environmental Management Framework (section 14.2 (a)). The Sustainable Procurement Policy, along with the CPB Procurement Procedure, tools and knowledge resources form the basis of the project procurement approach.

7.1 PROCUREMENT PROCESS

The project has developed a procurement process in line with ISO20400:2007 (as required by SWTC F08). Figure 7.1 outlines this process that will be implemented to ensure that sustainability objectives and targets are achieved.

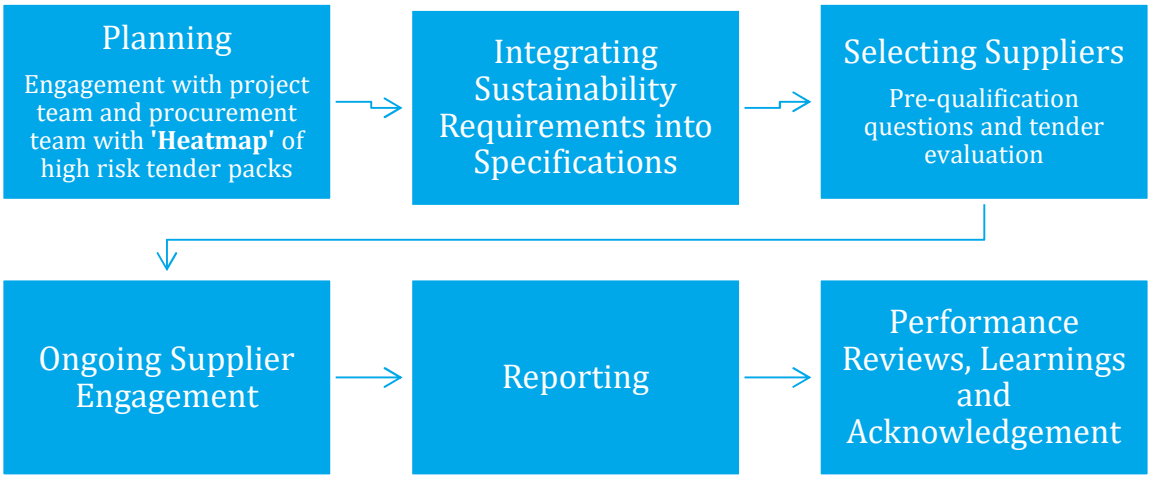


Figure 7.1 Procurement process flow chart (ISO20400)

7.1.1 PLANNING

Figure 7.2 outlines how sustainability has been embedded into Systems Connect procurement processes, procedures and documentation. The Sustainability Manager will engage with the Procurement Team to understand the procurement process specific to this project, and to ensure steps are in place to achieve the sustainability objectives and requirements. This will include identifying key activities where sustainability personnel should be involved in the procurement process. A **'Procurement Heatmap Risk Matrix'** will assist the procurement process by capturing high risk tenders before release to market.

Procurement opportunities will be included in the **Improvement and Innovation Register**.

Integration of Sustainability requirements into the Systems Connect Procurement Process

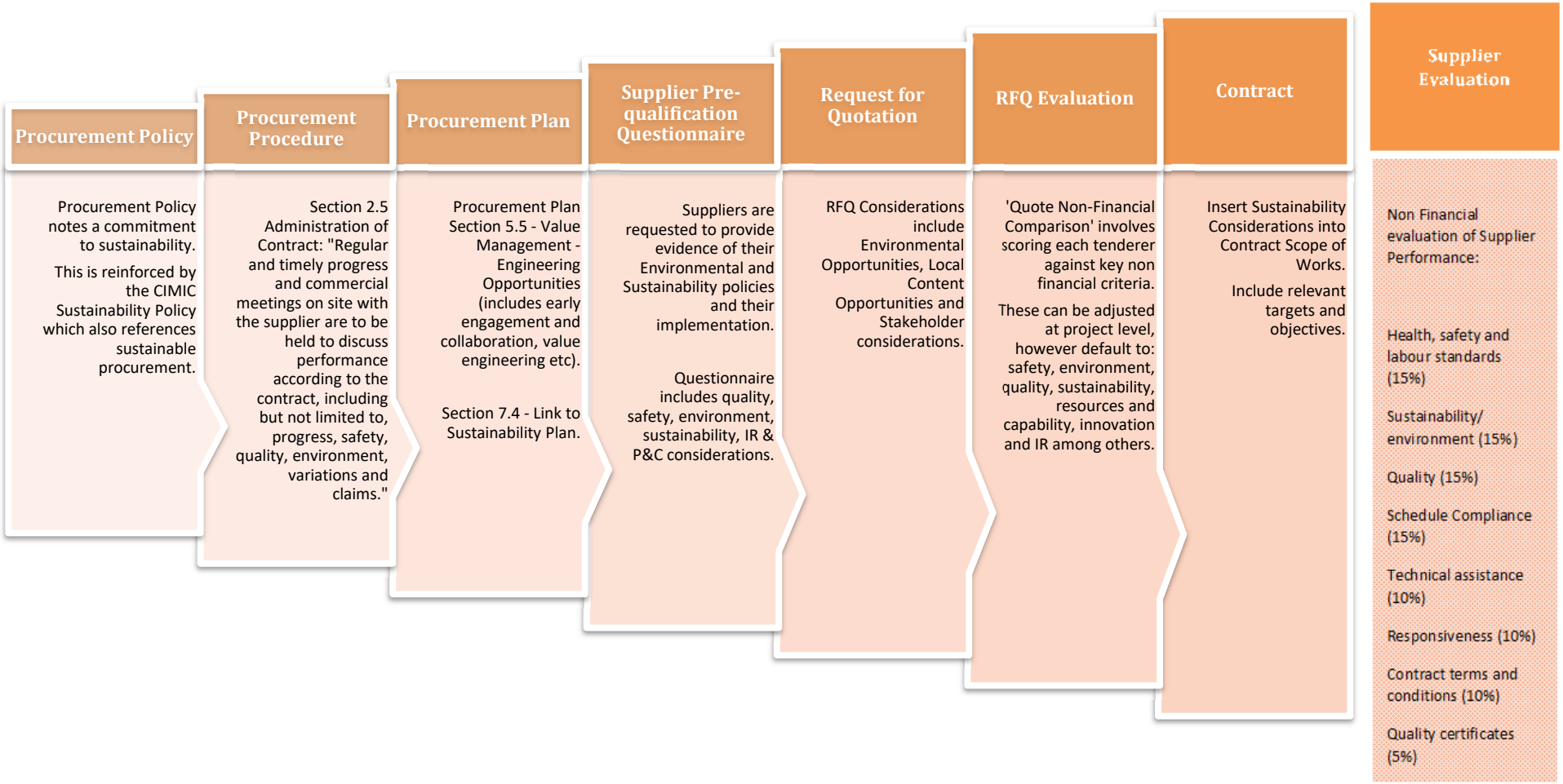


Figure 7.2 Integration of Sustainability in Procurement

7.1.2 CONTRACT REQUIREMENTS FOR SUSTAINABILITY

The **Sustainability Specification** will be used to ensure sustainability requirements are included in RFT documents and embedded into contract requirements. These will include clauses to achieve all contract requirements, as well as contribute towards the project sustainability performance targets. These clauses will include requirements for subcontractors to provide information to assist with demonstrating performance against these targets.

7.1.3 INTERNATIONAL COMPLIANCE WITH LOCAL REGULATIONS AND HUMAN RIGHTS STANDARDS

In early 2017, the Australian Government conducted an enquiry into Modern Slavery, following the United Kingdom's Modern Slavery Act 2015. On 29 November 2018, the Modern Slavery Act 2018 was passed in the House of Representatives, putting into place a new statutory modern slavery reporting requirement for larger companies operating in Australia. Reporting obligations relate to the steps taken to respond to the risk of modern slavery in the operations and supply chains of the reporting entity and its controlled entities.

For Australian corporations, the first reporting year will be 1 July 2019 to 20 June 2020. Systems Connect JV partners (CPB Contractors and UGL) are 100% owned operating companies of the CIMIC Group Limited. CIMIC's Code of Conduct, which applies to Systems Connect (CPB and UGL), prohibits all forms of modern slavery and child labour. CIMIC will comply with the Modern Slavery reporting frameworks being introduced by the Australian Federal Government and, separately, the New South Wales State Government. As part of the tendering process, suppliers will be required to warrant that:

- there is no outstanding investigation of it, and it has not been convicted of any offence under the Modern Slavery Legislation
- it will not cause the LW Works to breach the Modern Slavery Legislation.

In the Tender Questionnaire, suppliers are required to confirm that operations are in accordance with the UN Global Compact principles and thus the ILO Fundamental Conventions through questions in the prequalification questionnaire and RTF questionnaire. Systems Connect will undertake a risk assessment in line with ISO20400:2017 guidelines to assess the risk of each procurement package and will assess compliance with local regulations and human rights standards for high risk suppliers from developing countries.

7.1.4 SELECTING SUPPLIERS

The following steps will be involved in supplier selection process:

1. Potential suppliers will be issued pre-qualification questionnaires where they will be asked to provide evidence of their Environmental and Sustainability policies and how these are implemented.
2. During the tendering process, potential suppliers will be made aware of sustainability requirements through the detailed Sustainability Specification. Early engagement with key suppliers will be undertaken and sustainability requirements and opportunities will be discussed.
3. In tender responses, potential suppliers will be required to respond to questions on sustainability performance. This includes compliance with the Sustainability Specification which will form a key part of the evaluation process. The tender questionnaire also includes questions around opportunities for collaboration on project innovations.

4. During tender evaluation, quantitative multi-criteria analysis will consider environmental, social and financial aspects for selected high impact procurement categories. Opportunities for innovation and collaboration are also considered in tender evaluation. Weighting for non-financial aspects in these categories is to be at least 30 percent.

The questions from the Tender Questionnaire that will be used to evaluate environment and sustainability performance are included in Part C Appendix E.

7.1.5 ONGOING SUPPLIER ENGAGEMENT

Contract Managers will work collaboratively with suppliers to identify opportunities for improved sustainability outcomes. These will be recorded in the **Sustainability Initiative Register.**

Sustainability training will also be provided to high impact suppliers. This will be delivered through a partnership with the Australian Supply Chain Sustainability School (ASCSS). Suppliers will be required to:

- Develop a specific Sustainability Action Plan applicable to scope of work (through ASCSS or independently)
- Complete ASCSS sustainable procurement training modules
- Participate in sustainability engagement sessions to identify risks and opportunities
- Report sustainability performance.

High impact category goods and services include: the supply of concrete, steel and cabling.

7.1.6 REPORTING

Key supply chain partners will report monthly on sustainability performance metrics as outlined in contract requirements.

7.1.7 PERFORMANCE REVIEW AND ACKNOWLEDGEMENT

Compliance with reporting and documentation requirements will be monitored throughout the project. Review meetings will be held with key supply chain partners to maintain a good relationship with suppliers – discussions may include feedback on their performance, reviewing any potential risks to both the supplier and the project and any non-conformances that require resolution.

Positive sustainability outcomes will be acknowledged by Systems Connect. Collaborative knowledge sharing and lessons learnt will be encouraged with the suppliers, Systems Connect and designers.

8 ELEMENT 5: PEOPLE AND CAPABILITY

8.1 SUSTAINABILITY RESOURCES

The Project management structure will ensure that sustainability is incorporated throughout all aspects of the project. Key to the project's success will be the appointment of a senior manager to take responsibility and be given the authority to effect change and champion sustainability across the project.

Systems Connect Sustainability Management team is as follows:

- The **Project Director** provides overall leadership and ensures accountability for sustainability across the project team.
- The **Project SHEQ Manager** is part of the senior management team and is accountable for the project's progress against sustainability requirements and the Sustainability Management Plan.
- The **Environment and Sustainability Manager** has primary responsibility and accountability for sustainability, championing of key initiatives and priorities, as well as internal and external reporting and communication on sustainability.
- **Sustainable Design Specialists** will provide support for technical sustainability analysis, such as life cycle assessment, detailed energy modelling and greenhouse gas (GHG) assessments.
- The team will be supported by sustainability leaders from CIMIC's EIC Activities, UGL, CPB WSP and Aurecon. David Fox will be the LW Works' Independent Sustainability Advisors.
- The Environment and Sustainability Manager is supported by a full-time **Sustainability Advisor and Sustainability Coordinator** during the design and construction phases.

The project team will contribute to the sharing of lessons learnt via the CPB Sustainability Community of Practice and utilise the specialist engineering/sustainability resources from EIC Activities (CIMIC Group's engineering and technical services business) to support projects, investigate related innovations, undertake training and capture sustainability lessons learnt.

Ongoing sustainability review and support will include:

- Sustainability as an ongoing agenda item for relevant design meetings and/or establishment of a dedicated Sustainability in Design meeting.
- Environment and Sustainability Manager to be provided updates to Design Schedules and progress reports to assist identify upcoming design review gateways for relevant Design Packages.
- Sustainability input requested at specified design review gateways for material Design Packages.
- Sustainability documentation required to be included in Inspection and Test Plans.

8.2 SUSTAINABILITY TEAM ROLES & RESPONSIBILITIES

The Environment and Sustainability Manager will work collaboratively across our design and construction teams to provide certainty in the delivery of sustainability requirements, ensuring a proactive rather than reactive approach to sustainability management. The Sustainability Manager will have access to decision makers and the authority to challenge senior staff when sustainability outcomes and targets are potentially compromised. Key roles and responsibilities for the Sustainability Management team are outlined in Table 8.1.

Table 8.1 Key Roles and Responsibilities

Key Roles and Responsibilities	(Minimum) Skill Levels
Environment and Sustainability Manager	
• Drive the achievement of the project's Sustainability Objectives and Targets and associated Key Performance Indicators • Work collaboratively with procurement, design and construction leads to embed sustainability initiatives across the project • Manage the ISCA rating process including collection and submission of evidence.	• Must possess a recognised qualification relevant to the position and the Contractor's Activities and have recent relevant experience in sustainability management on projects similar to the Project Works; • Have at least five years' sustainability management experience in the design and construction of sustainable infrastructure or buildings; and • Be available as the Principal's Representative primary contact with the Contractor on sustainability matters. • Be responsible for and have the authority to develop and implement the Sustainability Plan.
• **Senior Sustainability Advisor**	
• Manage the development and implementation of the Sustainability Management Plan and associated sub-plans • Organise and manage procurement systems within construction phase • Review and submit ISCA documentation towards IS Ratings • Reporting of sustainability performance to Senior Management and the Client, in line with commitments in the Sustainability Management Plan. • Ensuring compliance with the Contract sustainability requirements	• Must possess a recognised qualification relevant to the position and the Contractor's Activities and have recent relevant experience in sustainability management on projects similar to the Project Works; • Have at least five years' sustainability management experience in the design and construction of sustainable infrastructure or buildings; and • Be available as the Principal's Representative primary contact with the Contractor on sustainability matters. • Be responsible for and have the authority to develop and implement the Sustainability Plan.
Independent Sustainability Advisor	
• Review sustainability performance on the project and make recommendations for improvement • Challenge conventional thinking and provide an independent and objective 'fresh set of eyes' • Share knowledge and learnings from other projects.	• Experience in design and engineering management • Qualifications in sustainability, environmental engineering or similar • ISAP • Technical expertise.
Sustainable Design Specialists– (Design Phase only)	
• Work with the design discipline leads to address the project's sustainability requirements and drive sustainability outcomes • Undertake technical sustainability analysis and reporting, including life cycle assessments, energy modelling, GHG assessments, climate risk assessments.	• Experience in design and engineering management • Qualifications in sustainability, environmental engineering or similar • ISAP • Technical expertise.
Sustainable Coordinator	

Key Roles and Responsibilities	(Minimum) Skill Levels
• Assist the Sustainability Advisor with the implementation of identified sustainability initiatives • Assist the Sustainability Advisor in developing and collating evidence for the IS Design and As-Built rating. • Providing support to Construction delivery teams • Coodinating data capture and asssesment for design and construction sustainability (as required)	• 3 years' sustainable design integration experience • Qualifications in sustainability, environmental engineering or similar • ISAP • Experience in sustainability of the built environment (minimum 1 year).

8.3 PROJECT TEAM SUSTAINABILITY ENGAGEMENT AND RESPONSIBILITIES

To ensure the expectations and elements of the Plan are achieved, the wider team roles and responsibilities have been clearly defined below.

Table 8.2 Sustainability Engagement and Responsibilities

Role	Responsibilities
Project Director	• Establish culture and champion sustainability with the project leadership team • Ensure management systems are in place to integrate sustainability across project functions • Ensure that sustainability is considered in decision making processes.
Project Controls Manager	• Ensure that sustainability requirements, risks and opportunities are incorporated in project controls and systems •
SHEQ Manager	• Reports to project leadership team on sustainability progress against commitments in this Plan.
Environment and Sustainability Manager	• Oversee and coordinate the implementation of sustainability initiatives to ensure sustainability objectives and outcomes are met • Champion innovation, resource efficiency and WOL thinking within the project • Monitor sustainability performance and act to ensure the project meets its obligations and commitments for sustainability during Design and Delivery • Investigate new sustainability innovations and opportunities and report findings to Sydney Metro Authority to discuss the feasibility of their implementation.
Engineering Manager / Design Leads	• Engage with the Sustainability Manager to embed sustainability requirements in design plans and Project specifications • Ensure sustainability requirements are communicated to those responsible for design • Integrate Rating Tool requirements into design management processes and provide supporting evidence as required to support rating certification.
Construction Manager / Construction Leads / Project Managers	• Engage with the Sustainability Manager to ensure sustainability requirements are embedded in construction processes • Ensure sustainability requirements are communicated to the workforce • Ensure the selected subcontractors meet Project sustainability requirements • Ensure all subcontractors achieve sustainability objectives in the Delivery Phase and direct/oversee corrective actions where appropriate (including instigation of disciplinary action where required) • Integrate requirements into construction management processes and provide supporting evidence as required to support rating certification.
Key Functional Leads such as Environmental, Stakeholder & Engagement	• Engage with the Sustainability Manager to embed sustainability requirements in design plans and Project specifications • Ensure sustainability requirements are communicated to those responsible for design / construction • Integrate Rating Tool requirements into design management processes and provide supporting evidence as required to support rating certification.
Commercial Manager / Procurement	• Engage with the Sustainability Manager to embed sustainability requirements in sub-contracts and supply agreements

Role	Responsibilities
Human Resources Manager	• Ensure that relevant sustainability requirements are considered in procuring materials and services • Establish and maintain procurement systems that support sustainable procurement objectives.
	• Develop and implement strategies to achieve the human resource related initiatives with regard to equality, social enterprises, diversity and training • Ensure the provision of appropriate induction and training in sustainability aspects for all Project personnel.
All Staff	• Support the delivery of Project sustainability objectives and targets • Integrate consideration of environmental, social and economic impacts into decision making • Generate and support the implementation of sustainability initiatives.

8.4 SUSTAINABILITY TRAINING

Sustainability training requirements will be identified and documented within the Project's training matrix. In populating the training matrix, the sustainability training requirements for each role are addressed, including competency, needs and capability.

8.4.1 ISCA ACCREDITED PROFESSIONAL TRAINING

Key member(s) of project team will complete the ISCA Accredited Professional Training course and exam within 3 months of project commencement or when the course is next offered.

8.4.2 PROJECT INDUCTION

All personnel, subcontractors and visitors will undergo an induction before commencing work on-site. The induction will address general and Project-specific sustainability issues, including:

- CIMIC Group Sustainability Policy / Commitments
- Sustainability objectives and targets
- Sustainability expectations of employees and subcontractors

Induction materials are reviewed at least annually and amended to reflect changes to Project sustainability risks, opportunities and project controls.

8.4.3 SUSTAINABILITY TRAINING MODULES

The Project will deliver sustainability training opportunities as relevant to project team members and project scope, with a minimum of 2 structured sustainability training sessions delivered during the construction phase. Examples of these may include:

- Sustainable Procurement
- Sustainable materials
- Webinars
- ISCA training

8.4.4 TRAINING EVALUATION AND REVIEW

Training records, assessments and evaluation forms will be used to assess the effectiveness of training. Training evaluation and feedback will be reviewed and used to improve the quality of sustainability training delivered on the Project.

8.4.5 SUPPLY CHAIN SUSTAINABILITY SCHOOL

Members from the project team will be encouraged to undertake training from the Australian Supply Chain Sustainability School (ASCSS). ASCSS provide free online e-learning modules, including on the following topics:

- Sustainable Materials
- Carbon and Energy
- Climate Change Adaptation
- Sustainable Procurement
- Human Rights and Modern Slavery.

9 ELEMENT 6: SUSTAINABILITY AWARENESS & KNOWLEDGE SHARING

Actions to ensure sustainability is communicated and promoted will include:

- **Project Team Meetings** - Sustainability will be added as an agenda item in key project team meetings, with dedicated sustainability meetings to occur as required. Key project management team will participate as required to discuss sustainability performance, initiatives and challenges. Minutes to be taken and recorded.
- **Toolbox Talks and Awareness Sessions** - The Sustainability Team will coordinate toolbox presentations and awareness sessions to ensure a high performing sustainability culture is built into the project. Documentation of toolboxes and awareness sessions, including sign on sheets will be retained.
- **Ongoing awareness campaign** - The Sustainability team will be responsible for ongoing sustainability prestart messages, posters and input into project newsletters. Documentation of any sustainability awareness materials will be retained.
- **Quarterly reporting** - The Project will report quarterly to Sydney Metro on sustainability performance against objectives and targets.
- **Case Study** – Where appropriate, sustainability case studies will be generated by the project for internal communications (and external as appropriate).

9.1 KNOWLEDGE SHARING PLATFORMS

Sustainability knowledge will be captured in a proven, custom-built interactive Project Knowledge Library (iPKL) – a system which is designed to facilitate knowledge sharing, informal discussions, Q&A sessions, and sharing of best practice examples and lessons within and outside the project.

The Senior Sustainability Advisor will participate in the CPB Contractors Sustainability Network which has been developed as a forum for information sharing and to provide Sustainability Rating support. Where relevant, the Project will share updates, lessons learnt, key achievements and challenges with the network to facilitate learning, knowledge sharing and capability building across CPB Contractors Sustainability Professionals.

Any external knowledge sharing sessions or communication documents will be approved initially through the appropriate approval channels within Systems Connect and then through Sydney Metro Authority in line with the projects contract requirements.

9.2 PROJECT KNOWLEDGE SHARING REQUIREMENTS

The Senior Sustainability Advisor will participate in Project / Client facilitated Knowledge Sharing Workshops as appropriate, as well as Quarterly Sustainability Forums with the Sydney Metro Sustainability Representative and Interface Contractor Sustainability representatives. The Sustainability Manager, or a representative, may present progress updates, report on sustainability performance and shared lessons learned.

9.3 ENGAGEMENT WITH KEY STAKEHOLDERS

9.3.1 THIRD PARTY INTERFACES

Systems Connect is committed to fostering positive and collaborative working relationships with key third parties and will endeavour to collaborate on common sustainability goals and objectives. Key third party stakeholders include:

- Sydney Trains

- Sydney Metro
- Sydney Coordination Office
- City of Sydney and local Municipal Councils within the project area
- Roads and Maritime Services
- AusGrid, and
- Sydney Water.

9.3.2 INTERFACE CONTRACTORS

Systems Connect will endeavour to collaborate with Interface Contractors, working together to achieve the common sustainability goals and objectives as outlined in the Sydney Metro City & Southwest Sustainability Strategy. We will strive to focus on 'value for money' and best sustainability outcomes for Sydney Metro.

10 ELEMENT 7: REPORTING, REVIEW AND IMPROVEMENT

Continuous improvement will be achieved through continual reporting/monitoring, measurement, evaluation and adjustment. Our Sustainability Management Plan will be regularly reviewed and revised in response to the changing delivery context, generating opportunities to improve sustainability outcomes.

Corrective actions will be developed and implemented where deviations from the sustainability requirements are identified. Corrective actions will be documented, tracked and closed out in a timely manner.

10.1 MONTHLY PROGRESS REPORTING

As part of the Environment section in the Monthly Progress Report, the following reporting on sustainability will be included:

- a summary of performance in meeting sustainability requirements and targets, which includes the identification of areas of actual or potential non-compliance; and
- data on resource consumption, carbon emissions, waste recycling and disposal, and concrete mixes in the form of a completed Sydney Metro City & Southwest Sydney Template SM-18-00043350.

10.2 QUARTERLY SUSTAINABILITY REPORTING

A Quarterly Sustainability Report will be prepared for the Project Director and Principal Representative (Sydney Metro Authority). This report will include the following:

- Performance against Contract sustainability requirements and targets
- Status on implementation of sustainability strategies and initiatives identified in this Plan
- An update on climate change risk assessment and any adaptation measures implemented during the design process
- Detailed on GHG reduction initiatives which have been implemented in design and construction
- Detailed on life cycle assessments undertaken and initiatives implemented in design and construction
- Compliance with the sustainable procurement requirements, and
- Corrective actions undertaken where non-conformances with sustainability requirements have been identified

10.3 DETAILED SUSTAINABILITY ASSESSMENTS

Detailed sustainability assessments will be undertaken throughout the design and planning phases and will include forward-looking options assessments targeting improvement opportunities. These assessments will involve the following reports:

- Sustainable Design Report
- Climate Change Risk Assessment Report
- Report on inputs into the Operator's Electricity Consumption Software Model
- GHG Inventory Report (including reporting for ISCA Ene-1, Ene-2))
- Life Cycle Assessment Report (including reporting for ISCA Mat-1), and the
- Water Balance Study (including reporting for ISCA Wat-1, Wat-2)

As these reported are developed, the preliminary results and opportunities will be reported in sections of the Quarterly Sustainability Report.

10.4 REPORTING PROGRAM

The sustainability reporting program is given in Table 10.1.

Table 10.1 Frequency/timing of Sustainability Reporting

Report	Design phase	Construction phase
Sustainability content in Monthly Progress Report	Monthly	Monthly
Quarterly Sustainability Report	Quarterly	Quarterly
Sustainable Design Report	Stage 2, Stage 3	N/A
Input into Operators Electricity Software Consumption Model	Stage 2, Stage 3	N/A
GHG Inventory Report / ISCA Ene-1	ISCA Design Submission	Practical Completion / As Built submission
Climate Impact Assessment Report	Stage 2	Update for IS As Built submission with supporting evidence at Practical Completion
Life Cycle Assessment / ISCA Mat-1	ISCA Design Submission	
Water Balance Study / ISCA Wat-1&2	ISCA Design Submission	

10.5 MANAGEMENT PLAN REVIEW

The Project will conduct formal management reviews to assess the adequacy of the Sustainability Management Plan. Applicable findings of the review will be incorporated into the Sustainability Management Plan. This Plan will be reviewed and updated annually from the first issue to the Principal until completion of construction works.

The formal review must take into account the results from:

- Audits undertaken
- Communication, participation and consultation
- Relevant communication including complaints from external stakeholders
- The performance of the Project
- The extent to which the objectives and targets have been met
- Changes to legislation, and

- Actions from previous management reviews and recommendations for improvement.

10.6 SUPPLIER AND SUBCONTRACTORS

Key suppliers will be monitored and/or audited to verify claims made in tender documents, identify areas of key risk (environmental, social, economic) and identify areas for improvement which need to be considered for possible inclusion in the contract negotiation and terms.

Poor sustainability performance or non-compliance will be actively managed.

10.7 ISCA AUDITS, INSPECTIONS AND REVIEW

All persons conducting audits and reviews will be suitably experienced and qualified as per the requirements outlined within any applicable project rating tools.

10.7.1 MAN-4 'INSPECTION AND AUDITING'

Audits and inspections in line with ISCA Credit Man-4 'Inspection and Auditing' Level 2 (as per as the Technical Manual requirements. V1.2) will be undertaken, including:

- Sustainability audits every 6 months during design, including at least one external audit
- Sustainability audits every 3 months during construction (four audits per year, where one is external)
- Weekly environmental site inspections during construction.

10.7.2 MAN-3 'ORGANISATIONAL STRUCTURE, AND ROLES AND RESPONSIBILITIES'

An Independent Sustainability Professional (ISP) is engaged to undertake sustainability reviews in line with ISCA Credit Man-3 'Organisational Structure, and Roles and Responsibilities' level 2, including:

- Quarterly reviews during design
- Six monthly reviews during construction.

10.7.3 ENE-1 ENERGY AND CARBON MONITORING AND REDUCTION CREDIT

Energy and carbon management and reporting will be managed and reviewed by suitably qualified professionals, in accordance with ISCA Credit Ene-1 'Energy and Carbon monitoring and reduction' in the Technical Manual requirements. V1.2.

11 ELEMENT 8: DOCUMENT AND RECORDS MANAGEMENT

Relevant documents and records will be maintained using corporate business applications and systems.

Relevant documents and records to be used as evidence must be stored and managed using the designated document management system. The following records will be stored:

- Sustainability Management Records
- Evidence of how sustainability is implemented
- Meeting minutes/correspondence
- Evidence of review and audit
- Reporting and case studies.

The following Systems apply:

- Energy consumption, water consumption and waste generation data will be reported in JDE and Synergy (supporting evidence will be stored in within the designated doc management system)
- Incident reports and corrective actions will be stored and managed using Synergy
- Risk registers will be retained in excel spreadsheet. Copies of risk registers will be saved to the designated document management system periodically.
- The Project network drive (K: Drive) will be used to store working documents only. Final versions of key documents to be retained such as monthly reports, programme, etc. are stored on Teambinder.

Part B: Mandatory Sustainability Actions- Sustainability Elements Summary

The Sustainability Management Plan is structured using set of 8 Elements. Part B outlines the mandatory actions and associated Expectations for each Element.

This two-level hierarchy provides a consistent structure that is applied across all Management Plans on the Project.

Element	Key aspects for managing this function on the Project
Expectation	The high-level outcomes achieved as part of each Element

The 8 Sustainability Elements are:

- Element 1: Project Commitment to Sustainability
- Element 2: Risk and Opportunity Identification
- Element 3: Embed Sustainability requirements in Design and Construction
- Element 4: Embed Sustainability in Procurement
- Element 5: People and Capability
- Element 6: Engagement and Knowledge Sharing
- Element 7: Reporting, Review and Improvement
- Element 8: Document and Records Management

ELEMENT 1: PROJECT COMMITMENT TO SUSTAINABILITY

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / input	Deliverables / Evidence (where addressed)
THE PROJECT DIRECTOR PROVIDES LEADERSHIP ON SUSTAINABILITY	• Project Director must remain informed and proactive on sustainability items • Environment and Sustainability Manager must maintain communication with Project Director either by Direct Report in org chart and/or ongoing project reporting and meetings.	Project Director	**Meeting attendance and reporting throughout project**
INCORPORATE SUSTAINABILITY INTO DECISION MAKING	• Sustainability must be included as an ongoing agenda item for relevant design meetings and/or establishment of a dedicated Sustainability Meeting • Sustainability must be requested at specified design review gateways for material Design Packages • Sustainability impacts captured in the design change management process. E.g. include a sustainability section in Tender Advice Note (TAN) template. • Include sustainability documentation requirements (e.g. Environmental Product Declarations) in selected Inspection and Test Plans (ITPs).	Project Director / Env & Sust. Manager	**Inclusion of Sustainability in meeting agenda(s)**
DEFINE SUSTAINABILITY REQUIREMENTS, COMMITMENTS AND TARGETS	This Plan must clearly define: • Project minimum requirements • Targets • Actions to achieve Systems Connect's Sustainability Commitments • Opportunities to be implemented or investigated.	Env & Sust. Manager	**Outline targets & requirements** **CIMIC Policy and Systems Connect's Policy** **Ref to Systems Connect's Sustainability Commitments**
INCORPORATE SUSTAINABILITY COSTS AND/OR SAVINGS INTO COST BUDGETS	• Project cost budget must include/account for cost allowance for key sustainability initiatives, staff resources and specialist consultants (where required). Include specific line items for costs where possible • Project cost budget should include/account for cost savings associated with sustainability initiatives.	Env &Sust. Manager / Estimator / Commercial Manager	**Sustainability accounted for in cost plan**

ELEMENT 2: RISK & OPPORTUNITY MANAGEMENT

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / input	Deliverables / Evidence (where addressed)
IDENTIFY SUSTAINABILITY RISKS AND OPPORTUNITIES VIA PROJECT RISK REGISTER	• Environmental, social and economic risks and opportunities associated with activities, products and services of the project should be identified, recorded and tracked in the Project Risk Register*. • If the risk rating returns a result of 'medium' or above, then additional controls sufficient to reduce the risk rating to 'low' or an alternative acceptable level using cost effective designs and engineering and/or administrative controls will be utilised. • Residual risks with a high or extreme risk rating will be considered 'significant' and must be controlled using appropriate systems of work, including project work procedures, along with available "hard controls".	Project Director Env & Sust Manager Engineering Manager Engineers Supervisors	**Project Risk Register inclusions**
MAINTAIN A SUSTAINABILITY AND INNOVATION OPPORTUNITIES REGISTER	• Conduct Sustainability and Innovation Workshop: • Develop and Maintain **Sustainability & Innovation Opportunities Register** • Develop Business Case for initiatives as required.	Env & Sust Manager	**Sustainability & Innovation Opportunities Register**
UNDERTAKE CLIMATE CHANGE RISK ASSESSMENT	• Assess Climate Change Risks – For small scale projects climate change risks can be identified and captured in Project Risk Register or dedicated summary report – For large scale /ISCA/Green Star projects, undertake dedicated Climate Change Risk Workshop and prepare report. Include key Risks in Project Risk Register where appropriate • Review and Maintain Climate Change Risk Assessment • Communicate risks and required responses to discipline leads • Monitor required actions throughout project stages	Env & Sust Manager	**Climate Change Risk Assessment**

* Risk assessments should be conducted following the Systems Connect Risk Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000021) that is based on CPB Contractors procedure 'Manage Project Risk' available on the CPB CMS which aligns with ISO 31000:2009 'Risk Management', unless otherwise specified.

ELEMENT 3: EMBED SUSTAINABILITY REQUIREMENTS IN DESIGN & CONSTRUCTION

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / Input	Deliverables / Evidence (where addressed)
TRACE SUSTAINABILITY REQUIREMENTS TO KEY DESIGN & CONSTRUCTION PACKAGES	• Sustainability requirements for key Design / Construction packages must be outlined in a **Sustainability Compliance RVTM** and communicated with relevant Design / Construction discipline lead • The Sustainability Requirements Matrix must identify the key sustainability deliverables, targets and requirements relevant to relevant packages • Engage with the Lead of each relevant Design Package to discuss requirements and identify potential opportunities.	Env & Sust Manager	**Sustainability Requirements Matrix**
INCLUDE SUSTAINABILITY RESPONSIBILITIES IN DESIGN CONSULTANT SCOPES AND CONSTRUCTION PACKAGES	• Sufficient provisions must be included in design consultant scopes and construction packages to ensure clear accountability for contributing to the achievement of sustainability compliance requirements and identification of opportunities • Sustainability expectations and, where relevant, KPIs, must be defined in consultant contracts.	Env & Sust Manager Commercial Manager	**Sustainability related Contract clauses / scope requirements**
ACCOUNT FOR SUSTAINABILITY IMPACTS IN COST PLAN	• Project cost budget must account for applicable increased or decreased costs associated with sustainability initiatives.	Env & Sust Manager Commercial Manager	**Sustainability line items / accountability in cost plan**

ELEMENT 4: EMBED SUSTAINABILITY IN PROCUREMENT

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / Input	Deliverables / Evidence (where addressed)
INCORPORATE SUSTAINABILITY CONSIDERATIONS INTO SUPPLIER SELECTION PROCESSES / PRE-QUALIFICATION	• Sustainability considerations must be incorporated into the pre-qualification process • Subcontractors & Suppliers engaged on the project must be requested to complete a Pre-qualification questionnaire • Sustainability policies and evidence of implementation must be requested.	**Commercial Manager** Procurement Manager Engineers Env & Sust Manager	**Pre-qualification questionnaire**
CONSIDER ENVIRONMENTAL, SOCIAL AND FINANCIAL ASPECTS IN TENDER EVALUATION	• Quantitative multi-criteria analysis must consider environmental, social and financial aspects for selected high impact procurement categories. Weighting for non-financial aspects in these categories is to be at least 30 percent • Subcontractors must be made aware of sustainability requirements during the tender process and through site inductions and toolboxes		**Multi-criteria analysis**
INCORPORATE CONTRACT REQUIREMENTS FOR SUSTAINABILITY	• The Sustainability Manager must review/include sustainability contract requirements in key goods/services packages.		**Sustainability Contract Clauses**
SOURCE LOCAL AND ETHICAL PRODUCTS AND SERVICES	• Local materials will take preference • Where High Impact Materials are sourced from developing countries the supplier's operations are required to use a risk-based approach to ensure compliance with: (i) all relevant laws and regulations local to that country; (ii) the International Labour Organization's Fundamental Conventions; and (iii) the “Ten Principles” of the UN Global Compact • The project is committed to sourcing Australian steel rail from Liberty OneSteel’s 100% Australia, integrated and transparent supply chain. • Subcontractors will be required to align with the Systems Connect Workforce Development and Industry Participation (WDIP) objectives and targets, and we will work closely with the Australian Supply Chain Sustainability School (ASCSS), Industry Capability Network (ICN), and key social enterprise partners such as Supply Nation and Career Trackers.		**Sustainability Contract Clauses**

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / Input	Deliverables / Evidence (where addressed)
EDUCATE AND SUPPORT SUPPLIERS TO PROCURE SUSTAINABLE PRODUCTS	• The project will partner with the Australian Supply Chain Sustainability School (ASCSS). Materially relevant and high impact suppliers will be required to: (i) Develop a specific Sustainability Action Plan applicable to scope of work (through ASCSS or independently) (ii) Complete ASCSS sustainable procurement training modules • (iii) Participate in sustainability engagement sessions to identify risks and opportunities. • (iv) Report sustainability performance. • Contract Managers will collaborate with suppliers to improve sustainability outcomes. Suppliers will be invited to provide sustainability improvement suggestions and innovations in line with the LW Works objectives and targets.		**Sustainability Contract Clauses** **Training evidence** **Meeting minutes**
SUPPLY CHAIN PARTNERS REQUIRED TO REPORT PERIODICALLY ON SUSTAINABILITY PERFORMANCE	• Supply chain partners must report periodically on sustainability performance metrics as outlined in their contractual requirements. • Compliance with reporting and documentation requirements should be monitored and corrective actions taken where non-compliant. • Sustainability documents required may include evidence necessary to support Rating Scheme Submissions, as well as other governance and compliance requirements (e.g. Forest Stewardship Council timber chain of custody notes; Energy consumption data).		**Sustainability Reporting & Evidence**
SUBCONTRACTORS/SUPPLIERS PERFORMANCE REVIEWED AND ACHIEVEMENTS ACKNOWLEDGED	• Subcontractors will be inspected and audited for sustainability performance against objectives and targets. Non-compliances will result in corrective actions that require resolution. • Post engagement, suppliers and subcontractors will be evaluated based on performance. • Key sustainability successes will be celebrated, with high performance recognised through knowledge sharing, case studies and other communications.		**Audit / Inspection Report**

ELEMENT 5: PEOPLE AND CAPABILITY

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / Input	Deliverables / Evidence (where addressed)
DEFINE SUSTAINABILITY STAFF RESOURCES, ACCOUNTABILITIES, ROLES AND RESPONSIBILITIES	Appropriate Sustainability leadership and staff resources/roles must be defined and communicated for the project based on project requirements and needs. Resources may include: • Design Phase Sustainability Manager • As Built / Construction phase Sustainability Manager • Sustainability Coordinator (as required) • Specialist input (internal staff or external consultants as required)	Project Director SHEQ Manager	**Org chart** **Roles and Responsibilities Table**
INCLUDE SUSTAINABILITY REQUIREMENTS IN TRAINING PLAN	• Sustainability Training requirements must be identified and documented within the Project's training matrix. In populating the training matrix, the sustainability training requirements for each role are addressed, including competency, needs and capability. • Subcontractor training and competency responsibilities must be included in subcontractor agreements where appropriate • All resources to deliver the training schedule, including personnel, equipment, funding and materials, must be allowed for in the Project budget.	Env & Sust Manager HR Manager	**Project Training Matrix**
COORDINATE/FACILITATE TRAINING MODULES	• The Project must provide sustainability training opportunities as relevant to project team members and project scope, with a minimum of 2 structured sustainability training sessions delivered at the project during construction phase.		**Training Records**
TRAINING RECORDS AND EVALUATIONS ARE MAINTAINED	• Records of all training activities, including inductions, must be maintained. Records will include the name and role of the attendee, the name of the course and, where applicable, reference to the document-controlled version of the material presented, and a copy of the assessment completed.		

ELEMENT 6: ENGAGEMENT & KNOWLEDGE SHARING

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / Input	Deliverables / Evidence (where addressed)
KEY STAKEHOLDERS ARE IDENTIFIED AND ENGAGED ON APPLICABLE SUSTAINABILITY ISSUES	• Key Stakeholders will be identified and engaged at appropriate timeframes to provide input/buy-in on Sustainability issues.	Env & Sust Manager	Key Stakeholder Tables Agenda and Meeting minutes
PARTICIPATE IN CPB KNOWLEDGE SHARING FORUMS / PLATFORMS	• The (sustainability team, to participate in the bi-monthly CPB Contractors Sustainability Network meetings • Sustainability knowledge must be uploaded to the interactive Project Knowledge Library (iPKL) • The Project Sustainability Manager will have access to the iPKL Sustainability Community of Practice.	Env & Sust Manager	Meeting Minutes / Agenda and Sust awareness materials
PARTICIPATE IN CLIENT / PROJECT KNOWLEDGE SHARING	• The Project Sustainability Manager must participate in Project wide / Client Authority Knowledge Sharing Workshops as appropriate.		
RAISE PROJECT AWARENESS	• Toolbox Talks and Awareness Sessions - The Sustainability Team must coordinate toolbox presentations and awareness sessions to ensure a high performing sustainability culture is built into the project • The Sustainability team is responsible for ongoing sustainability prestart messages, posters and input into project newsletters • Include Project Sustainability Objectives in project induction.		
PREPARE CASE STUDIES / LESSONS LEARNT	• The Project must submit a general sustainability initiative case study and/or lessons learnt which details the sustainability achievements of the Project, as well as key risks and challenges identified.		Case Study / Lessons Learnt Report

ELEMENT 7: REPORTING, REVIEW AND IMPROVEMENT

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / Input	Deliverables / Evidence (where addressed)
PROJECT SUSTAINABILITY PERFORMANCE TRENDS ARE TRACKED AND REPORTED	**Monthly Reporting/Monitoring** A monthly sustainability report/update must be prepared for the Project Director for inclusion in the monthly project report. This report will include the following: • Analysis of performance against project, business unit and corporate sustainability targets • Analysis of performance against targets set in the Sustainability Sub-Plans, including monitoring results • Review of progress towards sustainability objectives/credits • Reference to the number and results of inspections, audits, observations and monitoring • Any sustainability innovations implemented on the project, and • Opportunities for improvement. Monthly reporting of project energy consumption, water use and waste generation, as well as environmental incidents, is outlined in the Project CEMP.	Env & Sust Manager	**Monthly Report**
MANAGEMENT PLAN REVIEWS ARE CONDUCTED TO DETERMINE THE CONTINUING SUITABILITY, ADEQUACY AND EFFECTIVENESS OF THE SUSTAINABILITY MANAGEMENT PLAN	• An annual Sustainability Management Plan review must be undertaken and consider the results of: – Audits undertaken – Communication, participation and consultation – Relevant communication including complaints from external stakeholders – The performance of the Project – Progress towards achievement of any targeted Rating Tool credits – The extent to which the objectives and targets have been met and – Changes to legislation.	Env & Sust Sustainability Manager Project Director SHEQ Manager Business Unit Sustainability Manager	**Review Report**
RATING TOOL SUSTAINABILITY REVIEWS, AUDITS AND INSPECTIONS	• Where seeking an IS Rating, reviews, audits and inspections may be undertaken as per as the Technical Manual requirements for applicable targeted credits.	Env & Sust Manager	**Review / Audit Report**

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / Input	Deliverables / Evidence (where addressed)
		Internal or External Auditor Independent Reviewer	

ELEMENT 8: DOCUMENT AND RECORDS MANAGEMENT

Expectations	Mandatory Actions: How we will meet the Expectations (minimum requirements)	Responsibility / Input	Deliverables / Evidence (where addressed)
RELEVANT DOCUMENTS AND RECORDS WILL BE MAINTAINED USING CORPORATE BUSINESS APPLICATIONS AND SYSTEMS	**Evidence/Document Storage** • Relevant documents and records to be used as evidence must be stored and managed using the designated document management system. The following records will be stored: – Sustainability Management Records – Evidence of where sustainability is implemented with the Project – Meeting minutes/correspondence – Evidence of review and audit, and – Reporting and case studies • The following Systems apply for the following: – Energy consumption, water consumption and waste generation data will be reported in JDE and Synergy (Supporting evidence will be stored on Teambinder) – Incident reports and corrective actions will be stored and managed using Synergy – Risk registers will be retained in excel spreadsheet. Copies of risk registers will be saved to the designated document management system periodically. • The Project network drive (K: Drive) will be used to store working documents only. Final versions of key documents to be retained such as monthly reports, programme, etc. are to be stored on the designated document management system	Env & Sust Manager /Coordinator Document Controller	**Evidence and Documentation**
RATING SCHEME DOCUMENTATION WILL BE SUBMITTED TO BU SUSTAINABILITY MANAGER AND CPB GROUP SUSTAINABILITY MANAGER	**Evidence/Document Collection** • Evidence requirements and responsibilities for evidence collection must be identified and tracked for each targeted credit. Evidence collection status must be provided upon request and will be incorporated into periodic project reporting as relevant. • Information to be provided to the Business Unit Sustainability Manager includes: – Rating Scheme progression – Evidence submitted – Credit Summary Forms – Weighting Assessment – Verification feedback, and – Verification summary spreadsheet / scorecard	Env & Sust Manager /Coordinator Document Controller	**Evidence and Documentation**

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Part C: Sub-Plans

12 ISCA RATING STRATEGY

This Section outlines our approach to achieving an IS Rating and the associated credits and targets identified as a pathway.

The project has adopted a minimum target of 75 points under the ISCA IS Rating Tool for design and construction of the works, with the aim of securing an IS Rating level of 'Leading'.

As evidence of our commitment to achieving a 'Leading' rating, we have:

- Determined individual credit targets that will deliver a nine-point buffer above our target score of 84 (refer to Figure 12.1~~Figure 12.1~~)
- Completed a materiality assessment [Version 1.2] in early 2019 that assigns weights to revised credits according to local and project-specific considerations. The weightings applied were weightings received from Sydney Metro supplied at tender phase. It is anticipated that some weightings may change but is considered unlikely to affect the projects ability to target a Leading rating.

In addition, we committed to undertaking specific actions during project delivery, including:

- Engaging a highly-experienced Independent Sustainability Professional early in the post-tender phase to undertake periodic reviews and audits and to ensure we reach our Design and As-Built target scores
- Training additional personnel as IS Accredited Professionals, ensuring wide appreciation of IS requirements and an internal network to support IS Rating Score achievement
- Submitting Credit Interpretation Requests and technical clarifications to ISCA, identifying barriers to verification early and allowing sufficient time to implement alternative measures and gain the required points
- Using a tracking system to plan actions, record progress and document evidence and initiatives for each credit.
- Using the expertise of our specialist consultants as appropriate, i.e. to support energy and carbon modelling and climate-change adaptation planning.

12.1 IS RATING SCHEDULE

Table 12.1~~Table 12.1~~ illustrates the key tasks and milestones the Sustainability Manager will oversee to achieve the IS Design Rating. These are indicative and dependent on the design and construction program therefore may be subject to change throughout the project. The project registered with ISCA as early as possible to maximise the opportunity to work collaboratively with the IS case manager. Initial meetings of the governance bodies critical to embedding sustainability in decision-making commenced within three months.

Table 12.1: IS Rating Schedule

	'18	2019				2020				2021				2022				2023		
Sustainability Milestones	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**
Design Program																				
Construction Program																				
Register project with ISCA																				
Finalise Sustainability Management Plan																				
ISCA Weights Assessment (Internal + External)																				
ISCA Weightings Assessment Verification Submission																				
Develop sustainability base case																				
Sustainability in design focus																				
Sustainability in procurement focus																				
Sustainability in construction focus																				
Undertake carbon/water/materials foot-printing																				
Design rating evidence consolidation																				
Self-assessment/ Independent review																				
1st round Design submission																				
2nd round Design submission																				
As Built rating consolidation																				
Self-assessment/ Independent review																				
1st round As Built submission																				

	'18	2019	2020	2021	2022	2023
2nd round As Built submission						
Case Studies, Lessons Learnt and Communication						

Note: These key tasks and milestones are indicative dates which will be continually updated.

12.2 IS RATING PRELIMINARY PATHWAY

12.2.1 TARGET SCORE SUMMARY

A range of target credits and benchmarks have been identified to achieve our minimum target of 75 points in accordance with Version 1.2 of the IS Rating Scheme. The target and credit benchmarks will need to be reassessed when the weightings assessment is finalised and there is an agreement on credit scoping, as it is currently unknown the level of information and evidence needed, including some information to be provided by stakeholders.

The target and stretch pathways are shown below in Figure 12.1~~Figure 12.1~~. As shown the project is targeting 84 points, with a stretch target of 92. These targets still allow for a buffer to achieve a Leading rating as shown in the figure at 75 points. Refer to Part C Appendix C for an outline of the credits being targeted and weightings applied during the preliminary weightings assessment, undertaken during the tender process.

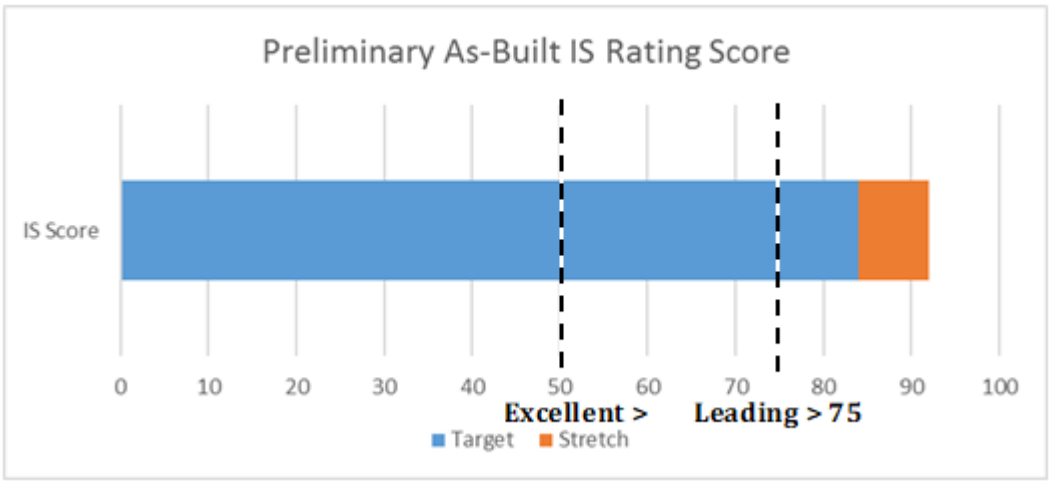

Figure 12.1: Targetted IS Pathway submitted at tender phase of the project

12.3 INITIATIVES AND INNOVATIONS

Several Innovation opportunities were already investigated and proposed as alternatives during the tender. The project will aim to adopt at least 3 innovations and achieve 3 points as part of the rating score pending verification by ISCA. These have been captured in the **Improvements and Innovations Register** and **Sustainability in Design Register** that we will continue to develop during delivery to track initiatives and ensure all relevant considerations are identified. Initiatives that may feed into achieving project sustainability outcomes or IS Rating credit requirements have also been identified in the register.

12.4 INITIAL WEIGHTINGS ASSESSMENT

A preliminary materiality assessment was undertaken by the Project team during the tender phase, however the tender IS Pathway used a weightings provided by Sydney Metro. A revised materiality assessment was undertaken during the establishment phase of the project. It is anticipated that some weightings may change but is considered unlikely to affect the projects ability to target a Leading rating.

The weightings assessment will need to be confirmed and finalised in collaboration with the Principal, key stakeholders, and verified by ISCA. After this, an accurate target score will be available.

12.5 KEY IS CREDIT TARGETS TO SUPPORT RATING

The table below outlines preliminary targets associated with the targeted IS Rating. These targets will be reviewed and updated as design and construction progresses, and targets may be increased or substituted as required to achieve the IS Rating. Many of these targets align with the SWTC requirements, but are otherwise voluntary and will provide a mechanism to track and report on sustainability performance throughout delivery.

Table 12.2: Preliminary ISCA targets

Sustainability Aspect	ISCA Credit(s)	Strategy/Actions	IS Target	Associated Project Min Req/target	Plan
Climate Change Risk and Adaptation	Cli-2	Review program-wide climate change risk assessment and identify and implement adaptation options	Implement adaptations to treat all extreme and high risks and 25-50% of all medium risks	Implement adaptations to address all extreme and high risks and at least 25% of all medium risks	Climate Adaptation Sub-Plan
Energy	Ene-1	Reduce whole of life energy/GHG emissions (carbon footprint)	30%	20%	Energy and Carbon Sub-Plan
	Ene-2	Substitute energy supply with renewable sources	40%	13.3%	Energy and Carbon Sub-Plan
Water	Wat-1	Reduce potable water consumption	13.33%	10%	Soil and Water Management Plan
	Wat-2	Substitute non-potable water for potable water where this makes economic and environmental sense	33%	33%	Soil and Water Management Plan
Topsoil	Lan-2	Where feasible, retain topsoil productivity and beneficially reuse it on or near the project	95%	100%	Soil and Water Management Plan
Stormwater flows	Dis-1	Consider the projects impact to stormwater flows during rainfall events	Avoid increasing peak stormwater flows for rainfall events up to	N/A	Civil and Drainage design reports and specifications

Sustainability Aspect	ISCA Credit(s)	Strategy/Actions	IS Target	Associated Project Min Req/target	Plan
			a 1.5 ARFI event discharge		
Waste	Was-2	Maximise diversion of spoil from landfill	100%	100%	CEMP – Waste Sub-Plan
		Maximise diversion of inert and non-hazardous construction waste from landfill, including office waste	90%	95%	
		Maximise diversion of office waste material	60%	60%	
	Was-3	Components or pre-fabricated units used can be easily separated on disassembly/ deconstruction for recycling or reuse	16.6%	N/A	Materials Management Sub-Plan
Ecology	Eco-1	Maintain ecological value	10% or above	N/A	Flora and Fauna Management Sub Plan
Innovations	Inn-1	Implemented innovation initiatives that comply with Inn-1 requirements	Minimum of 3 points	Must investigate the 5 potential innovations outlined in SWTC F08	Innovation Register
Climate Change Risk and Adaptation	Cli-2	Review program-wide climate change risk assessment and identify and implement adaptation options	Implement adaptations to treat all extreme and high risks and 25-50% of all medium risks	Implement adaptations to address all extreme and high risks and at least 25% of all medium risks	Climate Adaptation Sub-Plan
Materials Efficiency	Mat-1	Reduce lifecycle impacts of materials (based on IS Materials Calculator).	15%		Materials Efficiency Sub-Plan

Sustainability Aspect	ISCA Credit(s)	Strategy/Actions	IS Target	Associated Project Min Req/target	Plan
	Mat-2	Record use of ISCA-approved environmental label			
	Mat-2	Record use of ISCA-approved environmental label	3-9% of materials/products by value		
Community Health and Wellbeing	Hea-1	Implement measures to positively contribute to community health and wellbeing have been identified and implemented.	Implement at least 3 community benefit initiatives	Identify and implement at least five social sustainability initiatives with demonstrable and tangible benefits	Sustainability Management Plan

Note: These sustainability targets are indicative and will be updated as design and construction progresses

13 CLIMATE CHANGE ADAPTATION SUB PLAN

Climate change is having worldwide impacts on society, the economy and the environment. Observations of surface temperature increases over the last century have been recorded and heat-related records continue to be broken in recent years. Sydney Metro Authority and Systems Connect are committed to delivery infrastructure that is resilient the future impacts of climate change.

A Climate Resilience Report for Sydney Metro City & Southwest was prepared during the Reference Design Phase [NWRLSRT-PBA-SRT-SU-REP-000022]. Preparing a climate change risk assessment during concept/reference design presents a valuable opportunity to address key climate risks likely to shape the project's development. The risk assessment identified and assessed 90 climate change risks for the Sydney Metro City and South West Project. Climate change adaptations were also identified, and either incorporated into the reference design, or deferred for investigation and action during detailed design. The delivery phase climate change risk assessment will be a continuation of the risk assessment undertaken during reference design, specifically addressing risks identified that are applicable to the LW Works. Figure 13.1outlines the process for the Line Wide (LW) Works Climate Change Risk Assessment.

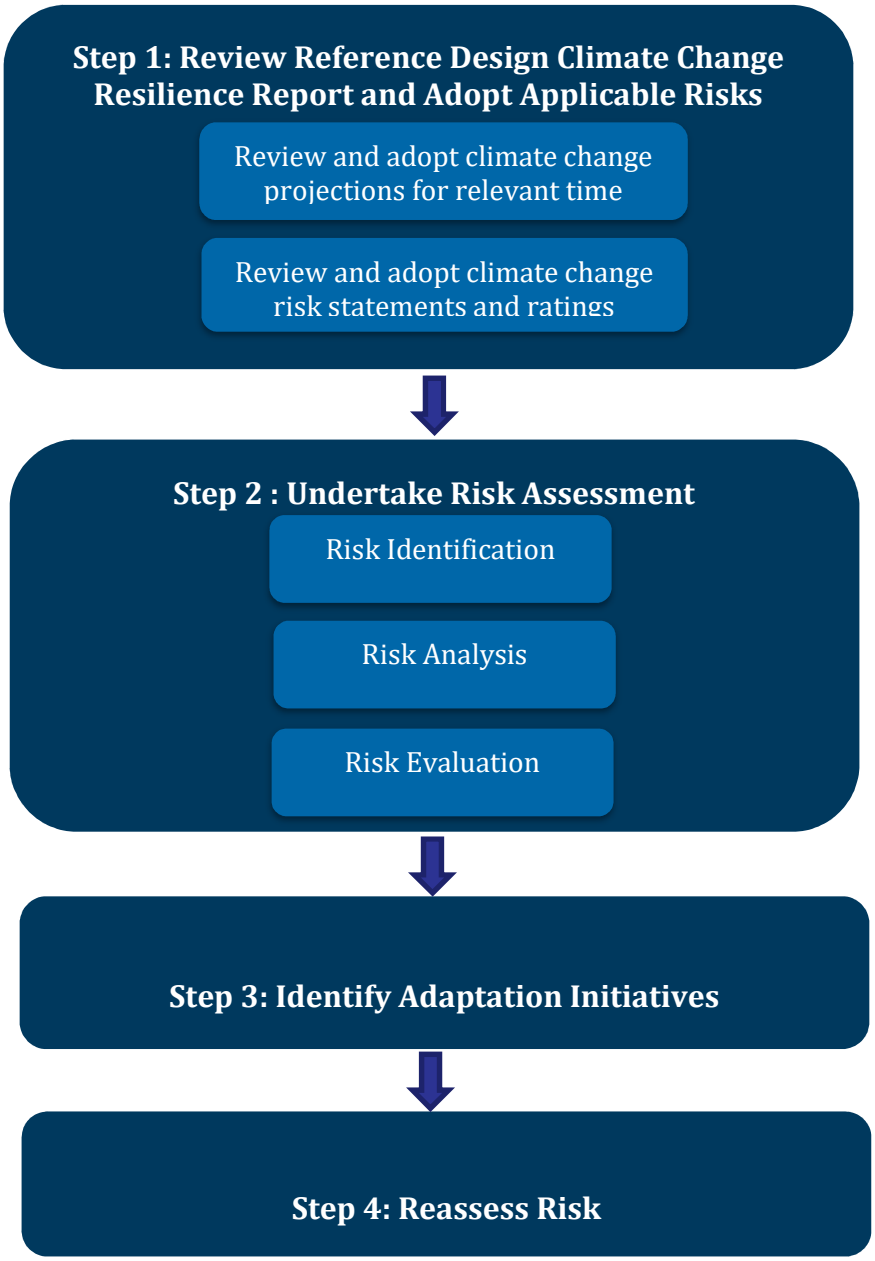

Figure 13.1 **Climate Change Risk Assessment Process**

13.1 STEP 1: REVIEW REFERENCE DESIGN CLIMATE CHANGE RESILIENCE REPORT AND ADOPT APPLICABLE RISKS

13.1.1 REVIEW AND ADOPT CLIMATE CHANGE PROJECTIONS FOR RELEVANT TIME SERIES

The Sydney Metro City & South West (SMCSW) Climate Resilience Report identified climate variables relevant to the project. These included temperature, rainfall, severe wind, sea conditions, fire hazard and extreme events. These climate variables are all considered to be relevant to the Line Wide Works and will be adopted for this project.

The report utilised projections associated with the Representative Concentration Pathways (RCP) 8.5 emission scenario. As outlined in the report these projections are considered to be conservative projections and represents the current trajectory for both observed emissions and climate change.
The following sources for regionally specific climate change projections were used in the (SMCSW) Climate Resilience Report:

- East Coast Cluster Report, Climate Change in Australia, funded by the Department of the Environment with CSIRO and the Bureau of Meteorology (BOM) (2015)
- NSW and ACT Regional Climate Modelling project (NARCliM) Office of Environment and Heritage (OEH) (2014).

These projections are considered suitable for the LW Works as no updates have been released from Adapt NSW, CSIRO or IPCC since the (SMCSW) Climate Resilience Report.
The following timescales were also used to inform the risks assessment including:

- Short term (2030) – projections that will impact construction, operations and routine maintenance;
- Medium term (2060) – projections which will affect operations, routine maintenance, major maintenance and replacement of assets and systems;
- Long term (2090) – projections which will affect operations, routine maintenance, major maintenance and replacement of assets and systems.

The use of RCP 8.5, climate change projections, and selection of timescales will be reviewed by the project team and stakeholders in the initial Climate Change Risk Assessment Workshop, before being adopted or updated for the delivery phase.

13.1.2 REVIEW AND ADOPT CLIMATE CHANGE RISK STATEMENTS FOR APPLICABILITY TO LW WORKS

The following steps need to be undertaken to review the climate change risk statements from the SMCSW Climate Change Resilience Report.

1. Define Line Wide Boundary

The boundary of the LW works will be established to formulate the boundary of the climate change risk assessment (and other assessments that will be undertaken as part of these works). This boundary will be discussed with Sydney Metro to ensure all sections of the wider Sydney Metro project are covered by a climate change risk assessment.

2. Identify applicable risks

Once the boundary has been defined all potential risks that were identified in the SMCSW Climate Resilience Report that are applicable to the LW Works will be adopted (nothing that SMCSW Climate Resilience Report included works associated with other works packages).

Throughout this process a LW Works Climate Change Risk Register will be prepared that outlined all relevant risks from the reference design Climate Change Resilience Report.

13.2 STEP 2: UNDERTAKE RISK ASSESSMENT

After adopting the relevant climate change risks from the SMCSW Climate Change Resilience Report, a thorough LW Works specific Climate Change Risk Assessment will be undertaken to identify additional risks to the project. This process will be undertaken in accordance with TfNSW Climate Change Risk Assessment Guideline and AS5443.

13.2.1 RISK ASSESSMENT

The following steps will be undertaken to assess the risk of climate change to the project. Risks adopted from Step 1 will be re-evaluated under this process.

1. Risk Identification – Develop Risk Statements

Additional risk statements will be developed for the project that were either not identified during the preparation of the SMCSW Climate Resilience Report or have arisen due to changes in the design process.

2. Risk Analysis

Risk analysis will be undertaken to developing an understanding of identified risk statements and their likely impact to the project. This process looks at the likelihood and consequence of a risk occurring and will be undertaken using the Sydney Metro Project Risk Criteria Matrix.

3. Risk Evaluation

Risk Evaluation will be used to decide whether risks need to be treated or priorities for treatment. Evaluating the risk is based on the outcomes of risk analysis where a risk level if prescribed for the risk statement using a risk assessment matrix. The Sydney Metro City Risk Assessment Matrix will be used for risk evaluation process.

13.3 STEP 3: IDENTIFY ADAPTATION INITIATIVES

After this risk assessment process and a comprehensive register of climate change risks has been prepared for the LW Works, climate adaptations and mitigations will be identified. This will include:

- Reviewing the adaptations outlined in the SMCSW Climate Resilience Report and revaluating their appropriateness for the LW works;
- Identify additional adaptation measures for implementation where required to reduce the risk levels identified in the process outlined in Step 2.

13.4 STEP 4: REASSESS RISK

As a final check, the residual risk ratings for associated risks will be completed, including attributing a residual risk rating for any new climate risks and adaptation measures identified at this stage.

As outlined under SWTC F08 all necessary adaptation measures that comprehensively address risks classified as ‘extreme’, ‘high’ and ‘medium’ during the Design Life of the Project Works will be considered using AS/NZS ISO 31000:2009 Risk management – Principles and guidelines.

As a minimum, measures to mitigate climate change risks classified as ‘extreme’ and ‘high’ and at least 25% of all climate change risks classified as ‘medium’ will be implemented. Approval from Sydney Metro will be sought for any responsibility for mitigation assigned to the operator.

13.5 CONSULTATION DURING RISK ASSESSMENT

The Risk Assessment Process outlined in this subplan will be undertaken in the format of workshops and one-on-one consultations with a multidisciplinary team. As a minimum, the following people will be involved in this process;

- Sustainability Manager
- Sydney Metro Sustainability Representative
- Engineering Manager, and
- Design Managers.

13.6 REPORTING AND REVIEW

A Life Cycle Assessment Report was submitted at the Stage 2 design submission (March 2020, which identifies and assesses risks and demonstrates how climate risks have been and will be mitigated. As the project process progresses the assessment and strategy will be reviewed in consultation with the relevant design and project staff and Sydney Metro Authority. Revisions of this report will be prepared at the following project stages;

- Completion of Design Stage 3, and
- Construction Completion.

The System Wide Sustainability Report, includes evidence showing where climate change mitigation and adaptation measures or changes have been implemented in design.

Systems Connect will also report quarterly to Sydney Metro via the Sustainability Report and include an outline of climate change risk assessments that have been undertaken, details of where the climate change risk assessments have influenced design and construction.

Evidence of climate change adaptations will be documented and tracked in the Climate Change Risk Register for ISCA submissions (Cli-2 'Adaptation Measures').

14 ENERGY AND CARBON MANAGEMENT SUB-PLAN

14.1 OUR APPROACH

Systems Connect will identify and implement best practice approaches to minimising and managing energy use and carbon emissions, which are cost effective, technically feasible and innovative. This will include sourcing renewable energy for both construction and operational purposes. Our approach to energy efficiency and carbon management is to maximise whole of life cost benefits by focussing on avoiding, reducing and minimising energy consumption and material use as priorities. Aligning with the SMCSW Sustainability Strategy 2017-2024, we will apply the following energy management hierarchy:

1. Avoid or reduce energy use
2. Improve energy efficiency
3. Source low carbon energy (onsite)
4. Source low carbon energy (offsite)
5. Purchase carbon offsets.

Refer to the 'Materials Management Sub Plan' for the strategy and approach to minimising embodied carbon and material impact (material manufacturing, transport to site).

14.2 ENERGY EFFICIENCY AND LOW CARBON INITIATIVES

Low carbon strategies and initiatives during the construction phase include:

- Electrification and automation of plant and equipment, including an electrically driven concrete placement train and agitators in the tunnels.
- Trial of a solar powered 3G/4G security solution with remote app for and third-party monitoring construction sites.
- Implement the carpooling at construction sites to encourage carpooling among the workforce to reduce traffic impacts and parking issues.
- Investigate and implement opportunities for the implementation of onsite renewable energy in construction activities e.g. biofuels for construction equipment and solar PV for site sheds.

Low carbon strategies and initiatives during the operational phase include:

- Regenerative energy recuperation via inverters to capture and store braking energy from trains.
- Passive design at SMTF South - natural daylight, natural ventilation, and optimised shading and thermal mass for limited mechanical conditioning.
- Efficient trackside ventilation system using thermal sensors to operate only when needed.
- Variable Speed Drives (VSD) on all fans to reduce power consumptions when demand is low.
- Sized fans according to ventilation demand in tunnels and considering the natural 'piston effect' of train movements.
- Fan use controls and temperature sensors for the tunnels and stations to allow for idling of ventilation fans.
- Unpowered Saccardo Nozzles to reduce the burden on the ventilation system and remove the need for powered jet fans.
- Sub metering installed to monitor and report electricity use through a Building Management Control System (BMCS) or Power Control System (PCS) for key power systems.
- Provide solar photovoltaic systems at the SMTF South with a minimum capacity of 250 kW.

14.3 ESTIMATES OF CONSTRUCTION PHASE GREENHOUSE GAS (GHG) EMISSIONS AND TARGETS

A preliminary estimate of construction phase GHG emissions from construction activities has been undertaken in line with ISO 14064-2:2006 and using the Transport for NSW Carbon Estimate and Reporting Tool (TfNSW CERT). This includes the use of construction electricity and fuels and embodied emissions from material manufacturing and transport to site. These estimates are shown below in Table 14.1, and will be developed further as design progresses, but will act as an interim target and help focus reduction efforts.

Table 14.1 Estimate of construction phase GHG emission

Scope	GHG emission source	Estimated GHG emissions (t CO2-e)
Scope 1	Diesel combusted on site in plant and vehicles	14,193 (12.8%)
Scope 2	Construction phase electricity (including project and site offices)	3,409 (3.1%)
Scope 3	Embodied emissions from production of materials	81,416 (73.6%)
	Upstream emissions associated with fuel combusted onsite	728 (0.7%)
	Upstream emissions associated with electricity production and transmission	554 (0.5%)
	Construction waste disposal	846 (0.8%)
	Transport of materials to site	9,369 (8.5%)
	Transport of waste	97 (0.1%)
Total estimated construction GHG emission		**110,612**

* Above estimates are based on best available information, current scope, and exclude disposal and treatment of construction waste.

The following table (Table 14.2) gives conservative targets for construction diesel, electricity and GHG emissions (as included earlier in Part A Section 4.2). The above estimate assumes all construction equipment is powered by diesel, and since the project is pursuing a strategy to maximise electrification of plant and equipment fuel switching from diesel to electricity is anticipated. There are also several materials excluded from the material footprint, and so a reasonable contingency is built in to the total GHG estimate.

Table 14.2 Construction phase energy and carbon targets

Target	Quantity	Unit
Diesel consumption	6,000 kL	kL

Electricity consumption	6,000,000 kWh	kWh
Construction GHG emissions	150,000 t	tonnes CO2-e

14.4 PROTOCOL FOR DEVELOPING INPUTS INTO THE OPERATOR'S ELECTRICITY CONSUMPTION SOFTWARE MODEL

The Operator's Electricity Consumption Software Model which was developed as part of Sydney Metro Northwest (SMNW), is to be continued in Sydney Metro City & Southwest (SMCSW). The model requires input from all electricity consuming services in a format that can be incorporated into the current calculations. An RFI template will be developed to collect data from discipline leads, including specifications, schedules of equipment, and usage profiles to be defined. Systems Connect will seek to coordinate with Sydney Metro and Interface Contractors to define project boundaries to avoid gaps and double counting in estimates.

15 MATERIALS MANAGEMENT SUB-PLAN

15.1 OUR APPROACH

Systems Connect will work with suppliers in key procurement categories to reduce supply chain and embodied impacts. To ensure the most material and cost-effective mitigation of supply chain and embodied impacts of materials, our approach will focus on avoidance and optimisation as a priority. Life cycle assessment will be used to assist in the selection of materials and initiatives.

Our strategy is to support Sydney Metro in their objective to influence suppliers and subcontractors to embed sustainability objectives and targets for material procurement. Systems Connects sustainable procurement strategy begins at design and continues through commissioning. Our procurement strategy includes the social, environmental and economic risks and opportunities embedded in each product.

See Appendix B, Part C for the Sustainable Procurement Policy.

To ensure the most material and cost-effective mitigation of supply chain and embodied impacts of materials, our approach is to apply the following preferential hierarchy to the investigation and selection of initiatives:

1. Avoidance and reduction of materials where unnecessary
2. Improve durability, maintainability, and adaptability
3. Utilise reused and recycled materials where feasible
4. Substitution with low impact materials
5. Offsetting and 'Carbon Neutral Products'.

This approach will help drive 'best for project' outcomes by focusing on cost effective methods to reduce material impacts. Avoidance and reduction of materials will be prioritised as these will deliver capital cost savings to the LW Works, as well as maintenance and replacement costs during operation. To achieve this, optimisation and value engineering in design will look to the amount of material procured during the stages of design. Design for durability, maintainability and adaptability will be undertaken to deliver whole of life cost outcome during operation and will be submitted with the System Wide Sustainability Report – stages 2 and 3.

15.2 LIFE CYCLE ASSESSMENTS

Life cycle assessments will be undertaken throughout design, in accordance with ISO 14044:2006. These will be used to investigate opportunities to reduce embodied impacts and assist in selection of the most appropriate low-impact materials. These life cycle assessments will be undertaken using life cycle impact data from the Transport for NSW Carbon Estimate and Reporting Tool (CERT) and IS Materials Calculator.

The results and recommendations from the life cycle assessments will be reported in the System Wide Sustainability Report – stages 2 and 3.

15.3 PORTLAND CEMENT REDUCTION

The LW Works is committed to achieving at least an average 25% reduction in total Portland cement on the project through supplementary cementitious materials (SCM)s including fly ash and granulated ground blast furnace slag (GGBFS).

15.4 ESTIMATES OF EMBODIED GHG EMISSIONS FROM MATERIALS (CONSTRUCTION PHASE)

Embodied GHG emissions associated with material production have been calculated by mapping the Bill of Quantities (BOQ) developed for the tender cost estimate to GHG emission factors from the TfNSW CERT. The preliminary results are shown below in Table 15.1 and a breakdown by element is shown in Figure 15.1. In situ concrete (mostly from the tunnel track slab) and rail contribute the most to construction emissions. Cabling and cable containment for electrical services contribute the highest impact.

Table 15.1 Estimate of embodied GHG emission from material production (forecast construction and operation)

	Quantity	**Unit**
Total estimated mass of material supplied to site	352,049	tonnes
Total greenhouse gas emissions from material production	**167,869**	**tonnes CO2-e**

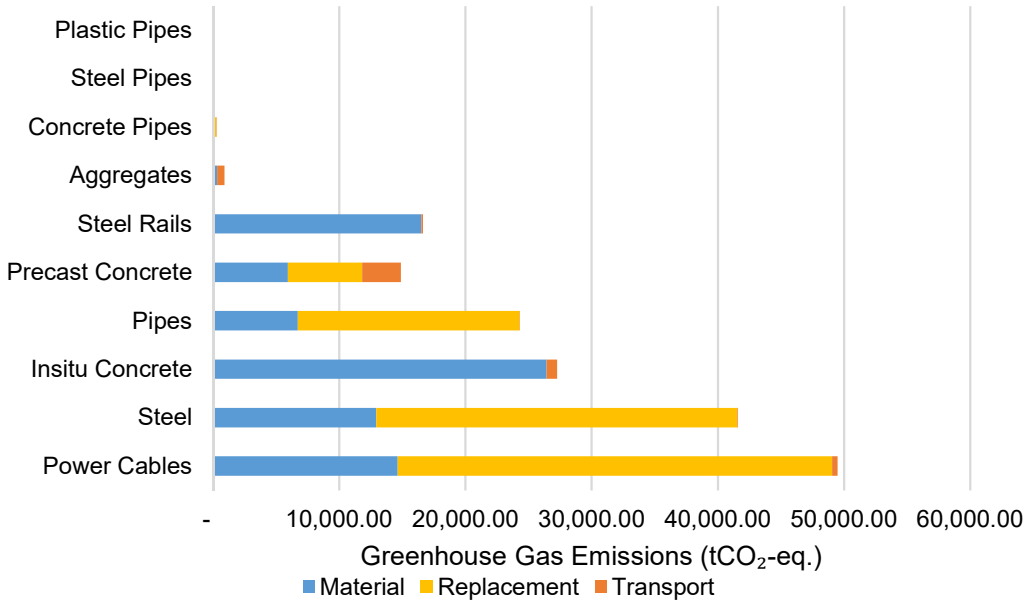

Figure 15.1 Contribution to embodied GHG emissions from material (construction phase only)

These estimates exclude embodied impacts from material replacement during operation. These will be investigated during design. Several items have also been excluded for this estimate due to there being no emission factors in the TfNSW CERT, or limited detail the tender BOQ, including:

- Equipment (transformers, ventilation, power and controls, pumps)
- Valves
- Drainage pits
- Modular substations
- Several connectors, clips, ties and bolts for services and overhead wiring
- Cantilevers, and
- Track bearings.

The embodied greenhouse gas emissions from material transport have also been estimated using the TfNSW CERT, and the estimated haulage, shipping and GHG emissions are shown below in Table 15.2.

Table 15.2 Estimated embodied GHG emissions

	Quantity	**Unit**
Total estimated mass of material supplied to site	359,113	tonnes
Total estimated road haulage	37,270,380	tonne.km
Total estimated shipping	585,368,288	tonne.km
Total greenhouse gas emissions from transport	**9,369**	**tonnes CO2-e**

A summary of total construction phase GHG emission is given in the Energy and Carbon Management Sub Plan (Part C, Section 14).

Part D: Appendices

Appendix A: Systems Connect Line Wide Environment and Sustainability Policy

Environment and Sustainability Policy

Systems Connect will work collaboratively with Sydney Metro to ensure sustainable outcomes through integration of environmental, social and governance factors into everything we do.

Employees, subcontractors, suppliers and consultants will strive together to identify and implement excellence and innovation throughout design, procurement and construction of Line-wide Works.

Systems Connect will:

- Demonstrate leadership through visible commitment to and active participation in implementation of project environment and sustainability objectives.
- Promote a culture of accountability for sustainability outcomes and improve the sustainability knowledge and skills of employees.
- Investigate sustainability initiatives that meet or exceed client expectations, provide value for money, and leave net positive legacies for users, the environment and communities.
- Drive the efficient use of energy, water and materials in the delivery of the project to meet or exceed the projects objectives and targets.
- Minimise waste generation, reduce pollution and enhance the natural environment.
- Place value on cultural heritage and respect traditional land owners.
- Enhance the projects resilience to climate change.
- Engage with stakeholders, the community and traditional land owners to consider impacts and identify opportunities in the decision-making process.
- Integrate environmentally, socially and economically responsible sourcing and governance factors into the projects operating and procurement processes.
- Embed procurement and supply chain principles and objectives outlined in the City & Southwest Sustainability Strategy into procurement processes through the development of a Sustainability Procurement Policy.
- Where possible procure services and materials locally to reduce transport emissions, support local businesses and provide jobs and upskilling of local labour forces.
- Regularly monitor, review, audit and report on the performance of the environment and sustainability management systems to ensure targets and objectives are on track and to identify areas for improvement.
- Ensure that all personnel understand their legal obligations with regard to the prevention of harm to the environment.
- Recognise and reward initiatives and innovations that achieve the best outcomes and drive positive change.
- Investigate any environmental events to identify contributing factors and preventative actions.
- Seek opportunities to collaborate with the supply chain to drive innovation and create mutual value.

15th May 2019

Mathew Billings	Julian Sharp	James Logie
Environment Manager	Project Director	Sustainability Manager

Appendix B: Systems Connect Line Wide Sustainable Procurement Policy

Sustainable Procurement Policy

This Policy sets out the sustainable procurement commitments for the Line-Wide Works Package (LW Works) of the Sydney Metro City & South West Program of works, building on the Systems Connect Sustainability Policy. This Policy aligns with ISO2400:2017 Sustainable Procurement – Guidance, the Sydney Metro Construction Environment Management Framework; and the Sydney Metro City and South West Sustainability Policy and Strategy.

By working collaboratively with subcontractors, consultants, suppliers and Sydney Metro Authority we will:

- Integrate environmentally, socially and economically responsible sourcing and governance factors into the projects operating and procurement processes.
- Seek opportunities to collaborate with the supply chain to drive innovation and create mutual value;
- Inform potential suppliers of the projects sustainability requirements and embed sustainable procurement requirements and penalties into contract documents;
- Ensure sustainability is considered in the supplier selection process;
- Monitor key supply chain partners by requiring partners to periodic report against sustainability performance metrics and record compliance with project requirements;
- Where possible procure services and materials locally to reduce transport emissions, support local businesses and provide jobs and upskilling of the local labor forces;
- Provide sustainability training to High Impact Suppliers;
- Seek compliance with all relevant laws and regulations including the Modern Slavery Act 2018, the International Labour Organization's Fundamental Contentions and the "Ten Principle's" of the UN Global Compact
- Embed Initiatives aimed at improving participation of local businesses and small and medium enterprises (SME) in the Workforce Development and Industry Participation Strategy;
- Encourage, recognise and reward initiatives and innovations that achieve the best sustainability outcomes and drive positive change in the supply chain;

The Project Director, Commercial Manager and Sustainability Manager will be responsible for upholding this policy and embedding sustainability into the procurement process. All staff, sub-contractors and suppliers will be required to abide by this policy and the associated procurement processes. Compliance records will be documented and any non-conformances with this Policy will be addressed.

Danny Hagerty
Commercial Manager

Julian Sharp
Project Director

Appendix C: Systems Connect Line Wide IS Scorecard (As Built pathway)

Infrastructure Sustainability Rating Summary

	Credit	Name of credit	Materiality Score	Score Possible	No. Levels	Target Level	Target Score	Working Level	Working Score
Σ		Total		110 pts			84.3 pts		0.0 pts
		Rating		Leading			Leading		Ineligible
Man	Man-1	Sustainability leadership and commitment	2	0.81	3	3	0.81	0	0.00
	Man-2	Risk and opportunity management	2	0.81	2	2	0.81	0	0.00
	Man-3	Organisational structure, roles and responsibilities	2	0.81	2	2	0.81	0	0.00
	Man-4	Inspection and auditing	2	0.81	2	2	0.81	0	0.00
	Man-5	Reporting and review	2	0.81	3	2	0.54	0	0.00
	Man-6	Knowledge sharing	2	1.83	3	3	1.83	0	0.00
	Man-7	Decision-making	2	2.64	3	2	1.76	0	0.00
Pro	Pro-1	Commitment to sustainable procurement	2	1.02	3	3	1.02	0	0.00
	Pro-2	Identification of suppliers	2	1.02	3	3	1.02	0	0.00
	Pro-3	Supplier evaluation and contract award	2	1.02	3	3	1.02	0	0.00
	Pro-4	Managing supplier performance	2	1.02	3	2	0.68	0	0.00
Cli	Cli-1	Climate change risk assessment	4	4.07	3	2	2.71	0	0.00
	Cli-2	Adaptation options	4	4.07	3	2	2.71	0	0.00
Ene	Ene-1	Energy and carbon monitoring and reduction	3	10.99	3	3.0	10.99	0.0	0.00
	Ene-2	Renewable energy	3	1.83	3	3.0	1.83	0.0	0.00
Wat	Wat-1	Water use monitoring and reduction	4	7.32	3	2.0	4.88	0.0	0.00
	Wat-2	Replace potable water	4	4.07	3	1.0	1.36	0.0	0.00
Mat	Mat-1	Materials footprint measurement and reduction	2	4.88	3	2	3.25	0	0.00
	Mat-2	Environmentally labelled products and supply chains	2	0.81	3	1	0.27	0	0.00
Dis	Dis-1	Receiving water quality	3	2.90	3	1	0.97	0	0.00
	Dis-2	Noise	3	2.90	3	2	1.93	0	0.00
	Dis-3	Vibration	2	1.93	3	2	1.29	0	0.00
	Dis-4	Air quality	2	1.93	3	2	1.29	0	0.00
	Dis-5	Light pollution	3	1.22	1	1	1.22	0	0.00
Lan	Lan-1	Previous land use	2	2.03	3	3.0	2.03	0.0	0.00
	Lan-2	Conservation of on site resources	2	0.81	3	2	0.54	0	0.00
	Lan-3	Contamination and remediation	Scoped Out						
	Lan-4	Flooding design	3	1.83	2	1	0.92	0	0.00
Was	Was-1	Waste management	2	1.63	2	2	1.63	0	0.00
	Was-2	Diversion from landfill	2	2.85	3	3	2.85	0	0.00
	Was-3	Deconstruction/ Disassembly/ Adaptability	1	0.61	3	0	0.00	0	0.00
Eco	Eco-1	Ecological value	1	3.05	3	2	2.03	0	0.00
	Eco-2	Habitat connectivity	1	1.22	3	1	0.41	0	0.00
Hea	Hea-1	Community health and well-being	2	2.03	3	3	2.03	0	0.00
	Hea-2	Crime prevention	2	2.03	2	2	2.03	0	0.00
Her	Her-1	Heritage assessment and management	4	4.07	3	3	4.07	0	0.00
	Her-2	Monitoring and management of heritage	4	4.07	3	2	2.71	0	0.00
ta	Sta-1	Stakeholder engagement strategy	3	1.53	3	3	1.53	0	0.00
	Sta-2	Level of engagement	3	1.53	3	3	1.53	0	0.00

Infrastructure Sustainability Rating Summary

	Credit	Name of credit	Materiality Score	Score Possible	No. Levels	Target Level	Target Score	Working Level	Working Score
Sta	Sta-3	Effective communication	3	1.53	2	2	1.53	0	0.00
	Sta-4	Addressing community concerns	3	1.53	2	2	1.53	0	0.00
Urb	Urb-1	Urban design	3	4.88	3	3	4.88	0	0.00
	Urb-2	Implementation	3	1.22	2	2	1.22	0	0.00
Inn	Inn-1	Innovation	2	10.00	10	5	5.00	0	0.00

Appendix D: Key Line-Wide Contract Requirements

Table 15.3: Key contract requirements for sustainability governance and reporting

Contract Reference	Requirements	Where addressed
SWTC Appendix F02 Section 4.2.8 (xv)	A sustainability section within the monthly progress report which must, as a minimum, include: A. A summary of performance in meeting sustainability requirements and targets, which includes the identification of areas of actual or potential non-compliance; and B. Data on resource consumption, carbon emissions, waste recycling and disposal, and concrete mixes in the form of a completed Sydney Metro City & Southwest Sydney Template SM-18-00043350.	Part A: Section 10
SWTC Appendix F02 Section 4.4	(a) During the period from the date of the deed until the Date of Construction Completion of the last Portion to achieve Completion, the Contractor must provide a quarterly (once every three months) sustainability report to the Principal's Representative. The first report must be submitted three months from the date of the deed. The report must be suitable for publication on the Principal's Sydney Metro City & Southwest website and in such format as is required by the Principal's Representative. Each sustainability report is to include the following (refer to Section 4.4 F02).	Part A: Section 10
SWTC Appendix F08, Annexure B Section (a) Table B-1, Item 1	The LW Contractor must investigate the feasibility and whole-of-life costs and benefits of battery and hybrid Regenerative Energy Storage (RES) alternatives and provide findings to the Principal before procurement of trackside RES commences.	Part A: Section 5
SWTC Appendix F08, Annexure B Section (a) Table B-1, Item 6	The LW Contractor must investigate the feasibility and whole-of-life benefits of the following potential innovations, and share findings with the Principal: a) Hybrid solar and biodiesel generators. b) Solar powered 3G/4G security solution. c) Renewable energy Power Purchase Agreement (PPA) for construction phase electricity. d) Prysmian 33 kV and 11kV energy saving power cables. e) Regenerative energy storage for Sydenham to Bankstown, connected to solar PV installed on substations.	Part A: Section 5
SWTC Appendix F08, Annexure B Section (b)	For the purposes of Items 1 and 6 in Table B1: (i) "investigate" should be interpreted as the preparation of a short report on the feasibility of the technology to a level of detail which will inform decision-making on adoption of the technology as part of the LW Works. (ii) The report should include A. A description of the technology and potential application to the LW Works. B. Examples of previous applications of the technology on similar projects. C. Indicative quantitative or qualitative whole of life costs and benefits in comparison to the base bid solution. D. Indicative impact on target cost (if any). E. Indicative risks, impact on program, and impact on Interface contractors (if any) in comparison to the base bid solution. F. A conclusion on feasibility. G. A recommendation on next steps. (iii) It is expected that investigations will be completed using LW Contractor resources and / or joint venture partner resources and would not include detailed traction power modelling.	Part A: Section 5

Contract Reference	Requirements	Where addressed
SWTC Appendix F08, Annexure B Section (a), Table B-1: Item 7	The LW Contractor's sustainability management team will include, as a minimum: a) A Sustainability Manager (1.0 Full-time equivalent (FTE)); b) Sustainable Design Specialists (0.5 FTE); and c) A Sustainability Coordinator (1.0 FTE)	Part A: Section 8
SWTC Appendix F08 Section 2.6 (a)	The Contractor must identify and implement at least five social sustainability initiatives which provide demonstrable and tangible benefits to: (i) local community groups during the construction period; and (ii) the broader local community beyond the construction period	Part A Section 4.1
SWTC Appendix F08 Section 2.6 (b)	The initiatives required in 2.6(a) must include: (i) reducing traffic congestion at worksites through the use of car-pooling Apps and provision of end of trip facilities to encourage the LW Contractor's workforce to use public and active transport. (ii) developing partnerships with, or supporting, two not-for-profit organisations who provide beneficial services to the homeless community. (iii) developing and implementing a program to encourage the workforce to volunteer time with local organisations which work for the benefit of local communities. (iv) investigating and implementing a supply chain financing solution which will enable increased participation of SMEs, including local and Aboriginal businesses, in the supply chain. (v) working to incorporate indigenous design and knowledge concepts into the LW Works, in consultation with the Principal. Stakeholder consultation and design solutions must be pre-approved by the Principal.	Part A Section 4.1
SWTC Appendix F08 Section 2.1 (a) (i)	register with the Infrastructure Sustainability Council of Australia (ISCA) to use version 1.2 of the IS Rating Scheme for the Project Works and the Contractor's Activities;	Part C: Section 12
SWTC Appendix B09 Section 2.1 (a)	The LW Contractor must achieve an ISCA IS "design" rating score of at least 75 for the LW Works and the LW Contractor's Activities. [SM-CSW-LWC-SWTC-A50A-28]	Part C: Section 12
SWTC Appendix B09 Section 2.1 (b)	The LW Contractor must achieve an ISCA IS "as built" rating score of at least 75 for the LW Works and the LW Contractor's Activities. [SM-CSW-LWC-SWTC-A50A-29]	Part C: Section 12
SWTC Appendix B09 Section 2.1 (c)	The ISCA IS rating scores must be independently verified in accordance with the IS rating process described in the IS Rating Scheme which is administered by ISCA. [SM-CSW-LWC-SWTC-A50A-30]	Part C: Section 12
SWTC Appendix B09 Section 2.1 (d)	The LW Contractor must develop, implement and maintain governance structures, processes and systems that ensure integration of all sustainability considerations, initiatives and reporting during the LW Works and the LW Contractor's Activities. [SM-CSW-LWC-SWTC-A50A-38]	Part A: Sections 3.3 and 3.4
SWTC Appendix B09 Section 2.2 (a)	The LW Contractor must implement design and construction initiatives to ensure compliance with the climate change risk mitigation requirements included in Appendix F8. [SM-CSW-LWC-SWTC-A50A-344]	Part C: Section 13
SWTC Appendix B09 Section 2.6.2 (b)	The LW Contractor must reduce materials use through materials avoidance and reduction strategies and minimise construction materials volumes through design refinement, construction planning and construction methods. [SM-CSW-LWC-SWTC-A50A-161]	Part C: Section 15
SWTC Appendix B09 Section 2.6.2 (d)	The LW Contractor must undertake life-cycle assessments, including assessment of multiple product options in accordance with ISO 14044:2006 to assist in selection of the most appropriate low-impact materials for the LW Contractor's Activities, Project Works and Temporary Works including (as a minimum): [SM-CSW-LWC-SWTC-A50A-168]	Part C: Section 15

Contract Reference	Requirements	Where addressed
	(i) concrete [SM-CSW-LWC-SWTC-A50A-169] (ii) steel [SM-CSW-LWC-SWTC-A50A-170] (iii) flooring [SM-CSW-LWC-SWTC-A50A-172] (iv) wall lining [SM-CSW-LWC-SWTC-A50A-173] (v) glazing [SM-CSW-LWC-SWTC-A50A-174]	
SWTC Appendix B09 Section 2.6.2 (e)	The LW Contractor must ensure that the life-cycle assessments described in section 2.6.2 (d) are undertaken at the commencement of Design Stage 2, and the results of the life cycle assessments are included in its Design Documentation for Design Stage 2. [SM-CSW-LWC-SWTC-A50A-175]	Part A: Section 15
SWTC Appendix F08 Section 2.1 (c)	The sustainability objectives and requirements described in the deed must be allowed for and addressed in: (i) design briefings for all personnel involved in the preparation of Design Documentation; (ii) the Design Documentation; (iii) site inductions for all of the Contractor's personnel and Subcontractor's personnel engaged in the Contractor's Activities; and (iv) Project Plans for the design, delivery and management, of the Contractor's Activities.	Part A: Section 6 and Section 7
SWTC Appendix F08 Section 2.1 (d)	The Contractor must also: (i) participate in sustainability forums, hosted by the Principal's Representative on a quarterly basis and must present progress updates, sustainability performance information and sustainability lessons learned and provide other information as requested.	Part A: Section 10.2
SWTC Appendix F08 Section 2.3 (a)	The Contractor must undertake greenhouse gas assessment and reporting which covers the Project Works, Temporary Works and Contractor's Activities, in accordance with the requirements of TfNSW's Carbon Estimate and Reporting Tool (CERT). All reports required to be produced under the CERT must be provided to the Principal's Representative for review with Design Documentation.	Part A: Section 10.3 and Part C: Section 14
SWTC Appendix F08 Section 2.4.1 (a)	The Contractor must undertake a water balance study and submit it to the Principal's Representative (prior to the commencement of Project Works) that identifies the sources, uses and estimated quantities of potable and non-potable water which will be either created or used in the performance of the Contractor's Activities.	Part A: Section 10.3
SWTC Appendix F08 Section 2.4.1 (b)	The Contractor must ensure that the water balance study in Section 2.4.1(a) above identifies initiatives to reduce water demand and use non-potable water, which must be adopted in order to achieve the targets set out in the Appendix B-9.	Part A: Section 10.3
SWTC Appendix F08 Section 2.5 (a)	The Contractor must develop, implement and maintain a sustainable procurement policy and processes that are consistent with ISO20400:2017 Sustainable Procurement - guidance, and are documented in the Sustainability Plan.	Part A: Section 7
SWTC Appendix F08 Section 2.5 (b)	The Contractor must achieve, as a minimum, the following for its procurement activities using the IS Rating Scheme version 1.2: (i) Level 2 for credit Pro-1 "Commitment to sustainable procurement"; (ii) Level 3 for credit Pro-2 "Identification of suppliers"; (iii) Level 3 for credit Pro-3 "Supplier evaluation and contract award"; and (iv) Level 2 for credit Pro-4 "Managing supplier performance".	Part A: Section 7
SWTC Appendix F08 Section 2.5 (c)	The Contractor must demonstrate that sustainability training is being provided to High Impact Suppliers.	Part A: Section 7

Contract Reference	Requirements	Where addressed
SWTC Appendix F08 Section 2.5 (d)	The Contractor must use a risk-based approach to ensure that where High Impact Materials are sourced from a developing country, the supplier's operations are in compliance with: (i) all relevant laws and regulations local to that country; (ii) the International Labour Organization's Fundamental Conventions; and (iii) the "Ten Principles" of the UN Global Compact.	Part A: Section 7
SWTC Appendix F08 Section 2.6 (a)	The Contractor must identify and implement at least five social sustainability initiatives which provide demonstrable and tangible benefits to: (i) local community groups during the construction period; and (ii) the broader local community beyond the construction period.	Part A Section 4.1
SWTC Appendix F08 Section 2.6 (b)	The initiatives required in 2.6(a) must include: (i) reducing traffic congestion at worksites through the use of car-pooling Apps and provision of end of trip facilities to encourage the LW Contractor's workforce to use public and active transport. (ii) developing partnerships with, or supporting, two not-for-profit organisations who provide beneficial services to the homeless community. (iii) developing and implementing a program to encourage the workforce to volunteer time with local organisations which work for the benefit of local communities. (iv) investigating and implementing a supply chain financing solution which will enable increased participation of SMEs, including local and Aboriginal businesses, in the supply chain. (v) working to incorporate indigenous design and knowledge concepts into the LW Works, in consultation with the Principal. Stakeholder consultation and design solutions must be pre-approved by the Principal.	Part A Section 4.1
SWTC Appendix F08 Section 2.7 (a)	The Contractor must provide a Sustainability Manager who must: (i) possess a recognised qualification relevant to the position and the Contractor's Activities and have recent relevant experience in sustainability management on projects similar to the Project Works; (ii) have at least five years' sustainability management experience in the design and construction of sustainable infrastructure or buildings; and (iii) be available as the Principal's Representative primary contact with the Contractor on sustainability matters. (iv) be responsible for and have the authority to develop and implement the Sustainability Plan.	Part A: Section 8
SWTC Appendix F08 Section 2.8 (a)	The Contractor must prepare and submit a report named the "Climate Change Impact Assessment Report" to the Principal's Representative with the Design Documentation at each Design Stage and again prior to the Date of Completion of the last Portion to achieve Completion.	Part C: Section 13
SWTC Appendix F08 Section 2.8 (b)	The Climate Change Impact Assessment Report must: (i) be prepared in accordance with the guidance and requirements included in the TfNSW Climate Risk Assessment Guidelines; (ii) identify any project-specific climate change risks (utilising climate modelling data); and (iii) identify risk mitigation measures which have been and will be implemented to reduce risk levels.	Part C: Section 13
SWTC Appendix F08 Section 2.8 (c)	The Contractor must prepare and submit a report titled the "Greenhouse Gas Inventory Report", using the CERT with the Design Documentation at each Design Stage, annually thereafter and again prior to the Date of Completion of the last Portion to achieve Completion.	Part A: Section 10.3, Part C: Section 14

Contract Reference	Requirements	Where addressed
SWTC Appendix F08 Section 2.8 (d)	The Greenhouse Gas Inventory Report must include data relating to emissions associated with electricity and fuel consumption, on-site process emissions and embodied emissions for all materials used in the Contractor's Activities, Project Works and Temporary Works.	Part C: Section 14
SWTC Appendix F08 Section 2.8 (e)	The Contractor must provide an inventory of non-road diesel powered vehicles used for the Contractor's Activities within one month of commencement of construction and subsequently, annually using the TfNSW Air Emission Data Collection Workbook 9TP-FT-439.	Part C: Section 14
SWTC Appendix F08 Section 2.8 (f)	The Contractor must provide to the Principal's Representative copies of documents which are submitted to ISCA in relation to the IS ratings for the Works.	Part C: Section 0

Appendix E: Tender Questionnaire - Environment and Sustainability