Sustainability Management Plan M12 West Motorway

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Document Approval

Rev.	Date	Prepared by	Reviewed by	Approved by	Remarks
A	27/05/2022	P. Yoon	C. Mueller	N. Fryday	Internal review
B	03/08/2022	A. Zvirzdinas		N. Fryday	For Approval
C	13/09/2022	C. Pachulicz	C. Mueller	N. Fryday	For Approval
00	14/09/2022	C. Pachulicz	C. Mueller	N. Fryday	First controlled issue
01	13/09/2023	T. Chezzi	C. Mueller	N. Fryday	Annual review
Signature:				[redacted]	

Details of Revision Amendments

Document Control

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

The controlled master version will be maintained on TeamBinder. All circulated hard copies are deemed to be uncontrolled.

Amendments

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

Revision Details

Rev	Date	Details
A	26/05/2022	Internal review for formal submission
B	03/08/2022	Second draft following TfNSW comments on Rev A
C	13/09/2022	Third draft following TfNSW comments on Rev B
00	14/09/2022	First controlled issue
01	13/09/2023	Annual review

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Abbreviations and Definitions

Abbreviation	Definition
BAU	Business As Usual
CAP	Climate Adaptation Plan
CCRA	Climate Change Risk Assessment
CIR	Credit Interpretation Request – as submitted to ISC
CMS	CPB Contractors Management System
CoA	Ministers Conditions of Approval
CPTED	Crime Prevention Through Environmental Design
EIS	Environmental Impact Statement
EMS	Environmental Management System
ENM	Excavated Natural Material
EPD	Environmental Product Declaration
FSC	Forest Stewardship Council
GHG	Greenhouse Gas
GREP	NSW Government Resource Efficiency Policy
IS	Infrastructure Sustainability -in reference to the ISC IS rating scheme
ISAP	Infrastructure Sustainability Accredited Professional
ISC	Infrastructure Sustainability Council - previously known as ISCA (A= Australia)
ISP	Independent Sustainability Professional
LCA	Life Cycle Assessment
MCA	Multi-criteria Analysis
NGER	National Greenhouse and Energy Reporting -annual corporate reporting under NGER Act
PEFC	Programme for the Endorsement of Forest Certification
PRR	Principal Risk Register
RFT	Request for Tender
RVTM	Requirements Verification Traceability Matrix – in the Systems Engineering MP (SEMP)
SCM	Supplementary Cementitious Materials (i.e. fly ash or slag)
SDG	United Nations Sustainable Development Goals
SME	Subject Matter Expert
SMP	Sustainability Management Plan
SQP	Suitably Qualified Professional
SMS	CPB Contractors Sustainability Management System
SLT	Senior Leadership Team
TC	Technical Clarification – as submitted to ISC
tCO2e	Tonnes of carbon dioxide equivalent, which is a measure that allows you to compare the emissions of other greenhouse gases relative to one unit of CO_2
TfNSW	Transport for NSW (the Principal)
UDLP	Urban Design and Landscape Plan
WoL	Whole of Life

WSIA	Western Sydney International Airport
WUC	Work under contract

Compliance with Specification G1 – Job Specific Requirements Annexure L (Sustainability Requirements)

Annexure L (Sustainability Requirements) of the Specification G1 – Job Specific Requirements set out the minimum sustainability requirements of the Project. All requirements are tabulated in the below table,presenting where each requirement has been addressed within this Plan or the wider CPB Contractors Management System.

No.	Requirement	Reference in this SMP
1	**General**	
a)	This Appendix provides your requirements for delivering an As-Built Infrastructure Sustainability (IS) rating under the Infrastructure Sustainability Council of Australia's (ISCA) rating scheme, Version 1.2. This Appendix outlines the actions and requirements for the Contractor to deliver the outputs and documentation of evidence required for submission to ISCA for their verification. Also refer to the ISCA IS Technical Manual (IS TM)	n/a
b)	Consider the requirements of the Transport for NSW Environment and Sustainability Policy and address the sustainability objectives described in the Roads and Maritime Environmental Sustainability Strategy 2019-2023 throughout the performance of the Contractor's Activities. Ensure that sustainability is embedded into the construction of the Work Under the Contract (WUC, includes Works and Temporary Works) to enhance the whole-of-life environmental, social, economic and sustainability outcomes.	Section 2.2 Section 0
c)	Prepare a Sustainability Management Plan (SMP). The structure of the SMP is to be consistent with the Design SMP and must include: (i) Introduction A. Purpose B. Project description C. Project sustainability context D. Sustainability policy and commitment (ii) Sustainability objectives and targets A. Identification of objectives and targets B. Identification of sustainability opportunities and initiatives C. Programme to achieve objectives and targets D. Ongoing monitoring and review of performance against objectives and targets E. Key risks to achieving objectives and targets (iii) Roles and responsibilities (iv) Management and implementation A. Key interfaces with other (Sub-)Plans and procedures including but not limited to: • Risk • Safety • Quality • Environment • Stakeholder engagement • Procurement B. Decision making procedures C. Education, training and knowledge sharing D. Reporting E. Cost and benefit tracking F. Management review (v) Management references and or sub-plans A. Subcontractor and supplier engagement and performance B. Energy use, monitoring and efficiency	 Section 1.3 Section 1.2 Section 2.1 Section 2.2 Section 0 Section 4 Section 3 Section 6.2 Section 2.3 Section 3.4 Section 1.5 Section 3.3 Section 3.5 Section 6.4 Section 3.7 Section 7.1 Section 3.9 Section 4.2

No.	Requirement	Reference in this SMP
	C. Water use, monitoring and efficiency D. Materials use and monitoring E. Waste management and tracking	Section 4.5 Section 4.3 Section 4.4
d)	If You wish to propose optional sustainability initiatives for the WUC, these are to be provided in the form set out in Table 1.	n/a
e)	The impact, including but not limited to, social, environmental, and economic costs and benefits, program impacts, risks and opportunities, of each proposed optional sustainability initiative nominated must be assessed. Optional sustainability initiatives may be included within the Draft SMP.	Section 3.7
f)	Your activities and the WUC must meet and comply with the targets identified in Table 2 of this Annexure (see later) You may consider increasing the minimum targets listed in Table 2, and provide these details within your SMP	Section 0
g)	Manage the WUC to achieve the minimum Infrastructure Sustainability Rating (IS Rating) level, as defined in Infrastructure Sustainability Council of Australia (ISCA) Version 1.2, of Excellent, with a minimum score of 55 points for the As-Built Rating.	Section 5 Appendix C
h)	You must review the Design rating credit pathway and submission to inform the As Built objectives and targets. Where the As Built rating targets differ to those from the Design rating, You must advise the Principal of any Design phase evidence requirements, prior to finalising the SMP. The Principal, in consultation with the Contractor, will then confirm an appropriate pathway to determine if relevant Design phase evidence is available.	Section 5 Appendix C
i)	You must prepare all Credit Summary Forms (CSFs) and collate all evidence for each targeted credit. Design rating Credit Summary Forms will be provided to You to update as required for the As Built rating.	Section 5
j)	You must understand the requirements as per the IS TM. You must also refer to this Specification and the IS TM to ensure all credit requirements are met.	Section 5.3
2	**Sustainability Requirements**	
2.1	**Governance**	
a)	Develop, implement, and maintain governance structures, processes and systems that ensure integration of all sustainability considerations, including but not limited to, vision, commitments, principles, objectives and targets, initiatives, knowledge sharing, monitoring, and reporting.	Section 3 Section 6
b)	Your Project Manager is to have central responsibility for managing sustainability and is responsible and accountable for achieving the IS Rating. Your Project Manager may delegate responsibility to another suitable member of the senior management team who meets the IS TM Man 3 Level 1 criteria, but ultimately maintains accountability for achieving the IS Rating.	Section 3.4
c)	Appoint a sustainability representative with sufficient and relevant sustainability experience to provide sustainability advice and guide the achievement of the IS Rating, sustainability considerations (vision, commitments, principles, objectives and targets), initiatives, knowledge sharing, monitoring and reporting requirements. Sufficient and relevant experience means having provided the same or a similar role in at least one other project of similar size, scale or complexity. The sustainability representative must be an Infrastructure Sustainability Accredited Professional having achieved this accreditation from the Infrastructure Sustainability Council of Australia. The sustainability representative must be engaged throughout the WUC and cannot fulfil any other role on the project. The sustainability representative must be based onsite during the WUC.	Section 3.4
d)	Work collaboratively with the Principal to facilitate ongoing reporting, knowledge sharing and continual improvement.	Section 7
e)	Develop, implement, and document compliance with a procedure to ensure that for significant WUC issues, your activities consider the related environmental, social, and economic costs and benefits.	Section 3.3
f)	Develop, implement, and maintain a sustainability assurance framework to track compliance with policy, objectives, targets and requirements in accordance with the items in Clause 2.1(a) to Clause 2.1(j) as well as the sustainability requirements contained within the Contract (including this Appendix) and the nominated sustainability targets included in your SMP.	Section 3.2
g)	Convene and participate in regular sustainability knowledge sharing workshops (to be arranged with the Principal) during WUC. The frequency of such workshops is to be agreed with the Principal and must meet the ISCA requirements for Man-6 Level 2.	Section 3.6

No.	Requirement	Reference in this SMP
h)	Clearly articulate sustainability objectives, targets and requirements in your documentation and specifically addressed in: (i) formal sustainability knowledge sharing workshops (to be arranged with the Principal) at least once during WUC; (ii) procurement briefings and preparation of procurement documentation; (iii) Site inductions for all personnel including your subcontractors; and (iv) project management plans. E.g. CEMP	Section 3.6 Section 3.5 Section 1.5
i)	Develop and maintain a risk & opportunity register that considers environmental, social and economic factors, as per Man-2 Level 2	Section 3.7
j)	Provide quarterly sustainability performance reporting against the sustainability objectives and/or targets to the Principal. The report must: (i) assess and report on progress against the SMP including objectives and/or targets and identifies areas for improvement, as per Man-5 Level 1; (ii) provide a provisional update to the interim IS Ratings submitted under Clause 2.2(d)(i); (iii) identify opportunities or deficiencies to be addressed to meet the IS Rating requirement; and (iv) be reported and reviewed by your senior management at least annually to meet Man-5 Level 2.	Section 6.4
k)	Undertake sustainability site inspections and sustainability / environmental audits in accordance with Specification TfNSW G36.	Section 6.3
l)	Identify and agree an appropriate establishment period with ISCA and the Principal. Ensure all monitoring and reporting requirements for Man-4 and Man-5 are underway before the end of this establishment period. The establishment period can be no greater than 12 weeks from commencement of construction.	Section 6.3
2.2	**Infrastructure Sustainability Rating**	
a)	You must cover all ISCA costs associated with obtaining an As-built Rating. The existing Infrastructure Sustainability Rating Agreement will be novated to You upon Contract execution.	n/a
b)	Review and note the ISCA verified Weightings Assessment and Base Case as developed for the WUC. The review of the base case must ensure all BAU assumptions are appropriate. Use the IS Rating tool Version 1.2 to demonstrate how the IS Rating score for the Works and Temporary Works (the IS As-Built Rating) will be achieved. Where appropriate, update and re-submit the project Weightings Assessment and Base Case to ISCA for verification.	Section 5
c)	At your discretion you may elect to undertake the ISCA innovation challenges using credits from Version 2.0 of the IS Rating tool to support the overall assessment under Version 1.2.	TBC
d)	Within three months of the commencement of any construction, complete Clauses 2.2(d)(i) to Clause 2.2(d)(iii) below, and submit them to the Principal: (i) use the IS Rating tool to calculate an interim IS As-Built Rating score for the construction of the Works and Temporary Works; (ii) identify the key steps required to achieve each targeted IS Credit and IS Credit Level; and (iii) nominate responsibility for the achievement of each IS Credit.	Section 5
e)	Achieve an IS As-Built Rating score equal to or in excess of the score identified in Table 2 for the construction of the Works and Temporary Works prior to, and as a condition precedent to, Completion. Allow a minimum of two weeks for the Principal's review of both your Round 1 and Round 2 submissions prior to lodgement with ISCA. The IS As-Built Rating Score must be independently verified in accordance with the IS Rating process described in the IS Rating scheme, which is administered by ISCA.	Section 5
f)	Achieve the sustainability requirements in Table 2.	Section 0
2.3	**Climate Change**	
a)	Review the project climate change risk assessment (CCRA) undertaken during detailed design and ensure adaption measures are implemented as per design. Where appropriate, update the CCRA for the construction of the Works in accordance with AS 5334-2013 (Climate change adaptation for settlements and infrastructure – A risk based approach) and TfNSW Climate Risk Assessment Guideline SD-081. Any deviations in the design that may affect a climate change adaptation measure	Section 4.1

No.	Requirement	Reference in this SMP
	must be captured and reported on. You must also review and address construction stage climate change risks identified during concept design and, where relevant, incorporate into the CCRA.	
b)	You must undertake a Climate Change Risk Workshop as part of the CCRA review process, which at a minimum involves a multi-disciplinary team and the Principal.	Section 4.1
c)	Identify and implement adaptation measures to comprehensively address, as a minimum, 'extreme' and 'high' and 25-50% of all 'medium' rated risks identified in the climate change risk assessment.	Section 4.1
2.4	**Energy and Carbon**	
a)	Demonstrate that opportunities to maximise construction energy efficiency have been identified and analysed.	Section 4.2
b)	Demonstrate that opportunities to use renewable energy or lower carbon energy during construction have been fully investigated.	Section 4.2
c)	Monitor and report on air emission performance of mobile non-road diesel plant and equipment in accordance with Specification TfNSW G36 Clause 4.4.2. TfNSW Air Emission Data Collection Workbook FT-439 may be used for the collection of this information.	Table 6-2
d)	Undertake a greenhouse gas assessment to estimate construction emissions and demonstrate that opportunities to minimise emissions during construction have been identified, analysed and adopted. These must be undertaken in accordance with the 'Greenhouse Gas Assessment Workbook for Road Projects, Transport Authorities Greenhouse Group' for at least scope 1 and 2 emissions.	Section 4.2
e)	Monitor, record and report energy use and greenhouse gas emissions (at least scope 1 and 2 emissions) during construction.	Section 4.2
f)	Undertake energy and carbon monitoring and modelling to demonstrate the savings achieved by the implementation of energy saving initiatives. You must undertake all works required to achieve Ene-1 and meet the target reduction outlined in Table 2. This will include modelling of energy use and GHG emissions for the operation phase and any works to demonstrate an improvement compared to a base case, including any modelling required to prepare the base case.	Section 4.2
2.5	**Material and Waste**	
a)	Demonstrate that opportunities to reduce material used during construction have been identified and analysed. Estimate whole-of-life costs and benefits for each opportunity identified.	Section 4.3
b)	Undertake material impact monitoring and modelling in accordance with Mat-1 to demonstrate the savings achieved by the implementation of material impact reduction initiatives. Monitoring must be undertaken during construction. Modelling of energy use and greenhouse gas (GHG) emissions for whole-of-life must be undertaken on the as-built infrastructure to give a total footprint across the infrastructure lifecycle. You will need to also model impacts compared to a base case footprint.	Section 4.3
c)	Demonstrate that opportunities to use materials with low embodied environmental impact (e.g. recycled content) during construction have been identified and analysed. Estimate whole-of-life costs and benefits for each opportunity identified.	Section 4.3
d)	Source all timber products used in the WUC from either reused timber, recycled timber, or from timber sustainably managed forests that have obtained Forest Management Certification (FMC). Acceptable FMC schemes include: (i) Programme for the Endorsement of Forest Certification; (ii) Forest Stewardship Council; and (iii) Australian Forest Certification Scheme.	Section 4.3
e)	Demonstrate that opportunities for the beneficial reuse of useable spoil excavated during construction have been identified and analysed (including consideration of the volumes of spoil generated by other projects).	Section 4.4
f)	Demonstrate that opportunities have been fully investigated to: (iv) minimise waste generation; (v) maximise waste segregation and storage for different waste streams; and (vi) maximise waste reuse, recycling, and landfill diversion in accordance with the targets identified in Table 2.	Section 4.4
g)	Negotiate and implement packaging take-back arrangements with suppliers.	Section 4.4

No.	Requirement	Reference in this SMP
h)	Monitor, record and report on the following: (i) quantities of materials used (for each material type) during the construction stage; (ii) quantities of waste to be beneficially reused (for each waste material type, e.g. spoil, timber) during the construction stage; (iii) quantities of waste to be recycled (for each waste material type, e.g. steel) during the construction stage; (iv) quantities of waste unable to be recycled or beneficially reused in accordance with Clause 2.5(g)(ii) and Clause 2.5(g)(iii) above during the construction stage.	Section 4.3 Section 4.4
i)	Refer to Specification TfNSW G36 for waste management requirements	Section 4.4
j)	Refer to Specification TfNSW G36 for requirements relating to assessment of remediation options in accordance with Lan-3	Section 4.4
2.6	**Water Efficiency**	
a)	Undertake and report on a water balance study to estimate the quantities of potable and non-potable water uses, volumes, sources that would be used and generated during construction of the WUC.	Section 4.5
b)	Demonstrate that opportunities to reduce water use (in particular potable water use) and increase reuse water (rainwater, stormwater, wastewater, and groundwater) during construction have been identified and analysed. Estimate costs and benefits for each opportunity identified.	Section 4.5
c)	Monitor, record and report on the following during the construction stage: (i) quantities of water use (potable and non-potable); and (ii) quantities of water reuse, treatment and harvesting.	Section 4.5
d)	Undertake all required monitoring and modelling to meet the requirements of Wat-1 and Wat-2, including any modelling for the full infrastructure lifecycle required by Wat-1 and development of a base case footprint. You must also demonstrate achievement of the minimum Wat-1 / Wat-2 targets in Table 2.	Section 4.5
2.7	**Light Pollution**	
a)	For construction activities, the sensitive receivers should be identified as defined within AS4282:1997 – Control of the Obtrusive Effects of Outdoor Lighting, and luminaires be aimed away from these areas. Direct views from these areas towards luminaires should also be minimised.	Refer to CEMP section 4.13.4, section 5.5 and 6.2.11 of SEMP (Appendix B10).
b)	Evidence should show how mitigation measures for any sensitive receptors has been applied for any construction related lights sources and an internal night time audit must be undertaken during the construction phase.	Refer to CEMP and Sub-plans
c)	Additionally, where complaints have been received, evidence must show that these have been appropriately managed, including implementing mitigation measures.	Refer to Community & Stakeholder Engagement Plan and section 3.7.5 of CEMP
d)	Undertake a night time defects inspection to demonstrate no lighting defects, or that such defects can be rectified. This inspection should include spot measurements of horizontal light spill.	Refer to CEMP and Sub-plans
e)	In areas that are highly urbanised with numerous light sources and 2.7 d) is not possible or useful, use design and installation information to demonstrate achievement of the Dis 5 Level 1 benchmark requirement.	Refer to CEMP and Sub-plans *Note: will seek to scope out this credit as not highly urbanised*

No.	Requirement	Reference in this SMP
f)	Refer to Specification TfNSW G36 Clause 4.15 for additional requirements.	Refer to CEMP and Sub-plans
2.8	**Community Health, Wellbeing and Safety**	
a)	Crime Prevention Through Environmental Design (CPTED) guidance must be considered and implemented to ensure temporary construction diversions and lighting are designed to meet Hea-2 Level 2.	Section 4.7, Refer to CEMP section 4.13.4, section 5.5 and 6.2.11 of SEMP (Appendix B10).
b)	Monitoring of community health and wellbeing indicators related to the priority issues is undertaken at appropriate intervals during construction of the asset.	Section 4.7
2.9	**Sustainable Procurement**	
a)	You must develop sustainable procurement commitments (within Procurement Policy or similar) which clearly include environmental, social, and economic commitments. The commitments must be integrated into sustainability objectives and targets.	Section 3.9 Section 4.8
b)	You must request from potential suppliers the environmental and sustainability policies and evidence of its implementation, to inform the procurement decision making process. You must make clear to suppliers that sustainability incorporates environmental, social and economic aspects.	Section 3.9 Section 4.8
2.10	**Heritage**	
a)	Provide an Aboriginal cultural education training program for all site personnel. This training must be delivered by a representative of the local Aboriginal Community, a registered Aboriginal stakeholder or a Traditional Owner. The representative is to be approved by the Principal. At a minimum, training must include: (i) Cultural values and significance of the project area (ii) Practical strategies to effectively engage and work with Aboriginal people (iii) How to improve communication with Aboriginal colleagues and customers (iv) Diversity within Aboriginal Australia, protocols, family and kinship systems (v) Busting myths and stereotypes (vi) Encouragement to provide feedback and ask questions regarding Aboriginal issues	Section 4.9
b)	Undertake works in accordance with the ISCA Infrastructure Sustainability Technical Manual version 2.0 to achieve Her-1 Level 3. Reference is to be made to the Design Rating Her-1 CSF for evidence provided by the Principal to demonstrate compliance with this credit.	Section 4.9
2.11	**Discharges to Air, Land and Water**	
a)	Comply with the requirements outlined in the OCEMP and Specification TfNSW G36.	Refer to CEMP and Sub-plans
2.12	**Conservation of on-site resources**	
a)	Undertake stockpile management in accordance with Specification TfNSW G38.	Refer to Appendix A of CSWMP (Appendix B8 of CEMP)
2.13	**Workforce**	
a)	At a minimum, meet workforce targets as required under C2-GC21 Items 15C and 15D	Section 4.10
	Table 2 Sustainability Requirements	
	Table 2 of Specification G1 Annexure L prescribes Project's sustainability targets	Section 0

1 Introduction

1.1 Background

Western Sydney's population is anticipated to increase from 2.5 million in 2021 to 3 million by 2036, which is an average of 46,000 additional residents per year. This strong forecast growth is driven by several transformational changes in the region, including the Western Sydney International Airport (WSIA), South-West Growth Area, Western Sydney Employment Area and Western Sydney Aerotropolis. Additional travel demand associated with these planned developments is expected to put significant pressure on the existing transport network and negatively impact traffic efficiency and road safety in the region.

The M12 Motorway will connect The Northern Road at Luddenham and the M7 Motorway at Cecil Hills, over approximately 16 km. The M12 Motorway Project will provide the main access from the WSIA at Badgerys Creek to Sydney's motorway network and must be opened to traffic six months before the opening of the WSIA.

The M12 Motorway will provide the capacity to meet traffic demand generated by Western Sydney urban development, provide a high standard connection to WSIA to meet future freight and passenger needs and will support and integrate with the broader transport network. The M12 Motorway Project objectives include:

- Provide direct access from the M7 Motorway to the planned Western Sydney airport at Badgerys Creek, and from the M4 via The Northern Road.
- Provide sufficient road capacity to meet traffic demand generated by the planned Western Sydney urban development.
- Provide a road which supports and integrates with the broader transport network.
- Support the provision of an integrated regional and local public transport system.
- Provide active local transport within the east-west corridor.

Approval for the Project under the EP&A Act was granted by the Minister for Planning on 23 April 2021. Approval for the Project under the EPBC Act was granted by the Federal Minister for the Environment on 3 June 2021. The project must be carried out in accordance with the terms of the NSW and Federal Approvals.

1.2 Project description

The M12 Motorway West Project involves construction of approximately 6km of dual carriageway motorway predominantly through greenfield area between The Northern Road, Luddenham and approximately 250m east of Badgerys Creek, including WSIA Interchange and Elizabeth Drive Interchange. The works are within the Liverpool and Penrith City Councils (Council) local government areas (LGA).

Features of these Works include:

- Construction of 6km of dual carriageway motorway predominantly through greenfield area between The Northern Road, Luddenham and approximately 250m east of Badgerys Creek.
- Construction of 11 bridges.
- A grade-separated interchange referred to as the Western Sydney International Airport interchange, including a dual-carriageway four-lane airport access road (two lanes in each direction for approximately 1.5 km) connecting with the Western Sydney International Airport Main Access Road.
- Connection to the signalised at grade intersection at The Northern Road with provision for grade separation in the future as part of the future Outer Sydney Orbital.
- Realignment and duplication of approximately 1.5km of Elizabeth Drive with a new bridge over the Airport Access Road and Metro Rail corridor including associated utility adjustments.
- A four-way signalised intersection east of Airport Access Road.
- A left-in/left-out intersection west of Airport Access Road.

- A signalised single point interchange with north facing ramps from Elizabeth Drive to M12 and south facing ramps from Elizabeth Drive to Airport Access Road.

Activities included in the Works:

- Site establishment.
- Control of traffic including the provision of approved Traffic Management Plans to facilitate the construction of the works.
- Provision for pedestrians and cyclists.
- Provision of site accommodation for the Principal.
- Searching for and protecting public utility services.
- Maintenance of the existing roadways.
- Drainage works (both surface and subsurface).
- Permanent and temporary erosion and sedimentation controls.
- Removal and disposal of some existing roads, kerbs, gutters, footpaths, stormwater, and other minor structures.
- Demolition of structures including houses and sheds.
- Earthworks including clearing and grubbing, removal and stockpiling of topsoil, excavation of cuttings, placing of general fill, management of potentially/ actually contaminated materials, possible off-Site disposal of spoil material, foundation treatments, and placement of upper zone material and Selected Material Zone using imported materials.
- Construction of rigid pavements including lean-mix concrete sub-base, continuously reinforced concrete pavement, dense grade asphalt intermediate and wearing courses.
- Flexible sub-base and base pavements.
- Ancillary works, including new kerbs and/or gutters and paving of cycleways/footpaths.
- Construction of bridges:
  - Bridge over Luddenham Road (BR01),
  - Bridge over Cosgroves Creek (BR02),
  - Bridge over Airport Access Road (AAR) on Elizabeth Drive (BR04A),
  - Bridge over Sydney Metro on Elizabeth Drive (BR04B),
  - Bridge over Western Sydney Airport (WSA) Channel on Northbound Off Ramp (BR04C),
  - Bridge over WSA Channel on Southbound On Ramp (BR04D),
  - Twin Bridges over Badgerys Creek (BR05),
  - Bridge over M12 Motorway and Airport Access Road Ramps (BR21),
  - Bridge over M12 (BR22),
  - Bridge over M12 Motorway on ramp (BR24).
- Construction of a RCBC as a stock underpass.
- Construction of precast arch structures as a shared use path underpass.
- Construction of retaining walls.
- Construction of reinforced soil walls.
- Design development and installation of pits and conduits for an underground Intelligent Transport System cableway including supply and installation of Closed-Circuit Television Cameras, Electronic Message Signs, Emergency Telephones, Vehicle Detection Sites, and Permanent Automatic Weather Stations.
- Relocation of existing and installation of new (or upgraded) public utilities.
- Property access and property adjustments.
- Road furniture.

- Pavement marking and raised pavement markers.
- Signposting, including sign structures.
- Opening to traffic.
- Revegetation and landscaping of exposed new works and of areas disturbed by any construction activities.
- Clean up and restoration of your work areas and the areas disturbed by utility authorities in carrying out adjustments within the Site.
- Preparation of “work-as-executed” drawings and asset acceptance documentation.
- All other work which you are or may be obliged by the terms of the Contract to undertake together with any work which is necessary or incidental to the work and all associated coordination and supervision of such work.

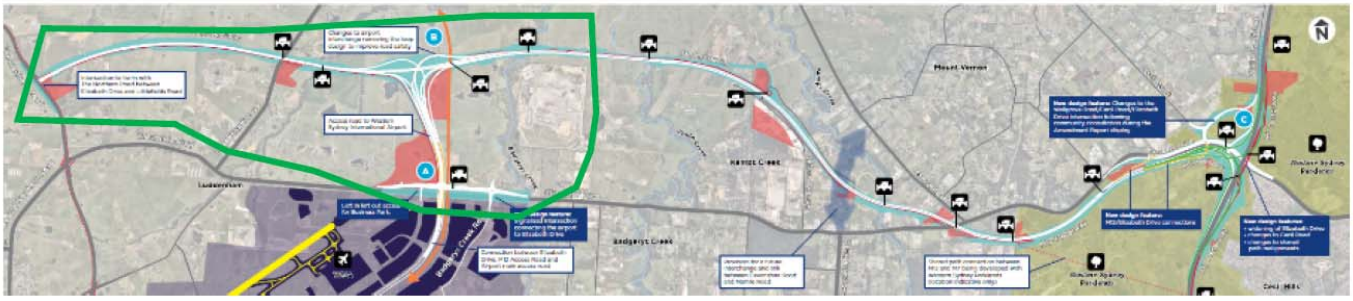


Figure 1-1 Project Location

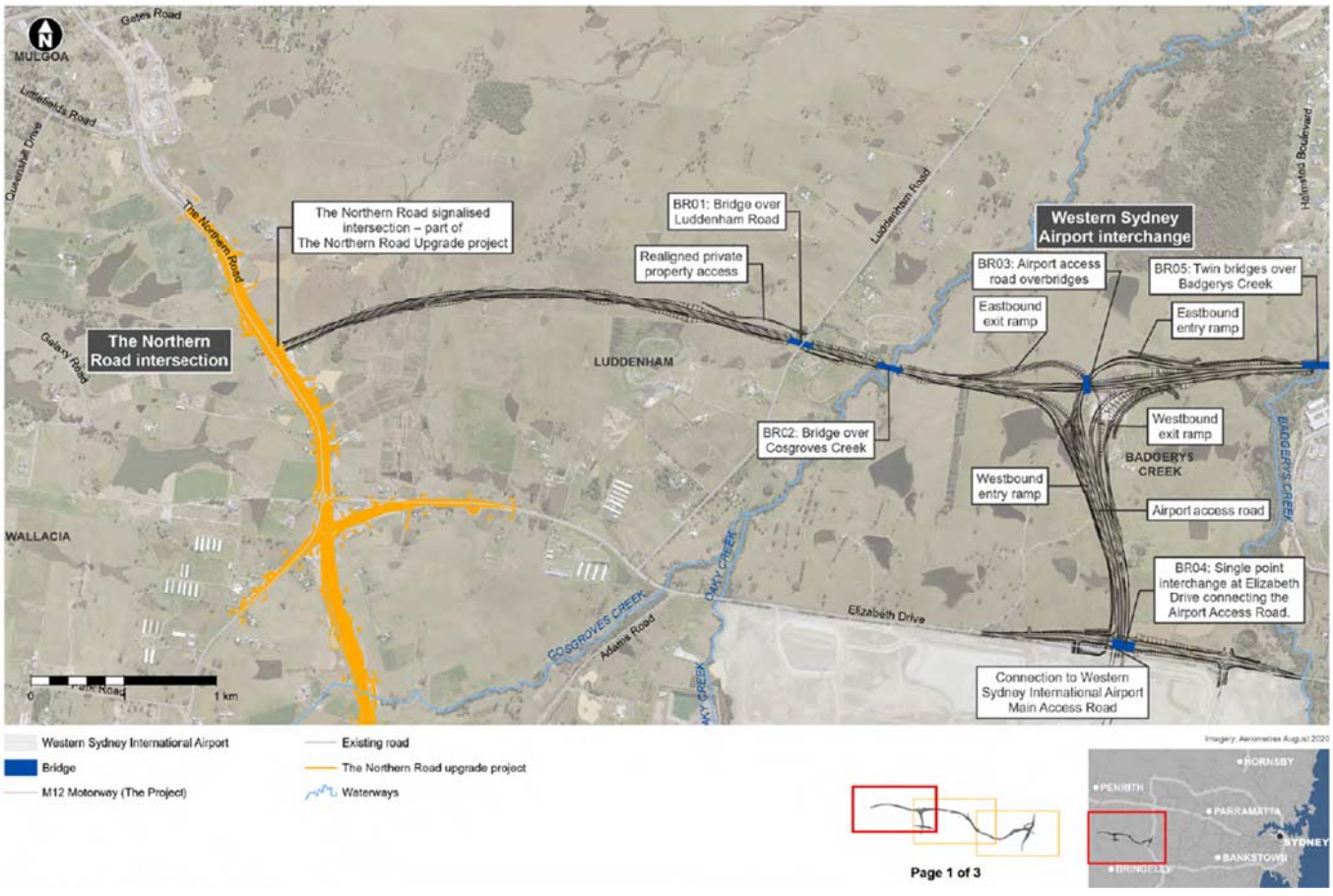


Figure 1-2 Key features of the Project

1.3 Purpose of this SMP

The CPB Contractors and Georgiou Joint Venture (CPBGG JV) have been contracted by Transport for NSW (TfNSW, the client) to construct the M12 Motorway West (the Project). This Sustainability Management Plan (SMP) has been prepared to represent the overarching management plan to guide, inform and manage sustainability requirements of the Project as stipulated under Specification G1/Annexure L. The purpose of this SMP is to:

- Identify sustainability objectives/targets associated with construction of the Project and related risks and mitigation actions to achieve positive environmental, social, and economic outcomes.
- Describe the Project's processes in integrating sustainability into its management system, including:
  - Determining significant sustainability issues and decision-making which considers environmental, social and economic aspects,
  - Roles and responsibilities for managing sustainability outcomes,
  - Sustainability competence, awareness, and training,
  - Sustainability risks and opportunities management, and
  - Sustainable procurement.
- Identify sustainability initiatives and implementation actions to achieve the objectives/targets and an 'Excellent' Infrastructure Sustainability (IS) "As Built" Rating score of at least 55 under the Infrastructure Sustainability Council (ISC) version 1.2.
- Meet the sustainability requirements of the M12 Motorway (West), contract [redacted]
- Align with the Roads and Maritime Services (RMS) Environmental Sustainability Strategy 2019-2023.
- Describe the Project's processes and methodologies for capturing sustainability related construction data for monitoring and compliance tracking.
- Describe the Project's processes and methodologies for undertaking interval audits, inspections, and reviews as required by the IS credit requirements.
- Describe the Project's processes and methodologies for continuous improvement and reporting on sustainability performance.

1.4 Our approach

CPBGG JV will bring key learnings and innovations from more than 51 IS ratings to date and will build upon opportunities during the delivery of the Project, particularly with the procurement of infrastructure, goods and services that contribute to the environment, and the social and economic wellbeing of the community.

Challenging the business as usual (BAU) approach and achieving new sustainability milestones is embedded into CPBGG JV's construction culture and project delivery approach.

CPBGG JV will use the IS Rating tool to benchmark the Project's performance, drive a sustainability culture, and identify continuous improvement opportunities. Additionally, we will build on our local knowledge of Western Sydney, including businesses and community partnerships, and engaging with our supply chain to achieve value for money in sustainability outcomes.

CPBGG JV are delivering an IS As-Built rating only and will seek to ensure the initiatives from the IS Design Rating submission are implemented, and to work closely with the Construction Team to identify further opportunities, in particular the management of earthworks including the beneficial reuse of usable spoil and reducing the embodied carbon of materials.

1.5 Interfaces with other Project plans

This SMP is part of an integral set of Project specific management plans and should be read in conjunction with them. Table 1-1 below outlines key sustainability attributes as relevant to each Project management plan.

Table 1-1 Interfaces with other management plans

Management Plans	Relevance to Sustainability
Project Management Plan	• Sustainability resourcing • Sustainability integration into decision-making processes • Construction staging • Methods to avoid impacts • Risk management framework
Construction Environmental Management Plan & sub plans	• Pollution prevention • Resource and waste management • Environmental protection • Community impact mitigation • Corrective action processes • Contamination, remediation, and landfill diversion
Project Procurement Plan	• Supply chain sustainability, including addressing modern slavery • Sustainable procurement commitments • Subcontractor and supplier sustainability obligations and expectations
Earthworks Management Plan	• Materials management • Landfill diversion
Jobs, Skills & Industry Development Plan and Training Management Plan	• Jobs, Skills and Industry Development objectives and requirements defined by the Project • Employment and training as a means of positively contributing to community health and wellbeing • Strategies and initiatives the Project will utilise to ensure Australian entities have full, fair, and reasonable opportunity to bid for the supply of goods and services
Community and Stakeholder Engagement Plan	• Community engagement framework • Communications measured through feedback and surveys
Workplace Relations Management Plan	• Staff training and induction • Subcontractor engagement and evaluation
Project WHS Management Plan	• Induction • Risk assessment and management
Quality Management Plan	• Internal and external audit and review requirements
Urban/Place, Design and Landscape Plan	• Urban design and land use • Topsoil reuse • Contamination • Drainage and flooding • Urban design • Noise mitigation

2 Sustainability context and commitment

2.1 Project sustainability context

Sustainability underpins a wide range of aspects on the M12 Motorway West Project. The construction phase spans >3 years, incorporating both the bulk earthworks phase, and the paving and landscaping phases of the Project. As such, sustainability management must consider factors like large haulage volumes and raw materials, high quantities of concrete and paving materials, extensive water use requirements for environmental management, and high fuel and energy usage. These factors present a number of sustainability challenges and opportunities, including the need for the incorporation of recycled materials, spoil reuse, water reuse, and sustainable energy sourcing.

As detailed in the Project's Environmental Impact Statement (EIS) Section 8.4.1, the Project's sustainability policy and planning setting is founded upon on a myriad of government organisations' policies, legislations, and independent organisations' documentations, as listed below.

These drivers were closely assessed in the EIS phase and subsequent Amendment Report to identify recurring major sustainability principles, objectives, and targets, including themes of management and participation, energy, carbon and materials, climate change, communities and liveability, water, pollution and emissions, ecology, and employment and opportunities. These were used to develop indicative sustainability objectives and targets, acting as the basis for the Project's sustainability requirements stipulated in Specification G1/Annexure L. These requirements are addressed through this SMP, in particular the below **Section 2.2 and Section 00** which discusses how the Project has set up its sustainability policy and Project-specific objectives and targets that respond to the requirements under Specification G1/Annexure L.

TfNSW have also prepared a Sustainability Strategy (Version C May 2022) for the M12 Project to address NSW CoA E91 and E92, which was submitted to DPE on 11 May 2022. TfNSW also have a Transport Sustainability Plan 2021 which is discussed below in section 2.2.

Opportunities to exceed targets, in particular diverting construction and demolition waste from landfill, increasing supplementary cementitious material content in concrete and increasing recycled content for road base materials, improving construction energy efficiency, and generally decreasing embodied carbon of materials will be further investigated with our Construction Team, supply chain and in co-operation with the Principal.

Sustainability Drivers

The Project's sustainability policy and planning setting is founded upon on a myriad of government organisations' policies, legislations, and independent organisations' documentation that drive sustainable outcomes. These include but are not limited to:

- United Nations Sustainable Development Goals (United Nations, 2015)
- EP&A Act (1979),
- NGER (2007)
- Transport Environment and Sustainability Policy Framework and Statement (TfNSW, 2020)
- NSW Sustainable Design Guidelines Version 4.0 (TfNSW, 2017a)
- Roads and Maritime Environmental Sustainability Strategy 2019-2023 (Roads and Maritime, 2019)
- Infrastructure Sustainability rating tool Version 1.2 (Infrastructure Sustainability Council of Australia, 2016)
- Future Transport Strategy 2056 (NSW Government, 2018a)
- A Metropolis of Three Cities – the Greater Sydney Region Plan (Greater Sydney Commission, 2018a)
- Western City District Plan (Greater Sydney Commission, 2018b)
- NSW Freight and Ports Strategy (TfNSW, 2013b)
- NSW Climate Change Policy Framework (OEH, 2016d)

- NSW Government Resource Efficiency Policy (OEH, 2019)
- NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (NSW EPA, 2014d)
- Aboriginal participation in construction policy (APiC) (NSW Government, 2021)
- Training Management Guidelines (NSW Government, 2009)
- TfNSW Sustainability Plan (TfNSW, 2021)
- Transport Social Procurement Policy (TfNSW, 2016).

2.2 Sustainability Policy

CPBGG JV is committed to ensuring sustainability is considered in all aspects of construction of the M12 Motorway West Project. CPBGG JV will endeavour to identify and implement opportunities that create efficiencies, reduce the Project's ecological footprint, and provide benefits to the community.

CPBGG JV has adopted the TfNSW Environment and Sustainability Policy to be a guiding policy (see **Appendix A**) for the Project and has adopted the relevant objectives and targets focused under the Roads and Maritime Services (RMS) or TfNSW Environmental Sustainability Strategy 2019-2023 and Sustainability Plan 2021 (*note that TfNSW and RMS have since combined into one overarching TfNSW Government Agency*).

CPBGG JV is also governed by its own organisational policies which form part of the CPB Contractors Sustainability Management System and the CIMIC Group Management System (parent company of CPB Contractors). All personnel involved in the delivery of the Project have shared responsibility to actively contribute to the achievement of this policy.

Transport Environment and Sustainability Policy

The Transport Environment and Sustainability Policy outlines that Transport for NSW is, "committed to delivering transport which contributes to economic prosperity and social inclusion in an environmentally responsible and sustainable manner, consistent with the Future Transport Strategy.". This will be achieved by working towards:

- Contributing to and influencing the strategic environment and sustainability agenda of the NSW Government
- Being accountable for addressing and minimizing the environmental impacts of our activities to satisfy the expectations and legislative requirements of the NSW Government and community
- Improving energy efficiency and working towards net zero carbon emissions
- Embedding climate risk and resilience considerations in our activities
- Procuring and delivering sustainable, efficient and cost effective transport options, including responsible supply chains
- Considering whole of life benefits and impacts from our activities across all life cycle stages – demand/need, plan, acquire, operate/maintain and disposal
- Recognising the social impacts and benefits of our activities, and working for healthy liveable communities
- Raising the awareness and capacity of our workforce to be accountable for implementing the Policy through their activities to achieve enhanced environmental outcomes and a culture of environmental responsibility
- Communicating openly, responsively and empathetically with our customers, partners and stakeholders on environmental matters

The Transport Environment and Sustainability Policy is a key strategic and regulatory driver of RMS's Environmental and Sustainability Strategy, discussed below.

RMS (TfNSW) Environmental Sustainability Strategy 2019-2023

TfNSW oversees $94.4billion worth of road and maritime assets, which cover about six per cent of the State's landmass and represent about 26 per cent of the State's infrastructure. To meet the growing needs of the State they deliver new and improved transport links. TfNSW Environmental Sustainability Strategy 2019–2023 builds on the achievements from previous strategies:

- Roads and Maritime Services Environmental Sustainability Strategy 2015–2019.
- Towards a More Sustainable RTA; RTA's Environmental Sustainability Strategy 2010.

The Environmental Sustainability Strategy 2019–2023 identifies 10 focus areas to embed into the delivery of infrastructure and services. This is aimed at building sustainability awareness and capacity in the workforce and improving the environmental performance of workplaces. Each focus area outlines a commitment to mitigate negative environmental, social, and economic impacts including but not limited to:

- Minimise energy use and reduce carbon emissions,
- Minimise air quality, noise, water, and land pollution,
- Provide high quality urban design outcomes that contribute to the sustainability and liveability of communities in NSW,
- Procure goods, services, materials and works that deliver value for money and contribute to environmental, social, and economic wellbeing of the community.

Figure 2-1 RMS Environmental Sustainability Strategy

The Strategy addresses a range of legislative requirements and adopts key State Government policies and plans. The strategic and regulatory drivers for the Strategy are illustrated above in **Figure 2-1**.

Transport Sustainability Plan 2021

TfNSW have a sustainability vision of creating, "a NSW where every journey is people and planet positive". In 2020, TfNSW updated its sustainability strategy and developed the Transport Sustainability Plan 2021 which highlights eight (8) focus areas (illustrated below in Figure 2-2) with supporting sustainability goals to address the most important sustainability aspects associated with activities of TfNSW and where they will concentrate their attention and resources on. The Plan provides a uniform approach to sustainability that embeds sustainability in the decision-making process and builds a transport system that is resilient to future shocks and stresses.

Figure 2-2 Key Focus Areas Transport Sustainability Plan 2021.

M12 Motorway Sustainability Strategy

The M12 Motorway Sustainability Strategy has developed key focus areas, objectives, initiatives, and target themes to align with the Transport Sustainability Plan 2021. Project-specific targets and goals have been established in alignment with TfNSW's Transport Environment and Sustainability Policy, the M12 Motorway Sustainability Strategy and Transport Sustainability Plan 2021, and the Environmental Sustainability Strategy, with the key overarching themes including the below:

- Minimising impacts on the environment,
- Reducing energy use and carbon emissions,
- Reducing water use and increasing use of non-potable water,
- Effective management of waste,
- Positively contributing to society and communities,
- Promoting sustainable procurement, and
- Delivering climate resilient assets.

Appendix B presents a table of the Project's specific targets and goals which shows correlation to the relevant sustainability focus areas, and objectives and targets from the RMS Environmental Sustainability Strategy discussed in the above section. The M12 West Motorway Project's targets and goals are directly aligned with these publicly stated corporate sustainability objectives. These Project specific targets and goals will be achieved through the attainment of the associated IS Credits, which will drive sustainable outcomes in alignment with the overarching State objectives.

The Project's quantitative targets are listed under Table 2 of the Specification G1/Annexure L and have been replicated below in **Table 2-1**. These targets will also be achieved through the Project's attainment

of the relevant associated IS Credits. Progress against the quantitative targets will be reported in the quarterly sustainability reports (QSR) as required by Specification G1/Annexure L.

Table 2-1 Project Sustainability Targets

Specification G1/Annexure L - "Table 2: Sustainability Requirements"			
No.	**Category**	**Minimum Requirement**	**Relevant ISC Credit**
1	IS V1.2 Design and As-Built Rating	Excellent (55/100)	All
2	Percentage of usable spoil (uncontaminated surplus excavated material) reused/recycled (not including Virgin Excavated Natural Material (VENM))	95%	Was-1, Was-2
3	Percentage of VENM reused/recycled	100%	Was-1, Was-2
4	Percentage of construction and demolition waste (overall uncontaminated material excluding spoil) reused/recycled	80%	Was-1, Was-2
5	Recovery of clean concrete for beneficial reuse	100%	Was-1, 2, 3
6	Clean asphalt pavement reclaimed	100%	Was-1, 2, 3
7	Office waste diverted from landfill	40%	Was-1, Was-2
8	Minimum glass content in asphalt	Wearing course 2.5% by mass (Maximum of 2.5%) Base layer (other than wearing course) 10% by mass (Maximum is 10%)	Mat-1
9	Percentage of construction stage energy/ electricity sourced from renewable energy generated onsite and/or accredited GreenPower	20%	Ene-2
10	Percentage of construction stage energy use offset (in accordance with the Australian Government National Carbon Offset Standard)	6%	Ene-2
11	Percentage of water demand which is sourced from non-potable water sources during construction	33%	Wat-1, Wat-2
12	Percentage of water (rainwater, stormwater, wastewater, groundwater, generated/collected during construction) which is reused, recycled or reclaimed	5%	Wat-1, Wat-2
13	Percentage of supplementary cementitious material (SCM), measured by mass, used in concrete during the construction stage	Refer to B080 (as different concrete strengths have different requirements) or QS spec 3211	Mat-1
14	Percentage of recycled material used in granular base and sub base during the construction stage	40% (as per QA Spec 3051)	Mat-1
15	Percentage improvement in construction energy efficiency versus a business-as-usual (BAU) baseline	10%	Ene-1
16	Percentage improvement in supply chain carbon emissions intensity (including embodied energy in materials) versus a business-as-usual baseline Note: Supply Chain emissions are to be estimated using methodologies consistent with the World Resources Institute Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard	10%	Ene-1 / Mat-1
17	Percentage of office paper used on the Contract site that is high recycled content paper (50 per cent or more recycled content)	100%	Was-1
18	Percentage of single use and/or non-recyclable kitchen items supplied to on-site facilities	0%	Was-1

Specification G1/Annexure L - "Table 2: Sustainability Requirements"			
19	Percentage of timber to be sourced from either reused/recycled timber or from sustainably managed forests that have obtained Forest Management Certification (FMC)	100%	Mat-1, Mat-2

*Note: all requirements under Specification G1/Annexure L have been tabulated under **Section 0** (page ix) of this SMP along with cross-references to the relevant sections within this SMP.*

CPBGG JV is committed to meeting the Project sustainability requirements listed above. However, the Project's intention is to go above and beyond these requirements, and achieving a higher IS Rating score than what is required, pushing a culture of sustainability and of doing better.

2.3 Key risks to achieving objectives & targets, and mitigation measures

Sustainability risks and opportunities will be assessed/captured using the Project's risk management approach, as detailed in the Project WHS Management Plan.

Risk and opportunity assessment will consider direct and (where possible) indirect risks and opportunities for both construction and operational phases, including consideration of:

- Governance risks and opportunities,
- Economic risks and opportunities,
- Environmental risks and opportunities,
- Social risks and opportunities.

Effective sustainability management involves ongoing identification of the potential risks that can impede achieving objectives and targets, as well as actioning appropriate mitigation measures. Table 2-2 below presents a summary of key sustainability risks assessed.

Table 2-2 Key risks to achieving objectives & targets, and mitigation measures

Key risk	Consequence	Mitigation measures	Responsibility
Lack of sustainability targets awareness across the construction team.	Missing out on data capture during construction, leading to inability to monitor and evaluate sustainability performances.	Early and active engagement with the construction team through various forums such as training and inductions, Construction meetings, Senior Leadership Team meetings, Weekly Toolbox sessions, Sustainability presentation/meeting with the broader team highlighting the targets and discussing responsibilities.	Sustainability Representative & Senior Leadership Team (SLT), all members of the Project
Lack of communication between the Procurement Team and the Sustainability Representative.	Project procuring materials that do not support sustainability targets. Failing to meet the embodied carbon reduction target.	Early and ongoing discussions/meetings with the Procurement Team to define expectations for sustainable procurement process and alerting high-impact materials essential to ensure selection of sustainable suppliers.	Sustainability Representative & Procurement Team
Lack of monitoring of tracking against Project waste targets.	Failing to reduce construction wastes (construction & demolition waste, and spoils) going to landfill and meet targets.	Early identification of potential waste streams from the construction activities and identification of available waste destinations for recycling and/or beneficial reuse. Ongoing monitoring of waste reports and waste subcontractor performance.	Sustainability Representative, Environmental Manager, SLT
Failing to implement the decision-making procedure for significant issues	Failure to comply to minimum requirements of the targeted IS rating tool credit, Man-7.	Sustainability Representative must engage with the Senior Leadership Team to inform them of the process that determines significant issues and to consider environmental, economic, and social	Sustainability Representative, SLT

		aspects into decision making the proposed options.	

All sustainability risks will be reviewed regularly. Updates are to be subsequently incorporated into the Principal Project Risk Register following review.

3 Sustainability integration and management

3.1 Sustainability management system

The M12 West Motorway SMP is supported by the CPB Sustainability Management System (SMS), which provides a general guide for the Project to rely on in integrating sustainability aspects to meet its requirements including delivery of the IS Rating commitments. The SMS, as illustrated below in **Figure 3-1**, presents procedures, templates, and tools available under by the CPB SMS that will assist the Project for effective delivery of the sustainability requirements. Project-specific procedures and/or tools will be developed as required.

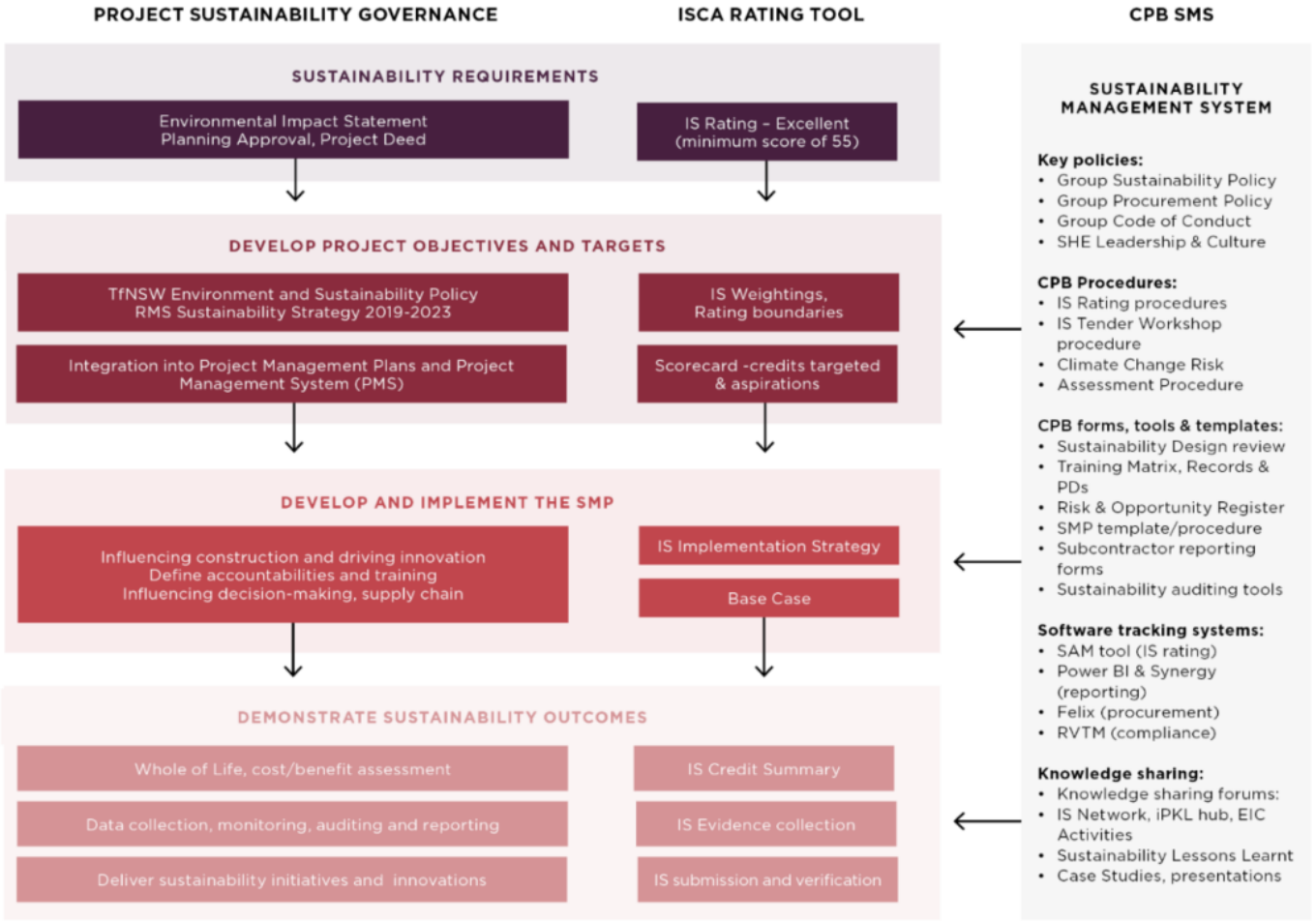


Figure 3-1 CPB Sustainability Governance

3.2 Sustainability Assurance Framework

The Project is required to develop, implement, and maintain a Sustainability Assurance Framework to track compliance with policy, objectives, targets, and all other requirements stipulated under Specification G1/Annexure L 'Sustainability Requirements'. CPB possesses a sustainability governance process related to the Project delivery stages illustrated in the below **Figure 3-2**. It provides an overall sustainability assurance mechanism for integrating and embedding sustainability throughout the Project lifecycle to help optimise sustainability outcomes.

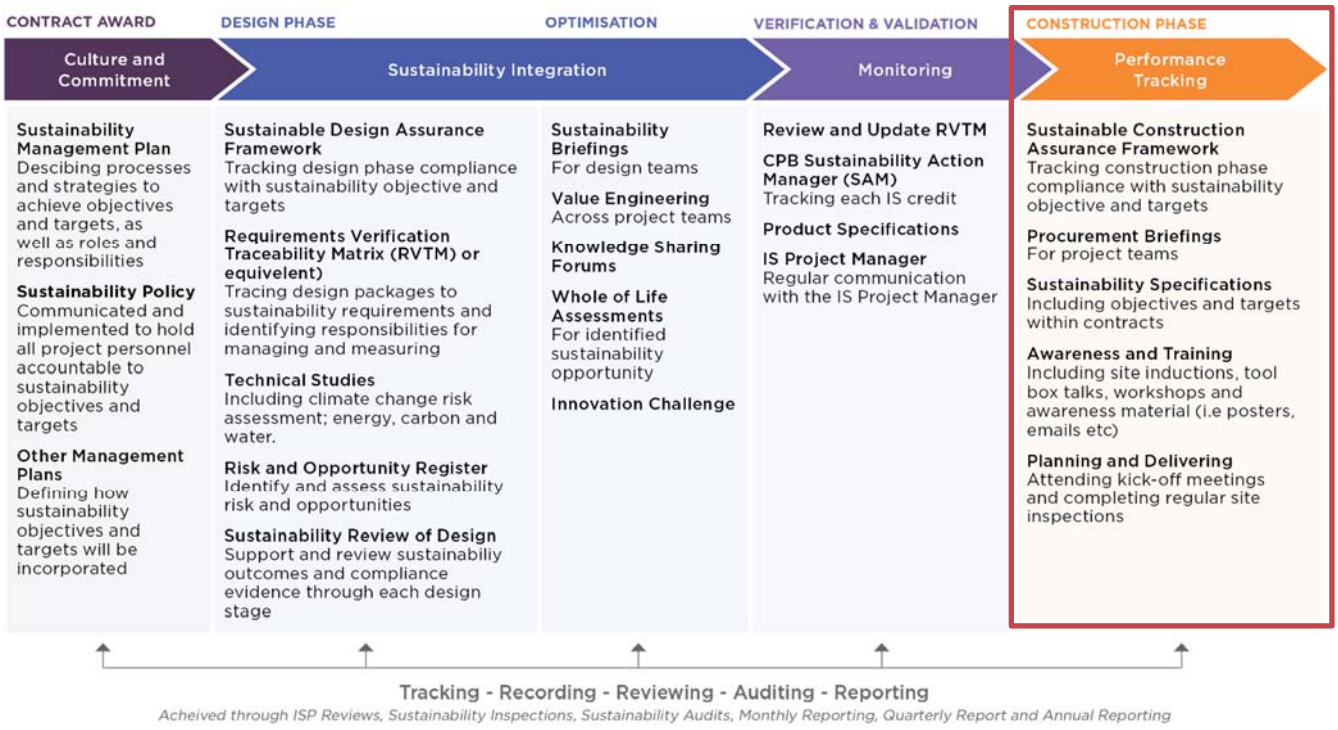


Figure 3-2 CPB General Sustainability Assurance Framework

In delivering the 'Sustainable Construction Assurance Framework', the Sustainability Representative will ensure ongoing performance tracking, monitoring, reviewing, auditing, and reporting on sustainability (including performance against sustainability targets) are at frequent intervals and in line with the ISC requirements. Sustainability performance assurance will be delivered through a combination of the following:

- **Inspections** of on-site and off-site sustainability performance.
- **Sustainability Audits** of the sustainability management system, contract requirements and other IS Credit relevant audits.
- **Reporting** of quarterly sustainability reports.
- **Annual Sustainability Performance reporting and review** session to the senior management (format is flexible and does not have to be in a report format, e.g., a presentation for reporting and a discussion session at the end for review).
- **Independent Sustainability Professional (ISP) reviews** to monitor and review performance,
- **Inspections, Audits, and Reporting Schedule** to plan and execute critical sustainability actions,
- **Sustainability Dashboard** (in a digital spreadsheet format, or the like) which collects construction materials and resources (waste/water/electricity) data and information to enable analysis and monitoring of quantitative sustainability performances.

The Project will use an in-house Sustainability Action Manager (SAM) tool (or any other appropriate tracker tool) to support monitoring and reporting of sustainability performance as well as to assist in tracking of IS credit achievement and ensure key milestones are achieved. Actioning the Sustainability Assurance Framework is supported by the CPB SMS introduced above in **Section 3.1**, including its procedures, tools, and templates available for the sustainability team.

Audits will be undertaken in accordance with CPB's Audit Tool. Where deviations are identified, corrective actions will be developed and implemented. Corrective actions will be documented, tracked, and closed out in an appropriate and timely manner. Areas of concern and/or opportunities for improvement will also be documented as part of inspections and closed out.

3.3 Significant sustainability issues and decision-making procedure

The M12 Motorway West Project is required to achieve an 'Excellent' As-Built Rating under the Infrastructure Sustainability Council (ISC) IS Rating Tool. The strategy for achieving the IS rating includes the requirement to incorporate sustainability into significant Project decisions. Decisions made across all aspects of the Project will impact overall sustainability and targets of the Project. By employing a process for decision making that considers sustainability impacts for significant Project issues, decisions can be appropriately assessed. This section explores the approach to decision making for these significant decisions which has the potential to affect the overall sustainability outcomes of the Project.

Significant Issues

'Significant issues' can occur across all Project phases including the design, procurement, and construction of the Project. The Project team is to define and justify high impact/significant issues.

As a guide, the below are example definitions or thresholds for 'significant issues', which include one or more of the following:

- A decision made by or requiring the endorsement of the Senior Leadership Team (SLT) that has impacts on Project sustainability.
- The selection of a supplier which supplies materials of high materiality.
- The selection of material types of high materiality.
- Key design changes or construction methodology changes or options comparisons.
- Having a financial impact >$5 million.
- Having significant impacts on Project stakeholders including the community or social impacts.
- Having an impact on sustainability objectives including water, energy, or materials consumption.

Decision Making Procedure

A decision-making procedure must be evidenced (in a spreadsheet format or the like) which includes the following elements to support the IS Rating Tool compliance as per the Man-7 Level 2 credit requirements:

- Evaluation of decision options considering sustainability (environmental, social, and economic) aspects using multi-criteria analysis (MCA) or other quantitative scoring means (e.g., cost effectiveness analysis).
- The analysis must incorporate at least one sustainability (non-financial) criteria and the weighting of the non-financial criteria must be at least 30% in total.
- Evaluating the business as usual (BAU) option compared to proven alternatives taken in comparable situations.
- Evaluation based on forecast useful life of the asset.

The Sustainability Representative is responsible for assisting the Project team in assessing feasible options/alternatives where suited for high impact/significant issue decisions.

In the event that the above decision-making procedure is unable to be undertaken for the identified significant issues, the minimum requirement for compliance against the IS Rating Tool credit Man-7 (Level

1) is to compare and evaluate proposed options (of a significant issue) against BAU options over its forecast useful life using qualitative risk assessments (or other non-scored means) that considers financial, environmental, social, and economic aspects.

3.4 Roles and responsibilities

Sustainability has broad applications across the Project, and all personnel involved in the delivery of the Project share responsibility to actively contribute to achieving the sustainability commitments, targets and IS rating requirements. The Project leadership team will promote the integration of sustainability at all functional management levels and create a culture where everyone acknowledges their role to play towards achieving the Project's sustainability objectives. **Table 3-1** below outlines the general sustainability responsibilities for Project leadership roles, functional leads, and staff.

Table 3-1 Project leadership, functional leads, and staff sustainability responsibilities

Role	Responsibilities
Project Director	▪ Establish and champion sustainability culture across the Project. ▪ Ensure sustainability is represented in senior management decision-making. ▪ Reinforce sustainability roles and responsibilities across the Project team. ▪ Manage accountability for sustainability responsibilities. ▪ Ensure systems and adequate resources are in place to integrate sustainability across the Project and its functions. ▪ Ensure that sustainability requirements, risks and opportunities are identified, regularly reviewed, and incorporated into Project controls and systems. ▪ Review and approve key sustainability plans and reports for client submission.
Sustainability Representative	▪ Manage the development and implementation of the SMP. ▪ Facilitate the identification and ongoing review of sustainability risks, opportunities, and treatment options. ▪ Ensure decision-making processes for identified significant sustainability issues are aptly undertaken. ▪ Work collaboratively with procurement, construction, and other functional leads to coordinate the implementation of sustainability initiatives to ensure the Project's sustainability objectives, requirements and targets are achieved. ▪ Champion innovation, resource efficiency and Whole of Life (WOL) thinking. ▪ Manage the IS Rating Scheme requirements, including collection and submission of evidence. ▪ Ensure sustainability management and reporting is incorporated into Project processes and systems. ▪ Monitor and report sustainability progress throughout the Project delivery. ▪ Attend and participate in Senior Leadership Team meetings. ▪ The Sustainability Representative must: o Be an ISAP, having achieved this accreditation from ISC. o Have sufficient and relevant experience, i.e., having provided the same or similar role in at least one other project of a similar size, scale, or complexity. o Be engaged throughout the WUC and cannot fulfil any other role on the Project. o Be based onsite during the WUC.
Construction Manager and Area Managers	▪ Engage with the Sustainability Representative to ensure sustainability requirements/performance specifications are integrated into the construction plans/packages/specifications and communicated to the Project workforce.

Role	Responsibilities
	▪ Integrate Sustainability Rating Scheme requirements into construction management processes and provide supporting evidence is provided as required to support rating scheme certification. ▪ Ensure the subcontractors and suppliers achieve sustainability targets in the Delivery Phase and direct/oversee corrective actions where appropriate. ▪ Work with the sustainability team to identify and implement construction initiatives.
Environment Manager	▪ Manage environmental risk, and manage implementation of mitigation measures and commitments in accordance with environmental approvals. ▪ Facilitate environmental audits, ▪ Monitor impact and reporting of air quality, soil and water, contamination, flora and fauna, and heritage (amongst others as per CEMP and subplans). ▪ Ensure weekly inspections that incorporate environmental and social components are completed. ▪ Provide monitoring data to Sustainability Representative as needed to demonstrate no environmental negative impacts. ▪ Day to day responsibility and authority for ensuring that environmental management meets the requirements of the relevant IS credits. ▪ Role description as per CEMP.
Commercial Manager & Procurement Manager	▪ Work with the Sustainability Representative to ensure Project Procurement Plan incorporates sustainability requirements. ▪ Track supplier and subcontractor compliances with sustainability requirements, including relevant documentation. ▪ Day to day responsibility and authority for ensuring that the management of procurement and purchasing meets the requirements of the IS credits. ▪ Engage with the Sustainability Representative to embed sustainability requirements in sub-contracts and supply agreements. ▪ Embed the Sustainability Procurement Policy into procurement process and outcomes. ▪ Include Sustainability Representative in the development of RFT scope, RFT specifications, supplier identification, pre-qualification review, RFT evaluation, supplier briefings and kick-off meetings for high impact suppliers/subcontractors. ▪ Ensure non-financial evaluation is conducted using relevant sustainability criteria. ▪ Integrate sustainability risks and opportunities into risk processes and procurement decision-making. ▪ Facilitate ongoing identification of High Impact suppliers through the procurement schedule. ▪ Ensure contract administration resourcing for monthly sustainability reporting. ▪ Support Sustainability Representative in leveraging sustainability performance and monitoring contractor performance.
Site Superintendents and Supervisors	▪ Implement measures to reduce discharges to air, land and water, protect topsoil and minimisation of the Project's clearing footprint. ▪ Manage water carts, OOHW scheduling, light spill, construction noise and vibration, topsoil and clearing safeguards.
Project Engineers	▪ Track site resource use, including onsite water use (potable and non-potable, bore water, sediment basin water, etc.), transfer of waste and spoil, land clearing. ▪ Track key materials (e.g., concrete, reo-steel, steel, asphalt, road bases etc.). ▪ Be involved with initiatives committees and with spoil strategy and management. ▪ Incorporate sufficient storage areas and identify opportunities for materials reuse within reasonable transport distances.
Other key functional leads, including Stakeholder and Community	▪ Engage with the Sustainability Team to ensure sustainability requirements are integrated into the relevant Project plans/packages/specifications and are communicated to relevant parties. ▪ Integrate Sustainability Rating Scheme requirements into construction management processes and provide supporting evidence as required to support rating scheme certification.

Role	Responsibilities
Relations Manager, and Workforce Development Manager	▪ Ensure all subcontractors and suppliers achieve sustainability targets in the Delivery Phase and direct/oversee corrective actions where appropriate.
All staff	▪ Integrate consideration of environmental, social, and economic impacts into decision making. ▪ Generate and support the implementation of sustainability initiatives.

3.5 Competence, awareness, and training

To ensure the SMP is effectively implemented, CPBGG JV will undertake the following training and awareness measures:

- **Site induction –** All personnel, subcontractors, and visitors will undergo an induction before commencing work on-site. The induction will include Project-specific sustainability management measures, including sustainability objectives and targets and sustainability-based expectations of employees and subcontractors. Induction materials are reviewed at least annually and amended as needed to reflect changes to Project sustainability management.
- **Toolbox talks –** The Environment and Sustainability Team will coordinate toolbox talks and awareness sessions throughout Delivery 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.
- **Workshops –** Sustainability workshops with be held with Construction and Procurement Teams to ensure the Project Team understand their obligations and the Project's sustainability commitments. These workshops are invaluable in building team members' understanding of sustainability and identifying new sustainability opportunities.
- **Subcontractor training –** Subcontractor training will also be undertaken at contract commencement as part of Kick-off Meetings, with High Impact Suppliers participating in training (Subcontractor Forum) and knowledge sharing events to identify any emerging or new sustainability opportunities.
- **Sustainability Presentation –** The Environment and Sustainability Team will hold a sustainability presentation/forum with the CPBGG JV senior leadership team annually during construction to raise awareness of the Project's sustainability obligations, to report on progress against the sustainability targets, to share any lessons learnt (both positive and negative consequences), and to raise and discuss any aspects that may be an issue to the Project achieving sustainability objectives and targets. This presentation is to act as a forum where the Senior Leadership Team can review the progress and provide any feedback for improvement, satisfying aspects of the IS Rating Tool's Man-5 credit requirements.

3.6 Knowledge sharing

CPBGG JV recognise that knowledge sharing is crucial to ensuring organisational and industry-wide sustainability knowledge for a diverse range of sources is captured, shared, and built upon. This creates intellectual capital and facilitates a faster and more efficient cycle of new sustainability knowledge creation and innovation. CPBGG JV will undertake internal and external knowledge sharing, including sharing Project's key performances to date (where applicable), and both positive and negative lessons-learnt through the following potential avenues:

- Presenting sustainability sections in weekly toolbox talks when applicable.
- Sustainability aspects of site inductions for all personnel including the Project's subcontractors.
- Involvement in procurement processes for sustainability inputs (e.g., kick-off meetings, meetings with potential suppliers).
- Parent companies' knowledge sharing forums.

- Inter Project knowledge sharing forums (M12 Motorway – East, Central, and West).
- Development and publishing of knowledge sharing case studies or delivery of presentations to the wider industry/key stakeholders/client (TfNSW).
- Any other relevant forums, meetings, presentations, newsletters, and other forms of communication.

3.7 Risk and opportunity management

Sustainability risks and opportunities will be assessed and captured using the Project's risk management approach, as detailed in the Project WHS Management Plan. In terms of sustainability, risk and opportunity assessment will consider direct and (where possible) indirect risks and opportunities for the construction and operations of the Project, including consideration of:

- Governance risks and opportunities,
- Economic and financial risks and opportunities, and
- Environmental & Social risks and opportunities.

A multidisciplinary team including but not limited to the Sustainability team, the Environmental Manager, and the Construction Manager will participate in the risk and opportunity assessment processes. The identification of treatment and implementation options for sustainability risks and opportunities will be captured via risk and opportunity documents/processes, which may include:

- Principal Project Risk and/or Opportunity Register,
- Sustainability Innovation and Opportunity Register,
- Work Pack Risk Registers,
- Climate Change Risk Assessment, or
- Options Reports.

Actions to treat Sustainability related Risks and Opportunities will be identified and addressed where appropriate and consider the following:

- The sustainability risks and their treatment/s, and opportunities and their implementation option/s.
- The selected treatment and implementation options and the reasons for selecting the treatment and implementation option. For significant sustainability options, the options must consider the impacts, including but not limited to, social, environmental, and economic costs and benefits, program impacts.
- Resources required and & persons responsible for implementing treatment/implementation options.
- Timing and schedule.
- Reporting and monitoring requirements.

Risks will be documented in the Risk Register (as described in the Project WHS Management Plan). Review of the sustainability risk and opportunity assessment will be undertaken throughout the Project to ensure the identification, communication and monitoring of risks/opportunities and associated treatments are relevant.

3.8 Sustainability Meetings

The Sustainability Representative will participate in regular meetings with the:

- IS Project Manager (as per of the IS Rating Agreement),
- TfNSW Sustainability Representative,
- TfNSW Sustainability Forums,
- Environment Team,
- Construction Teams,
- Senior Leadership Team, and
- Procurement Team.

3.9 Sustainable procurement system and commitments

CPBGG JV will adopt sustainable procurement practices to drive value for money purchasing decisions which look beyond cost to prioritise reducing overall life cycle impacts from development, procurement, design, construction, operation, maintenance, refurbishments, and recycling of assets. The intent of CPBGG JV's practices will be supported by the CIMIC Sustainability Policy, CIMIC Procurement Policy and CPBGG JV's Project Procurement Plan which supports environmental and social consideration in procurement, supply chain collaboration and the concept of shared value.

CPBGG JV's practices are designed to support innovation and create a positive and lasting legacy with local industry and suppliers by encouraging them to generate value by improving their productivity from eco-efficiencies and product differentiation. This will in turn lead to a reduction in whole of life costs for the transport network. CPBGG JV will embed processes consistent with CPB's Procurement Procedures, Tools and Knowledge Resources which are in line with *ISO 20400:2017 – Sustainable procurement*. Integration of sustainability into procurement will be achieved as per the steps outlined in the below **Figure 3-3**.

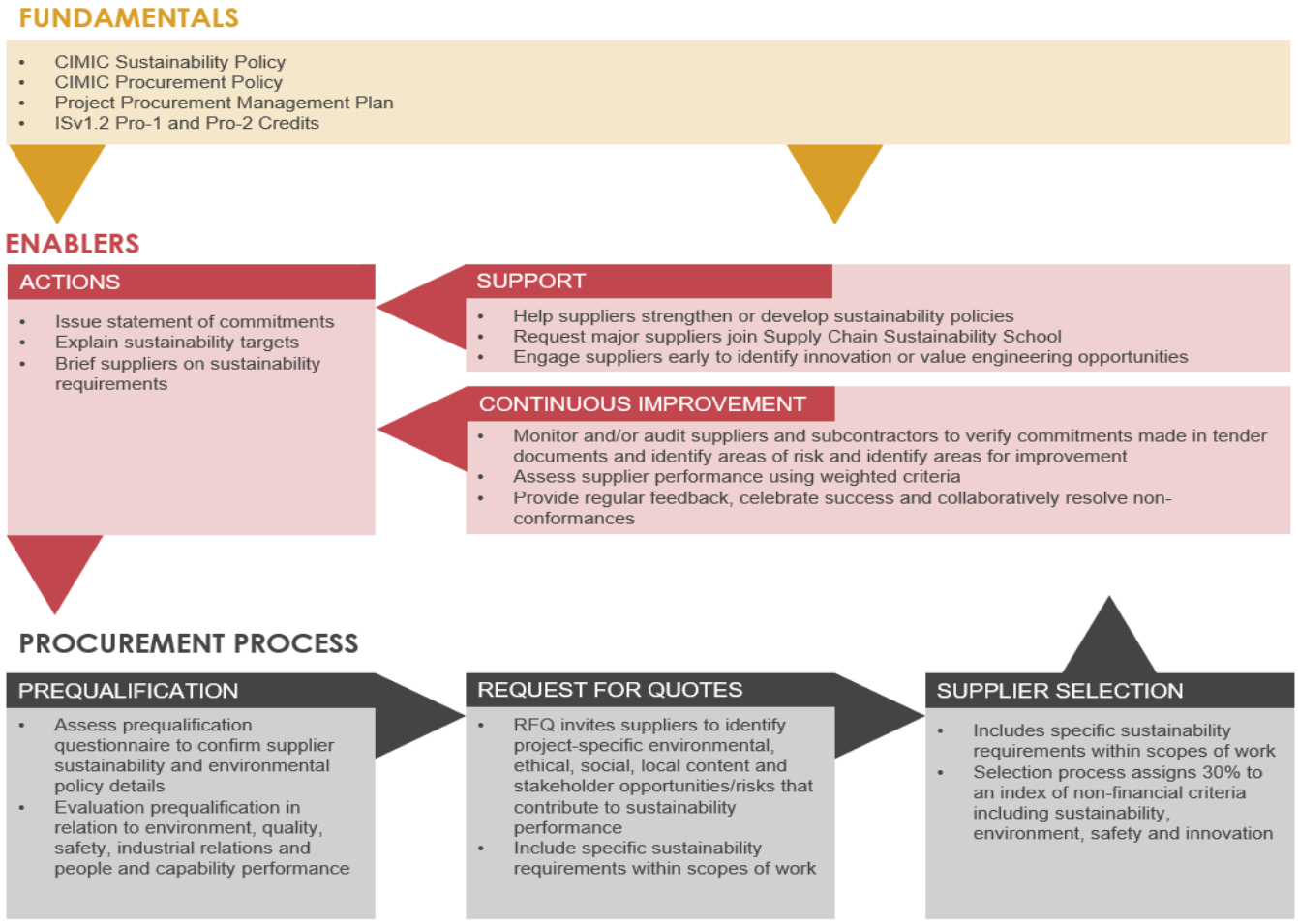


Figure 3-3 CBGGJV's sustainability drive procurement process

Sustainable Procurement Commitments

The following procurement commitments have been established to support sustainable procurement for integration into Project management systems:

- Aim to minimise the use of supplemented materials from overseas.
- Generate equitable opportunities that maximise the participation of local suppliers, the transfer of technology, and develop local and regional employment.
- Engage suitable local subcontractors and suppliers to carry out works as much as possible.

- Request potential suppliers to provide details of their Environmental Management System (EMS) certified by a recognized standard, environmental and/or sustainability policy and its implementation as part of the Project's tender questionnaire.
- Engage with potential suppliers to discuss opportunities to improve sustainability outcome.
- Engage with potential suppliers to discuss opportunities to stimulate sustainable innovation.
- Use of multi-criteria analysis (MCA) to take into account non-financial aspects including sustainability considerations (environmental, social, and/or economic) into supplier evaluation along with the financial aspect through use of qualitative criteria (an example guide to qualitative scoring for assessing high impact potential suppliers and use of the MCA is further detailed below).
- Incorporate sustainability criteria into Project contracts and tender evaluation criteria (specific to each package where suitable).
- Monitor sustainability performance of the Project's high impact suppliers against Project sustainability targets and manage suppliers/subcontractors in the event of a low performance.

The Sustainability team and the Procurement/Commercial Manager will work together to oversee actions that embed sustainability into the procurement process in line with the above sustainable procurement commitments.

A specific example of where these commitments are embedded into sustainability objectives and targets as presented within M12 West Quarterly Sustainability Reports. These reports provide status updates against Project sustainable procurement targets.

Example Guide to Qualitative Scoring for Assessing Potential Suppliers

All potential suppliers, especially those supplying materials with high impact, are encouraged to be carefully assessed against the below guide to scoring. Potential suppliers will be assessed against a range of non-financial sustainability criteria as listed below to ensure value for money and whole of life impacts.

Criteria	**Example of evidence**
Demonstration of supplier's approach to sustainability	▪ Sustainability Policy (or similar) ▪ Innovative or industry leading practices resulting from a sustainability policy (or similar)
Reporting of sustainability performance	▪ Demonstration of reporting in regards to sustainability rating tools such as ISC or GBCA
Training of employees in company sustainability systems	▪ Employee training records ▪ Company Registration with the Supply Chain Sustainability School (http://www.supplychainschool.org.au)
Ethical behaviour	▪ Ethical behaviour Policy (or similar) ▪ Health and Wellbeing Policy (or similar) ▪ Discrimination and Inclusion Policy (or similar)
Company supply chain management	▪ Organisation assessments of the sustainability credentials of a supply chain, e.g., Human Rights and Modern Slavery
Use of products with sustainability labels or stewardship certifications	▪ Good Environmental Choice Ecolabel ▪ Green Building Council of Australia BEP ▪ Ecospecifier Green Tag ▪ ISEAL Alliance Supply Chain Stewardship Certification ▪ Environmental Product Declarations

Whole of life benefits	▪ Improves operational energy or water use ▪ Improves durability ▪ Increases design life and/or climate change resilience
Energy use	▪ Renewable or green energy alternatives for use on the Project ▪ Energy efficient technologies or equipment
Water use	▪ Low or non-potable water use initiatives for use on the Project
Emissions reductions	▪ Fleet use of biodiesel ▪ Hybrid/electric vehicles/plant in fleet ▪ Fleet of Euro VI or higher vehicles
Embodied carbon reductions/ recycled material content (scope 3)	▪ Energy efficient production/manufacturing processes
Recycled material content	▪ Substitution of virgin materials with waste by-products, e.g., recycled plastics, glass, rubber, or manufactured sands
Reduced use of rare and non-renewable resources	▪ Avoidance of river sand ▪ Minimised use of rare earth materials
Reduced toxicity and bioaccumulation avoidance	▪ Non-halogenated cables, conduits, and solvents ▪ Not toxic glues and sealants ▪ Cadmium-free iron coatings ▪ No BPA in plastics and coatings ▪ Avoids PVC ▪ Avoids brominated flame retardants, including insulation, foams, and garments
Waste avoidance	▪ Avoids packaging or excessive use of packaging ▪ Take-back arrangements available for packaging or surplus materials
Local procurement	▪ One-way distances ▪ Delivery drivers/workers will need to travel from a facility/office to the Project site in km. o >100km = Score 0 o 30-100km = Score 1 o <30km = Score 2

This guide to qualitative scoring is an example. The Sustainability Representative and/or the Procurement Manager may use other methods to evaluate potential suppliers.

Multi-Criteria Analysis (MCA)

The assessed score following the above qualitative scoring guide is then to be recorded under the Procurement Manager's 'Financial and Non-Financial Comparison Table' digital spreadsheet to ensure that the Procurement and the Commercial Managers are aware of the supplier's score. The comparison table spreadsheet is the Procurement system's MCA which is used to compare a number of potential suppliers by using allocating weightings on both financial and non-financial criteria, with the latter having weighting of at least 30%. Scores under each criterion are factored by its respective weightings to calculate the final rating for the subcontractor.

4 Implementation of sustainability initiatives

The Design phase of the Project established a strong position in driving sustainable outcomes for the Project by incorporating a myriad of sustainable initiatives, supported by its sustainability management system, embedded in the Design phase Sustainability Management Plan and its Policy. CPBGG JV has committed to ensuring the design commitments are best actioned in the construction phase through implementation of the sustainability management system along with endeavouring to achieve the Project sustainability objectives and targets. This section discusses sustainability initiatives that CPBGG JV has committed to ensuring the objectives and targets are appropriately achieved throughout construction in order to deliver the sustainable outcomes of the Project.

4.1 Climate Change

CPBGG JV aims to build climate change resilience into the construction and operational phases of the M12 West Motorway by assessing the key risks relating to climate change and natural hazards and prioritising adaptation measures.

Proposed Credit Levels

- IS credit Cli-1 Level 2 Climate change risk assessment
- IS credit Cli-2 Level 2 Adaptation options

In ensuring climate change risks to the Project are identified, prioritised, and managed, CPBGG JV has:

- Reviewed the preexisting Climate Change Risk Assessment (CCRA) undertaken during detailed design.
- Undertaken a CCRA workshop with a multi-disciplinary team and the Principal.

Following on from this, CPBGG JV will also continue to:

- Ensure climate change risk adaptation measures are implemented as per design.
- Update the CCRA where necessary in accordance with AS 5334-2013 (*Climate change adaptation for settlements and infrastructure – A risk based approach*) and TfNSW Climate Risk Assessment Guideline SD-081. Any deviations in the design that may affect a climate change adaptation measure will be captured and reported on the construction phase version of the CCRA.
- Review and address construction stage climate change risks identified during design and incorporate any new risks or necessary changes into the CCRA.
- Identify and implement adaptation measures to comprehensively address, as a minimum, ‘extreme’ and ‘high’ and 25-50% of all ‘medium’ rated risks identified in the climate change risk assessment.

Design-Phase Assessment

The initial CCRA workshop for the Project was held by WSP during design phase which identified, analysed, and evaluated the climate change related risks. The workshop also identified adaptation measures against the risks which were agreed and integrated into designs. A revised risk rating was undertaken using the same guidance materials as the initial risk assessment.

The CCRA workshop led to development of a climate change risk register summarises the findings. A total of 37 risks were identified with no ‘very high’ risks identified, two ‘high’, and twenty-one ‘medium’ risks. After the implementation of adaptation measures the number of high risks was reduced from two to zero, and medium risks reduced from 21 to 11. This demonstrates that no residual high risks remain, and adaptation measures were implemented to reduce 57% of the medium risks.

RISK RATING	VERY HIGH	HIGH	MEDIUM	LOW	TOTAL
Number of Initial Risks	0	2	21	14	37
Number of Reassessed Risks	0	0	11	26	37

In summary, the followings are the key adaptation measures identified for medium and high risks:

- Variable messaging signs (VMS) implemented in design to improve reduced visibility of the road signs/signals and other vehicles from heavy smoke due to increased frequency and severity of bushfires in the surrounding area.
- Increased training and education for operators regarding health and safety procedures during periods of extreme heat (days exceeding 35˚C)
- M12 West carriageway designed to achieve flood immunity even in the worst-case scenarios, confirmed through sensitivity testing. VMS is to display message warning drivers of changes in weather and traffic conditions if overtopping was to occur.
- Selection of locally native plants that are well adapted to the site's climate conditions and its weather extremes in response to increased frequency and severity of bushfires.
- Fauna passage to be maintained under bridge structures with fencing to channel biodiversity into the corridors – these are to encourage fauna movement in a safe passage in the event of bushfires.
- ITS equipment to be placed outside of floodways where the extent of the floodway has accounted for increased rainfall intensity – otherwise, the equipment will be pole mounted.
- Pavement surfaces to be Continuously Reinforced Concrete Pavement (CRCP) with diamond cut finish instead of layer of asphalt as proposed early in concept design – absence of asphalt will allow less heat absorption and hence reduced heat island effect.
- Vegetated drainage channels, increased tree canopy cover (TBC), and increased shading along cycleway and at rest stops to be provided to reduce heat island effect.
- Adaptive management approach (TfNSW Work Health and Safety Procedures) in construction to be applied for improved workplace health and safety, especially in the events of extreme temperatures and severe bushfires.
- Location of temporary construction ancillary facilities to be selected considering the risk of flood from severe storm events.

Construction-Phase Assessment

A construction-phase Climate Change Risk Assessment Review workshop was conducted with a multi-disciplinary team of CPBGG JV and TfNSW representatives on 25th November 2022. The intention of this workshop was to review the construction-stage risks identified in the climate change risk assessment from 100% detailed design.

The IPCC Sixth Assessment Report (AR6) was due to be released in August 2021 and the IPCC Synthesis Report was due to be released in 2022. The CCRA was planned to be reviewed against this new climate change data upon release of these reports to identify any new climate change risks and determine additional adaptation measures to be implemented for design, construction, and operations. However, as these reports had not been released at the time of the CCRA Review workshop, the risk assessment was instead reviewed against Climate Change 2022: Impacts, Adaptation and Vulnerability (IPCC, 2022).

Following the risk review workshop on 25th November 2022, the climate change risk assessment was updated as follows:

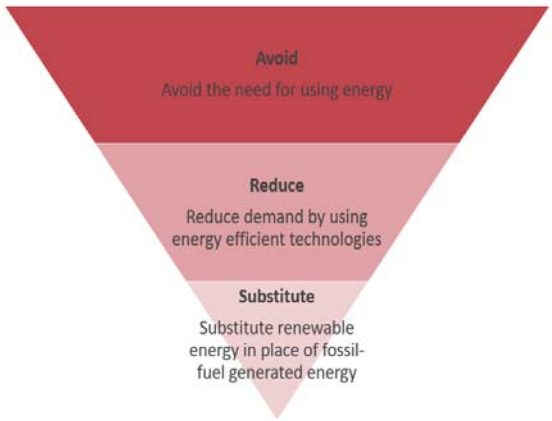
- The risk matrix used was changed to match that of the rest of the CPBGG JV's management system (CEMP, section 3.2.1.2). All likelihood and consequence scores were adjusted accordingly.
- The residual consequence score for item 2-IR (construction phase extreme rainfall) was reduced by one point, reducing the risk rating score from 11 (Moderate) to 6 (Low).
- The residual consequence score for item 3-BF (construction phase bushfire risk) was reduced by one point, reducing the risk rating score from 14 (High) to 11 (Moderate).
- Evidence of adaptations were incorporated for all construction-phase risks.

Risk Rating	Extreme	Very High	High	Moderate	Low	TOTAL
No. Initial Risks	0	1	14	9	13	37
No. Reassessed Risks	0	0	9	7	21	37
			6 High Risks mitigated	6 Moderate Risks mitigated	2 High Risks reassessed as Low	
			1 V.High Risk reassessed as High	4 High Risks reassessed as Moderate	6 Moderate Risks reassessed as Low	

These risks will continue to be reassessed as needed by CPBGG JV throughout construction.

4.2 Energy and Carbon Management

CPBGG JV 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. CPBGG JV's 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.



CPBGG JV will implement the energy management hierarchy detailed in the Roads and Maritime Environmental Sustainability Strategy 2019-2023.

While offsets are not illustrated, offsets are considered to sit above conventional energy and below low carbon energy. Where offsets are used, preference is given to offsets sourced from renewable energy (to comply with IS rating scheme requirements for the Ene-2 credit).

Proposed Credit Levels

- IS credit Ene-1 Level 1.67 Energy and carbon monitoring and reduction - at least 10% reduction of GHG emissions compared to a BAU footprint assessed over infrastructure lifespan (100 years)
- IS credit Ene-2 Level 1 Use of renewable energy - at least 5% substitution of energy with renewable sources assessed over infrastructure lifespan (100 years)

As required under **Table 2 of the Specification G1/Annexure L**, the Project is required to:

- Source 20% of construction stage electricity from renewable sources (either generated onsite and/or accredited GreenPower)

Proposed Credit Levels

- Offset 6% of construction stage energy use (in accordance with the Australian Government National Carbon Offset Standard)
- Reduce construction energy efficiency by 10% compared to business-as-usual baseline

In ensuring the energy related targets for the Project are prioritised and managed, CPBGG JV will:

- Undertake monitoring and modelling of energy use and GHG emissions, and actions taken to reduce them, covering at least Scope 1, Scope 2, and Scope 3 across the infrastructure lifecycle. CPBGG JV will utilise the existing energy modelling developed by WSP during detailed design (and update the model where necessary) which was also used for IS Design review submission to understand the modelled value of GreenPower and Carbon Offset required to satisfy the above targets.
- Monito energy consumption during construction to calculate energy use and subsequent greenhouse gas (GHG) emissions. This will allow the Project to observe and compare its actual energy consumption and monitor progress against the targets. In the event that the up-to-date construction related emissions are increasing at an unusually accelerated rate or nearing the modelled quantum of emissions, the Sustainability Representative will investigate opportunities to minimise emissions and coordinate with the construction team for implementation.
- Fully investigate and assess at least 3 renewable energy options.
- Demonstrate a reduction in GHG emissions compared to a base case footprint.

To ensure the M12 West Motorway is delivered with minimum energy consumption, potential construction related sources of energy (fuel and power) are identified as below:

- Procurement and delivery of materials to site.
- Vegetation removal.
- Site establishment, including compound and ancillary facility set up.
- Operation of concrete batching plant.
- Relocation and protection of services.
- Earthworks including earth and rock cuttings and retaining walls.
- Removal, relocation and compaction of excavated material in fill embankments.
- Construction of pavements and culverts.
- Demolition of structures and pavements.
- Operation of site compounds, ancillary facilities, and lighting.
- Construction plant including cranes, rollers, excavators, bulldozers, graders, and water trucks.
- Removal of waste from site.

Table 4-1 below outlines potential construction energy-reducing actions that can be considered for implementation.

Table 4-1 Potential construction energy reduction initiatives for consideration

ID	Action	Responsibility
EN1	Minimisation of the absolute quantities of steel and concrete used on the Project through design refinements and optimisation.	Design Manager
EN2	Training and raised awareness regarding the need to turn off equipment when not in use and to generally reduce idling throughout construction.	Site Supervisors
EN3	Review and optimisation of site processes to reduce fuel consumption in construction activities, including minimisation of vehicle movements from cut areas to fill areas,	Construction Manager / Site Supervisors

ID	Action	Responsibility
	batch plant operation, stockpiling of materials (e.g., imported materials, topsoil, mulch) close to where they will be used.	
EN4	Investigations into the feasibility of using biofuels (biodiesel, ethanol, or blends such as E10 or B80) and hybrid excavators, taking into consideration the capacity of plant and equipment to use these fuels, ongoing maintenance issues and local sources.	Construction Manager / Site Supervisors
EN5	Energy efficient work practices will be implemented, including the consideration of: ▪ Energy efficient site office. ▪ Assessment of energy (fuel/electricity) efficiency when selecting equipment. ▪ Regular servicing of site plant and equipment. ▪ Training of personnel in energy efficient best practices. ▪ Use of locally sourced material where available and of suitable quality.	Construction Manager / Site Supervisors
EN6	All subcontractors will be required to report fuel usage as per the CPB Contractors Subcontractor Fuel Reporting Form.	Subcontractors
EN7	Recruitment of contractors and staff who live close to the site subject to suitability and availability.	Human Resources / Procurement Manager
EN8	Identification of local waste facilities and construction material suppliers.	Procurement Manager
EN9	Planning of construction works to ensure minimum numbers of trips to remove vegetation/spoil from site are conducted.	Construction Manager / Site Supervisors
EN10	Carpooling for offsite meetings and commuting.	Individuals
EN11	Identification and maximisation of efficiencies in construction equipment.	Procurement Manager
EN12	Purchase of a fuel-efficient fleet for light vehicles.	Procurement Manager
EN13	Use of LED and low energy equipment for signals and signage.	Procurement Manager
EN14	High performance thermal insulation installation in all walls, glazing, ceilings and floors to optimise thermal performance (refer ISC IS rating scheme ‘Sustainable Site Facilities’ Innovation Challenge)	Site Facilities Supplier
EN15	Enabling of air conditioning temperature set points to ‘float’ up with ambient temperatures, i.e., not remain at 21C but turn up to 23-26C depending on outside temperatures.	Site Supervisor
EN16	Automatic shutdown of air conditioning units at the end of each day.	Site Facilities Supplier
EN17	All computers to establish automatic power-down settings.	Site Supervisor / Individuals
EN18	Installation of high efficiency appliances, e.g., fridges, AC units and printers.	Site Facilities Supplier
EN19	Reducing printer energy consumption through avoidance of printing where possible, use of double-sided printing if printing is required, and online reporting/working where practical.	Site Supervisor / Individuals
EN20	Coverage of energy efficiency protocols in site induction, and strategically located signage to reinforce point-of-use actions.	Site Supervisor
EN21	Temporary (i.e., reusable) on-site solar PV power generation sized to feed site office loads during peak times, i.e., no export.	Site Facilities Supplier
EN22	Solar and battery powered light towers and/or signage.	Construction Manager
EN23	Motion activated site office lighting.	Site Facilities Supervisor

During the design phase of the Project, WSP conducted an opportunities assessment investigating into the Renewable Energy opportunities that the Project can implement throughout the construction and operational phases of the Project with the goal of significantly reducing the GHG emissions footprint whilst also delivering environmental, economic, and social outcomes and benefits. Due to the nature of the Project and the 100-year asset lifecycle, operational renewable energy associating with lighting and intelligent transport systems (ITS) can provide opportunities for significant energy savings over the life of the project.

CPBGG JV will consider implementation of the outcomes of the assessment for renewable energy opportunities for options considered feasible for the construction and operational phases of the Project. These opportunities are listed below in **Table 4-2**.

Table 4-2 Recommended Renewable Energy Options for consideration

Opportunities	Construction	Operation
Bio-Fuel for construction plant and equipment	Yes	Yes
Biodiesel generators	Yes	No
On-Site Solar Energy for Site Offices	Yes	N/A
On-site Solar Energy for Solar Lighting Towers	Yes	N/A
Offsetting through renewable energy projects	Yes	Yes
GreenPower®	Yes	Yes
Solar street lighting, shared user path and service roads	NA	Yes
Solar ITS	NA	Yes

4.3 Materials

To ensure the most material and cost-effective mitigation of supply chain and embodied impacts of materials, CPBGG JV's approach is to apply the below preferential hierarchy to the investigation and selection of initiatives:

1. Avoidance and reduction of the use of materials where practicable.
2. Improve durability, maintainability, and adaptability.
3. Utilise reused and recycled materials where feasible, substituting for low impact materials.
4. Using "Carbon Neutral Products" where feasible.

This approach helpd drive 'best for project' outcomes by focusing on cost effective methods to reduce material impacts. Avoidance/reduction of materials is prioritised as these will deliver capital cost savings, as well as reduced maintenance and replacement costs during operation. To achieve this, optimisation and value engineering in design looks to the amount of material procured. Design for durability, maintainability and adaptability is undertaken to deliver whole of life cost outcome during operation.

CPBGG JV's ability to introduce innovative processes to the procurement process that further improve on the targets and assist in efficient management of resource intensity are included in evaluation criteria, alongside other key factors such as quality, reliability and price.

Proposed Credit Levels

- IS credit Mat-1 Level 1.67 Materials footprint measurement and reduction – at least 10% reduction of materials' life cycle impacts compared to a Base Case footprint.
- IS credit Mat-2 Level 1 Environmentally labelled products and supply chains – at least one product to have an ISC approved environmental label.

As required under **Table 2 of the Specification G1/Annexure L**, the Project is required to achieve:

- Minimum glass content in asphalt as per details in Table 2 of Specification G1/Annexure L.
- Percentage of SCM used in concrete to comply as per B080 or QS spec 3211 (Annexure 3211/A of TfNSW 3211)
- At least 40% of recycled material used in granular base and sub-base
- 100% of timber sourced from either reused/recycled timber or has Forest Management Certification (FMC)

In ensuring the energy related targets for the Project are prioritised and managed, CPBGG JV will:

- Undertake the Life-cycle assessment (LCA) – This was undertaken through the design phase to understand the Project's environmental 'hotspots' and investigate opportunities to reduce embodied carbon impacts and assist in the selection of the most appropriate low-impact materials. Areas of opportunities are discussed more below.
- Monitor and track the construction emissions footprint by collecting construction materials data from appropriate sources identified under **Section 6.1**.
- Update the ISC Materials Calculator with actual materials and products used for the IS As Built submission.

Key materials required for the M12 West Motorway Project are identified below:

- Fill for earthworks (general and select).
- Sand and soils for landscaping.
- Geotextile materials.
- Pavement materials including road base and sub-base.
- Materials for lining drainage channels.
- Aggregate for concrete, asphalt, and bitumen.
- Cement and concrete, and pre-cast concrete (including pipes, culverts, barriers).
- Steel.
- Wood for use in formwork and other temporary structures.
- Water for dust suppression, compaction of excavated fill material, gravel pavements, road sweepers, office amenities and landscaping.
- Mechanical and electrical equipment for Variable Message Signs.
- A mobile mixed wet batch plant to supply the concrete pavers and hand-pour teams when constructing LMC subbase.
- Multi-lane paving machines for concrete placement.

Table 4-3 below outlines potential construction emissions footprint reducing actions that are considered for implementation.

Table 4-3 Potential construction emissions footprint reduction initiatives for consideration

ID	Action	Responsibility
MT1	Minimisation of the absolute quantities of steel and concrete used on the Project through design refinements and optimisation.	Design Manager
MT2	Investigation of alternate pavement designs including higher percentages of recycled materials (e.g., RAP or rubber crumb) for both permanent and temporary roadways, and reduced excavation though in-situ stabilisation (e.g., lime modification).	Design Manager
MT3	Separation and reuse of existing pavement layers, i.e., asphaltic concrete, base course, and subbase during removal to allow for incorporation into construction of road embankments, subject to suitability assessment through classification under the NSW EPA Waste Classification Guidelines.	Construction Manager
MT4	Maximisation of the reuse of asphaltic concrete through ripping or milling with a profiler and transportation to a nearby asphalt plant for reprocessing as RAP.	Construction Manager
MT5	Maximisation of reusing general fill for the subgrade for site-won materials such as cut material, excavation spoil, demolished pavement, asphalt millings, and demolished pavement material.	Construction Manager

ID	Action	Responsibility
MT6	Early establishment of burial pits for encapsulation of encountered ACM at Transport for NSW nominated locations to avoid stockpiling and double handling, subject to compliance with TFNSW R44 specification and inspection and testing requirements.	Construction Manager
MT7	Development of low cost and efficient retaining walls through options such as revetment walls, soil nail walls, and reinforced soil structures in lieu of bored pile retaining walls where feasible.	Design Manager
MT8	Maximisation and taking advantage of the use of sealed surfaces behind retaining walls to allow adoption of higher soil strengths and stiffness, optimising design and reducing material importation costs.	Design Manager
MT9	Meeting or exceeding the B080 or QS spec 3211 percentage of supplementary cementitious material (SCM; measured by mass) used in concrete.	Procurement Manager
MT10	Sourcing of concrete from suppliers with a currently valid and certified ISO 14001 Environmental Management System (EMS) in place.	Procurement Manager
MT11	Meeting or exceeding the use of 40% recycled material in granular base and sub-base (as per QA Spec 3051).	Procurement Manager
MT12	Sourcing steel from suppliers certified under the Australian Certification Authority for Reinforcing Steels.	Procurement Manager
MT13	Sourcing steel from suppliers with a currently valid and certified ISO 14001 Environmental Management System (EMS) in place.	Procurement Manager
MT14	Sourcing steel products with a valid Environmental Product Declaration (EPD), where feasible.	Procurement Manager
MT15	Reducing steel reinforcement quantities through use of steel fibre reinforcement or plastic fibre reinforcement (e.g., in shotcrete), while still meeting other Design requirements.	Procurement Manager
MT16	Use of recycled or reused steel where possible. Sourcing reinforcing steel (rebar and mesh) from suppliers who use electric arc furnaces which adopt energy-reducing processes such as Polymer Injection Technology (PIT) to reduce the embodied energy per unit. Suppliers will need to be members of the World Steel Association (WSA) Climate Assessment Program (CAP).	Procurement Manager
MT17	Implementation of the Forest Certification Scheme (FSC) procurement policy. Sourcing timber from FSC sources certified suppliers. Where it can be shown that it is impractical to source timber using the FSC scheme, timber can be sourced from Forestry Corporation NSW managed schemes which can provide Chain of Custody using PEFC certification.	Procurement Manager
MT18	Reuse of formwork. If materials used on site can be reused without diminished performance or easily repurposed without the need for off-site treatment or processing, they should be used as a preference.	Construction Manager
MT19	Sourcing of products from suppliers close to the site to reduce travel distances	Procurement Manager
MT20	Optimisation of orders to minimise the production of waste on site	Procurement / Contract Manager

4.4 Waste Management

Waste management is an important aspect of sustainability on the M12 West Motorway Project. The Waste and Resources Management Sub-plan to the CEMP details CPBGG JV's management practices in relation to waste. A focus will be on minimising waste excavated and maximising recycling and reuse potential.

Proposed Credit Levels

- IS credit Was-1 Level 1 Waste management
- IS credit Was-2 Level 2 Diversion from landfill

Proposed Credit Levels

- IS credit Lan-2 Level 1 Conservation of onsite resource

As required under **Table 2 of the Specification G1/Annexure L**, the Project is required to achieve:

- At least 95% of usable spoil reused/recycled (uncontaminated surplus excavated material, not including VENM)
- 100% of VENM reused/recycled
- At least 80% of construction and demolition waste reused/recycled
- 100% recovery of clean concrete for beneficial reuse
- 100% reclamation of clean asphalt pavement
- At least 40% of office waste diverted from landfill
- 100% office paper used on the site to be high recycled content paper (50% or more recycled content)
- 0% single use and/or non-recyclable kitchen items supplied to on-site facilities

Potential waste streams from construction activities involved with the M12 West Motorway Project are identified under the below **Table 4-4**.

Table 4-4 Potential waste streams produced from construction activities

Construction Activities	Potential waste streams produced
Early works (including site establishment activities, installation of office accommodation, utilities, and other facilities, and minor earthworks).	Surplus construction material including fencing, geofabrics sediment, concrete, steel, timber, and sandbags. Excavated materials including spoil.
Earthworks, drainage works and creek adjustment (including topsoil stripping, cut and fill preparation, and vegetation clearance).	Vegetation waste from the removal of trees, shrubs, and ground cover. Excavated spoil unsuitable for reuse (including contaminated spoil).
Demolition of existing structures on acquired/ leased land and farm structures.	Demolition materials including concrete, bricks, road base, tiles, timber (untreated and treated), metals, plasterboard, carpets, electrical and plumbing fittings and furnishing (doors, windows). May also include tyres, asbestos, and lead paint.
Construction of pavements and bridges, retaining structures, including finishing works (e.g., line marking, installation of roadside furniture, landscaping and demobilisation and rehabilitation of construction facilities and disturbed areas).	General construction waste including timber formwork, scrap metal, steel, concrete, plasterboards, and packaging material (crates, pallets, cartons, plastics, and wrapping material). Surplus construction material including fencing, sediment, gravel/crushed rock, asphalt, concrete, steel, aggregate, formwork, asphalt, landscaping material, and sandbags.
Temporary works including the construction of work platforms, hardstand areas, and sediment basins.	General construction waste including timber formwork, scrap metal, steel, concrete, plasterboards, and packaging material (crates, pallets, cartons, plastics, and wrapping material). Sediment and sludge within sediment basins.
Activities at site offices.	General waste from site office including putrescibles, paper, cardboard, e-waste, glass, site litter, cigarette butts, printer cartridges, and sewage waste.
Operation of plant and equipment.	Waste from operation and maintenance of construction vehicles and machinery including adhesives, lubricants, waste fuels, cleaning products and chemicals, and oils, engine coolant, batteries, and tyres. Clean up of waste in the event of an accidental spill of fuel or chemicals.

Initiatives to manage the potential waste streams may include the below. More details are in the Construction Waste and Resources Management Plan (sub-plan of the CEMP).

- Mapping of waste management facilities in the vicinity of the Project for early engagement and provision of appropriate waste stream skip bins on site.
- Coordination with the Project waste subcontractor/s to ensure data is aptly and promptly captured at appropriate intervals. Waste data should be monitored in a centralised data dashboard, including quantities of each waste type, allowing monitoring and reporting of the Project's performance against the targets.
- Investigation of best practice approach to utilise existing assets where feasible and practicable, including removal of unnecessary work activities and option-engineering.
- Where practicable, using post-consumer, post-industrial recycled material or waste materials, including crushed glass, recycled aggregate, crumbed rubber and recycled materials for noise attenuation devices.
- Negotiation and implementation of packaging take-back arrangements with suppliers where applicable.
- Stockpiling management in accordance with Specification TfNSW G38.
- Recycled hardstand material use for temporary works, if possible, and existing hardstand areas should be maintained for use.
- Useable spoil reuse opportunities should be sought and maximised, targeting 95% reuse of reusable spoil generated during delivery of the Works. This may involve seeking Resource Recovery Exemptions.
- 100% of Virgin Excavated Natural Material (VENM) should be reused or recycled through practices consistent with the Protection of the Environment Operations Act 1997 & Protection of the Environment Operations Waste) Regulation 2014.1.
- Use of compostable or reusable temporary erosion control devices where practicable.
- Compostable or reusable kitchen items should be selected where possible to prevent the use of single use and/or non-recyclable kitchen items at on-site facilities.
- Identification of opportunities for circular economy waste initiatives through the recycling of existing road and associated infrastructure components and by-products of temporary construction works to generate usable products in the temporary works or final asset.

4.5 Water Efficiency

CPBGG JV is committed to maximising efficiencies to reduce the Project's water consumption footprint through the delivery of the M12 West Motorway Project.

Proposed Credit Levels

- IS credit Wat-1 Level 1 Water use monitoring and reduction
- IS credit Wat-2 Level 2.4 Replace potable water: 80%

As required under **Table 2 of the Specification G1/Annexure L**, the Project is required to achieve:

- 33% of water demand is to be sourced from non-potable water sources during construction
- 5% of water (rainwater, stormwater, wastewater, groundwater, generated/collected during construction which is reused, recycled or reclaimed

Construction activities that require the use of water (both non-potable and potable) include:

- Dust suppression.
- Compaction of excavated fill material.
- In-situ cement mixes.
- Pavement works.

- Road finishing works.
- Landscaping.
- Use of office amenities.

In ensuring the water efficiency targets for the Project are prioritised and managed, CPBGG JV will:

- Utilise the water use modelling/water balance calculator – this was completed for the Project during the design phase, including consideration of potable and non-potable water sources, and quantification of water consumption for key end use construction activities.
- Monitor and track the Project water consumption footprint (both potable and non-potable), as well as quantities of water reused/treated/harvested by collecting relevant data from appropriate sources identified under **Section 6.1**. Collected data is to be used to update the water balance assessment to calculate the water use reduction compared to BAU and the quantity of potable water replaced.
- Consider and implement potential water use reduction initiatives and potable-to-non-potable water replacement opportunities as per **Table 4-5** below.
- Implement water reuse strategies under the Construction Soil and Water Management Plan (sub-plan of the CEMP).
- Apply for a bore water license if applicable.

Table 4-5 below outlines potential water-reducing initiatives that will be considered for implementation on the Project.

Table 4-5 Potential construction water reduction initiatives for consideration

ID	Action	Responsibility
WA1	Minimisation of construction activities that require the extensive use of water on site, such as dust suppression and compaction of fill.	Construction Manager / Site Supervisors
WA2	Investigations into suitable dust suppressants to reduce water demand, such as Vital Bon-Matt HR (polymer) or similar biodegradable products.	Construction Manager / Site Supervisors
WA3	Scheduling of water-consuming activities such as dust suppression during cooler periods of the day to avoid evaporation.	Construction Manager / Site Supervisors
WA4	Investigating water recycling opportunities associated with the batch plant.	Construction Manager / Site Supervisors
WA5	Training and awareness to turn off equipment and reduce wastage during construction.	Site Supervisors
WA6	Investigating rainwater and/or stormwater reuse to provide passive irrigation to tree plots and vegetated areas.	Construction Manager / Site Supervisors
WA7	Capturing of rainwater and stormwater in strategic locations for reuse.	Construction Manager / Site Supervisors
WA8	Capturing useable waste water from on-site activities/processes that use non-potable water for reuse.	Construction Manager / Site Supervisors
WA9	Identification of local groundwater sources for use on site.	Construction Manager / Site Supervisors
WA10	Using only non-potable water sourced from non-potable sources (rainwater, sediment basin, bore water, etc.) for wheel wash, toilet flushing, dust suppression, compaction (if possible).	Construction Manager / Site Supervisors
WA11	Installation of water efficient taps within site facilities (auto-off function) with minimum WELS rating of 5 Stars.	Site Facilities Supplier
WA12	Installation of water efficient urinals within site facilities with minimum WELS rating of 5 Stars.	Site Facilities Supplier

ID	Action	Responsibility
WA13	Installation of water efficient WCs within site facilities with minimum WELS rating of 5 Stars.	Site Facilities Supplier
WA14	Installation of water efficient showers within site facilities with minimum WELS rating of 3 Stars.	Site Facilities Supplier
WA15	Site induction to cover water efficiency protocols, and strategically located signage to reinforce point-of-use actions.	Site Supervisor

4.6 Construction Environmental Management

By designing, constructing, and operating the M12 Motorway West to avoid impacts such as light spill, dust and odour, noise and vibration, water pollution and soil contamination, the Project drives a 'good neighbour' culture across this joint venture and local workforce, informing and consulting the local community and planning activities in a way that avoids prolonged, nuisance, and cumulative impacts.

The environmental impact targets for all project activities as relevant to air, water and land discharges are primarily addressed through relevant environmental legislation; ISO standards; government guidelines; licence and approval; and strategies. This includes, for example the POEO Act, CLM Act, TfNSW Noise Strategy, Blue Book, EPL requirements, and EPA Waste Classification Guidelines.

Specific environmental impact targets relevant to the Project's construction have been developed as part of the Construction Environment Management Plan (CEMP) and sub-plans and are managed and monitored through the plan's requirements. The CEMP and sub-plans cover sustainability aspects such as:

- Pollution control including discharges to air, land, and water.
- Land use considerations, including conservation, remediation, and flood design.
- Ecological value, habitat connectivity, and biodiversity enhancement.

Proposed Credit Levels

- IS credit Dis-1 Level 1 Receiving Water Quality
- IS credit Dis-2 Level 1 Noise
- IS credit Dis-3 Level 2 Vibration
- IS credit Dis-4 Level 1 Air Quality
- IS credit Dis-5 Level 1 Light Pollution
- IS credit Lan-3 Level 1 Contamination and remediation
- IS credit Eco-1 Level 1 Ecological Value
- IS credit Eco-2 Level 1 Habitat Connectivity

The environment and sustainability teams worked closely throughout the design process, given the overlap between the two functions, to ensure the Project appropriately manages and monitors its environmentally based sustainability targets during the construction phase of the Project. The Sustainability Representative is to collaborate with the Environment and Construction Teams to:

- Incorporate sustainability requirements into site construction plans, such as Site Environment Plans, Construction Area Plans, and Work Packs.
- Ensure the induction and training program includes the project's sustainability requirements and expectations for workers.
- Ensure weekly environment and sustainability inspections are conducted throughout construction to monitor suppliers, subcontractors, and workforce activities, covering areas such as pollution mitigation,

waste management and minimisation, water use minimisation and reuse, traffic and access management, site signage and messaging, and effects on local businesses.

- Provide training on data collection and document management, emphasising the need to identify documents required for ISC evidence and how to store them.
- Manage and collect evidence documentation for the IS submission and other reporting obligations, such as the National Greenhouse and Energy Reporting scheme (NGERS).
- Drive a project culture that supports sustainability initiatives and achievement of targets.
- Identify opportunities to incorporate a sustainability across disciplines that helps to reduce emissions, materials use, energy, and water consumption, and supports a more sustainable supply chain.
- Track and monitor achievement of sustainability targets.
- Communicate data on sustainability performance across the project (e.g., posters, emails) to reinforce, focus and celebrate achievements.

4.7 Community Health, Wellbeing and Safety

The Project is committed to identifying and implementing initiatives to address priority issues that concern the local community.

Proposed Credit Levels

- IS credit Hea-1 Level 1 Community health and well-being
- IS credit Hea-2 Level 2 Crime Prevention

Community health and well-being

TfNSW undertook early community consultation for the M12 Motorway Preliminary Design and Access Strategy, with the strategy on public display from 22 February to 23 March 2018. This consultation provided an opportunity for the local community to provide any feedback and highlight concerns with the proposed design. Some of the key community health and wellbeing issues raised by the community during early consultation included cycleway connections (active transport) and the local environment, including heritage, flora and fauna, and visual amenity.

In addition, during the EIS consultation phase, which was issued for public release and exhibition October-November 2019, design aspects of the proposed shared user path, local heritage (both Aboriginal and non-Aboriginal), the environment including impacts to flora, fauna and vegetation removal, visual amenity and local employment were raised as concerns by the local community and other key stakeholders including Government agencies and local businesses.

In alignment with these outcomes, some of the key themes and objectives highlighted within the *Western City District Plan* is to create active transport connections and link local walking and cycling paths, protect and enhance scenic and cultural landscapes, foster healthy, creative, and culturally rich and socially connected communities, and increase urban canopy tree cover and connection to the Greater Sydney Green Grid.

Following review of the key issues raised by the local community during early consultation and the EIS Submissions Report process, and local Government Community Plans, the following community priority issues have been identified for the M12 Motorway West Project. Measures to address each priority issue have been implemented in the design as summarised in **Table 4-6** below.

Table 4-6 Priority issues, implementation measures and performance indicators summary

Priority Issues	Implementation Measure Summary	Performance Indicators & Monitoring
Active transport and community connectedness	Provision of a 3m wide off-road shared user path (facilities for both pedestrians and cyclists). Connects	TfNSW to undertake monitoring of the shared user path users and conduct surveys (via phone, in-person, and social media) and community

Priority Issues	Implementation Measure Summary	Performance Indicators & Monitoring
	into the regional active transport network for improved connectivity.	feedback forums to ascertain whether there has been an increased uptake for leisure and exercise and overall increased user experience.
Visual Amenity & Local Interpretation	An Aboriginal consultancy (Balarinji, including involvement of local Aboriginal artists) has been engaged to co-design the Project's Aboriginal artwork strategy. The strategy includes, 'The Great Emu Sculpture', overbridge artworks, and small and large leaf canopies. The incorporation of Indigenous design principles and involving local artists in the infrastructure will ensure an enhancement of cultural heritage and identity is achieved.	Implementation and addition of Indigenous design principles and artwork (photos at the As Built stage) demonstrating improvement compared to the existing conditions.
Local Employment and Local Skills	Project aims for a target of 2.4% Indigenous Employment (full time equivalent) and for Aboriginal-owned businesses to be awarded at least 3% of the total number of domestic contracts for goods and services issued by NSW Government agencies by 2021. It is also required by the contract that the Project achieves many other targets (TfNSW General Conditions of Contract).	Aboriginal participation is tracked against Project targets by the Project Workforce Team.
Environmental Enhancement	Fauna, Flora, and Vegetation Enhancements as per design.	Monitoring and inspection of all sensitive areas and activities with the potential to impact flora and fauna to be conducted. The Construction Monitoring Program (CMP) to be developed which details the parameters, frequency and location of all monitoring and inspection activities.

Safety - Crime Prevention in Construction and Design

The Crime Prevention through Environmental Design (CPTED) Guideline (Queensland Government 2007) has been used to guide the implementation of CPTED consideration on the Project. The guiding CPTED principles that were identified as being relevant to the project are outlined in '*The Environmental Impact Statement (EIS) EIS landscape, visual and urban design report'* and include:

- Natural surveillance – creating urban environments to 'put eyes on a place'.
- Legibility- design that allows people to easily know where they are or where they are going.
- Territoriality – providing clarity between public and private areas.
- Ownership – creating a sense of ownership of a place by the local community.
- Management – places that are 'looked after' are considered to be safer.
- Vulnerability – avoiding isolated places and giving people options to escape.

The report outlined that, "The CPTED principles have guided the approach to all built elements including the following key outcomes:

- Maximising natural surveillance and sightlines for shared path users and pedestrians under/over bridges and bear bridge abutments.
- Preventing access to operational areas through fencing and built edges.
- Provision for lighting along all paths (refer to principles for lighting).
- Design of clear, predicable routes to avoid entrapment locations supported by wayfinding and signage."

An Urban Design Framework was prepared to inform the detailed design of the project. The framework identifies design elements for implementation to meet these desired outcomes. The M12 West Urban Design Report was subsequently drafted to demonstrate the implementation of CPTED principles:

- Provision of appropriate lighting of the Shared User Path and roadway areas.
- Maintaining clear visibility and avoiding sharp and abrupt corners in the Shared User Path alignment.

- Provision of appropriate lighting in the two underpasses.
- Installation of CCTV cameras at strategic locations.
- Reducing the possibility of graffiti and vandalism, by maximising landscaped buffers where possible.
- Creating a pleasant user experience, which will maximise its use and provides for passive surveillance.

Furthermore, CPBGG JV is to consider the CPTED guidance and governing principles outlined within the EIS (as discussed above) in the development of Pedestrian Movement Plans (PMP's) and Traffic Management Plans (TMP's) that are to be applied during construction and when temporary construction diversions are enforced in circumstances where pedestrian and cyclist access is restricted or removed.

4.8 Sustainable Procurement

CPBGG JV recognises the value of purchasing power in generating social benefits. This includes recognising the need to address human rights issues, rewarding good business practices with business, and the need to build a relationship with supply chains to avoid complicity in social disadvantage and human rights violations. CPBGG JV's approach to sustainable procurement is to work with suppliers in key procurement categories to reduce supply chain social and environmental impacts as well as to respond to the jobs, skills, and industry participation procurement requirements. Sustainable procurement provides a valuable mechanism for linking and integrating the social and economic aspects that underpin sustainability.

Proposed Credit Levels

- IS credit Pro-1 Level 2 Commitment to sustainable procurement
- IS credit Pro-2 Level 2 Identification of suppliers
- IS credit Pro-3 Level 2 Supplier evaluation and contract award
- IS credit Pro-4 Level 1 Managing supplier performance

As part of the Project's Environmental and Sustainability Policy, sustainable procurement is incorporated as a part of the procurement process. CPBGG JV's sustainable procurement related commitments to be actioned for the Project are listed above in **Section 3.9**.

The CPB pre-qualification questionnaire in use on the Project meets the criteria set out in IS Rating credit, Pro-2. Potential supplier engagement that encourages sustainable innovation is undertaken, particularly regarding high impact suppliers. Supply and service contracts are to have the sustainability targets included.

In targeting Level 3 Pro-3, suppliers are evaluated using an MCA approach – this is also detailed above in **Section 3.9**.

Once onboarded, all suppliers will be required to submit monthly digital reports to CPBGG JV on the following items:

- Resources used on the Project, including:
  - Self-supplied fuel and energy,
  - Self-supplied materials (including deliveries),
  - Waste disposed on behalf of the Project,
  - Potable or non-potable water.
- Workforce used on the Project, including:
  - Total employees,
  - Secondary subcontractors,

- Trainees,
- Apprentices,
- Learning workers,
- Aboriginal participation.

- Any sustainability initiatives, offsets, opportunities, or general feedback on the Project.

High impact suppliers will be monitored regarding environment and sustainability performance against the Project's sustainability targets for duration of contracts. For Pro-4, Level 3, CPBGG JV works with suppliers to identify any emerging or new sustainability opportunities and to suitably recognise and reward successes.

4.9 Heritage Management

CPBGG JV is committed to protecting, promoting, and enhancing heritage values through appropriate design, planning, and monitoring and management controls. CPBGG JV's approach to heritage management is detailed in the Construction Cultural Heritage Management Plan (sub-plan of the CEMP).

Proposed Credit Levels

- IS credit Her-1 Level 3 Heritage assessment and management
- IS credit Her-2 Level 1 Monitoring and management of heritage

An Aboriginal cultural education training program to presented to all site personnel. This training is delivered by a representative of the local Aboriginal Community, a registered Aboriginal stakeholder or a Traditional Owner, as approved by the Principal. The training includes:

i. Cultural values and significance of the project area.
ii. Practical strategies to effectively engage and work with Aboriginal people.
iii. How to improve communication with Aboriginal colleagues and customers.
iv. Diversity within Aboriginal Australia, protocols, family, and kinship systems.
v. Busting myths and stereotypes.
vi. Encouragement to provide feedback and ask questions regarding Aboriginal issues.

To meet the IS v2.0 Her-1 Level 3 requirements, the following must be met:

Level 1

- A broad assessment of heritage value is undertaken or reviewed.
- A heritage monitoring system is developed and implemented for unforeseen circumstances, unidentified sites and unexpected finds.
- The public is informed of assessment results and is provided with a feedback mechanism.
- The site induction covers heritage.
- If the project involves Indigenous heritage, training or inductions are led and reviewed by a registered Indigenous stakeholder or Traditional Owner.
- The design maintains heritage assets or values.
- A system for public collaboration is established or implemented.
- The heritage assessment informs the project design.

Level 2

- A list of qualified heritage experts relevant to each of the heritage disciplines identified as part of the design team.
- The design outlines an enhancement to heritage assets or values.

Level 3

- Interpretation strategies and thematic history have been implemented into the design

To meet Her-2 v1.2 heritage will be monitored in accordance with the Construction Cultural Heritage Management Plan. The IS credit requires that this monitoring be undertaken at appropriate intervals during construction.

4.10 Workforce

The following workforce targets have been established for the Project and will be tracked through the Training Management Plan through the Workforce Development and Industry Participation Manager.

#	Workforce & Industry Participation Targets	Requirements	
	Milestones	**Qty**	**Unit of Measure**
1	ANZ SMEs	75	No.
2	ANZ SMEs (Local)	25	No.
3	ANZ SMEs (Recognised Aboriginal Businesses)	20	No.
4	Australian Social Enterprises	3	No.
5	Learning Workers	25%	Workforce
6	Workforce residing in the Local Area	30%	Workforce
7	Local workers employed and trained	25%	Workforce
8	Apprentices	22%	Workforce
9	Trainees	10%	Workforce
10	Female Participation	10%	Workforce
11	Females in Non-Traditional Trades	5%	Workforce
12	Aboriginal People	4%	Workforce
13	Young Persons under 25	15%	Workforce
14	Work Experience Placements	20	No.
15	Graduate Placements	4	Per year

5 Infrastructure Sustainability Tool (IS Rating Tool)

5.1 Introduction to ISC

ISC is the peak industry body for advancing sustainability outcomes in infrastructure both in Australia and internationally. ISC develops frameworks, decision tools, and rating tools that are designed to facilitate infrastructure developers to take an integrated triple-bottom-line approach to the funding, planning, procurement, design and delivery, operations, and maintenance of infrastructure projects.

ISC's Infrastructure Sustainability (IS) rating scheme is the key means by which ISC assists in the advancement of achieving sustainability outcomes in infrastructure. The IS rating scheme is an industry-compiled voluntary sustainability performance rating scheme that evaluates the planning, design, construction, and operation of all infrastructure asset classes in all sectors. It is Australia's only comprehensive rating scheme for evaluating sustainability across design, construction, and operation of infrastructure.

The IS rating scheme is a whole of life, dynamic and complete sustainability management system which, when applied during the As Built stage:

- Provides a common national language for sustainability in infrastructure.
- Facilitates scoping whole-of-life sustainability risks for projects and assets.
- Fosters resource efficiency and waste reduction.
- Fosters innovation and continuous improvement in the sustainability outcomes from infrastructure.

The IS rating tool is an industry developed, owned, and operated infrastructure sustainability rating tool that is used by infrastructure developers to evaluate sustainability initiatives and potential environmental, social, and economic impacts of infrastructure projects.

5.2 IS rating targets

The Design stage IS Rating Round 2 submission received a verified score of 76.78. When input into the As Built scorecard, this achieved a score of 68.17.

The Project is required to achieve a minimum As-Built score of **55/100**, achieving an **Excellent** v1.2 As Built rating. **Appendix C** presents an indicative pathway for achieving the minimum score requirement and a stretch pathway developed based on the information provided by the Design team's Round 2 Design submission.

Targeting of the IS credit levels under the mapped stretch pathway will allow the Project to have sufficient buffer points to achieve the minimum score requirement. As required by Specification G1 Annexure L, CPBGG JV will inform the Principal of any changes to the IS credit targets from the targets from the Design rating.

5.3 IS submission process

Figure 5-1 illustrates the IS rating process that is generally undertaken. As the Project has already undergone the Kick-off, Weightings Assessment, Base Case Proposal submissions as well as the Design Review submissions, CPBGG JV has begun preparation for the As Built Round 1 submission as per the Verification process illustrated in the figure below.

CPBGG JV will ensure the Sustainability Representative has an ISAP qualification and relevant sustainability management experience on at least one other project of a similar size, scale, or complexity. The Sustainability Representative will review and note the ISC verified Weightings Assessment and Base Case as developed for the WUC to ensure all BAU assumptions are appropriate. Where appropriate, the Sustainability Representative will update and re-submit the project Weightings Assessment and Base Case to ISC for verification.

As required by the Specification G1 Annexure L, the Sustainability Representative will:

- Use the IS Rating tool to calculate an interim IS As-Built Rating score for the construction of the Works and Temporary Works (WUC).
- Identify the key steps required to achieve each targeted IS Credit and IS Credit Level.
- Nominate responsibility for the achievement of each IS Credit.
- Prepare all Credit Summary Forms (CSFs) and collate all evidence for each targeted credit.

In actioning the above, the Sustainability Representative will use an in-house Sustainability Action Manager (SAM) tool (or any other appropriate tracker tool on a digital spreadsheet or the like) to support monitoring and reporting of sustainability performance as well as to assist in tracking of IS credit achievement and ensure key milestones are achieved.

Also as required by the Specification G1 Annexure L, the Sustainability team will allow a minimum of two weeks for the Principal's review of both your Round 1 and Round 2 submissions prior to lodgement with ISC.

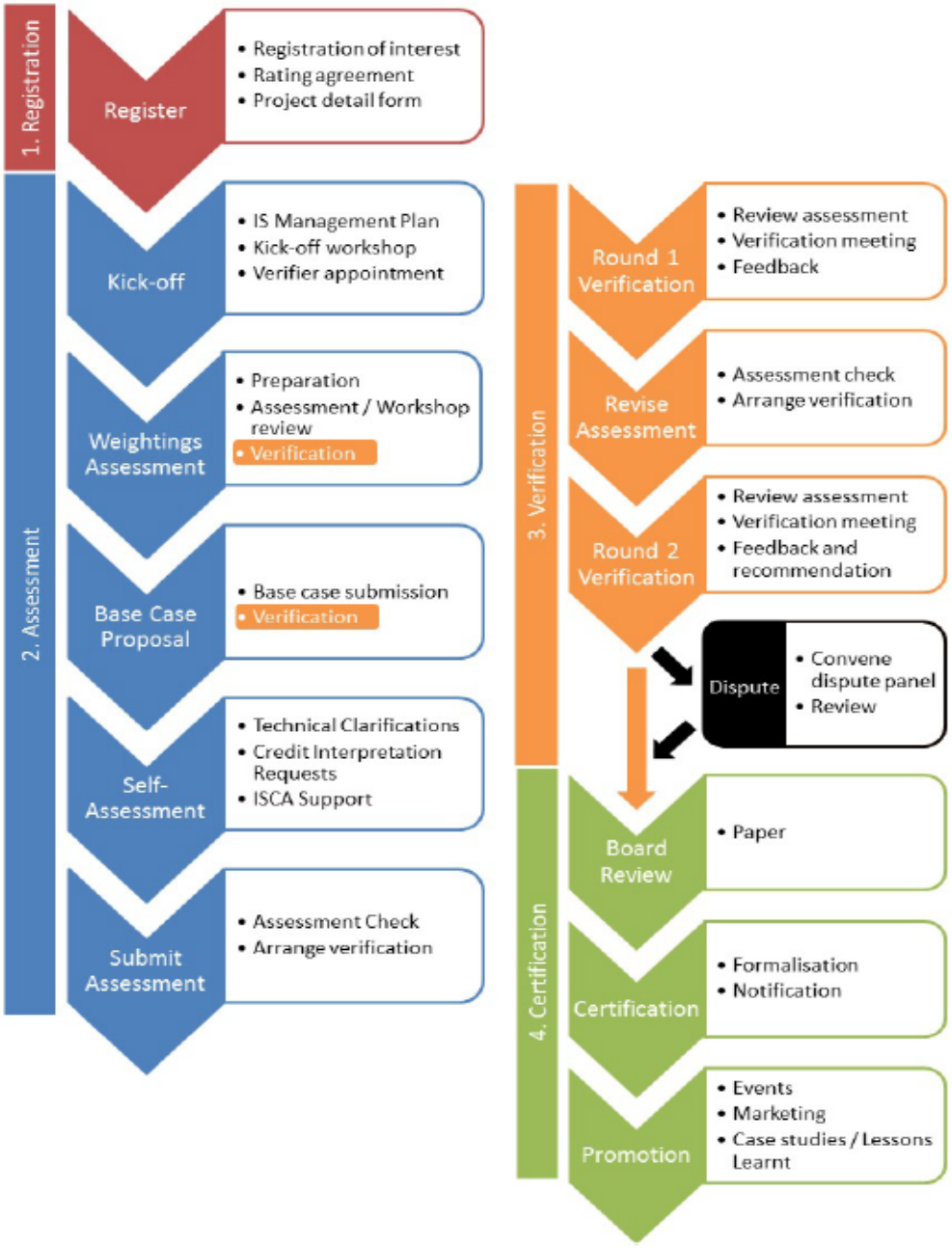


Figure 5-1 IS Rating Process

6 Performance Evaluation

6.1 Sustainability data capture

The Sustainability Representative is responsible for the following items to enable effective sustainability data capture:

- Identifying resource types that require data capture to allow sustainability performance monitoring.
- Understanding data sources of the identified resource types.
- Determining data collection methods and coordinating with the relevant Project personnel to facilitate effective and efficient collection of necessary resource type data.

- Development of a Sustainability Dashboard on a digital spreadsheet (or the like that enables monitoring of data) to record and analyse the captured data, enabling monitoring of sustainability performance.
- Conducting occasional reviews of supplier/subcontractor data inputs and managing any deficiencies/shortfalls to enhance reliability and validity of the data.

Table 6-1 below presents resource types applicable to the Project and potential sources.

Table 6-1 Potential sustainability resource types and sources for data capture

Resource Type		Sources
Energy	Fuel	Project invoices or subcontractor monthly reports (fuel reports) CPB JDE/NGERS data
	Gas	
	Other (LPG, oil, grease, solvents, acetylene)	
	Electricity	Construction site electricity bills
Water	Potable water	Project invoices Water meter readings Water cart dockets Subcontractor monthly reports
	Non-potable water	Water meter readings Modelled consumption estimates (where water meter readings are unavailable) Water cart dockets Subcontractor monthly reports
	Water discharge from site	Water meter readings Modelled estimates (where water meter readings are unavailable)
	Potable/Non-potable water carts delivered to Project	Project invoices
Waste	Construction and Demolition waste	Waste tracking register Waste subcontractor monthly reports
	Office waste	
Materials	Concrete	Subcontractor monthly reports Project invoices Site material tracking registers
	Asphalt	
	Steel	
	Road base	
	Other materials	

6.2 Performance monitoring and compliance tracking

The Sustainability Representative will utilise captured data and will ensure ongoing performance tracking and monitoring of the sustainability targets and identified initiatives. They will also undertake appropriate inspections, reviews, and audits at frequent intervals in line with ISC requirements and TfNSW requirements.

Table 6-2 below details mechanisms by which performance monitoring and compliance tracking is undertaken.

Table 6-2 Monitoring and Performance Tracking Mechanisms

Monitoring/ Tracking	Details	Provided to	Responsibility	Deliverables

Independent Reviews of Sustainability Performance	• An independent sustainability professional (ISP) is engaged to monitor and review sustainability performance. • This review of the Project's sustainability performance will address environmental, social, and economic aspects. • This review needs to be undertaken at least six monthly for the construction phase. • Annually during construction, the ISP review will also include a sustainability audit of the management system	CPB Senior Leadership Team	CPB Sustainability Representative	ISP report to management
Regular inspections and monitoring	**Inspections, observations, and audits** • Internal sustainability inspections of site management are undertaken at least weekly during construction. These will cover environmental and sustainability aspects. • Internal sustainability audits of the Sustainability Management System are conducted at least three times and once by an external auditor per annum during construction. These will cover environmental and sustainability aspects. • Reviews of the Sustainability Management Plan are undertaken at least annually. These cover environmental and sustainability aspects. • Mobile non-road plant and equipment (engine <19 kW). **Supplier and subcontractors** • Suppliers are 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. • Suppliers are monitored for the duration of contracts against contract specifications, scope of works, and sustainability objectives and targets. Poor sustainability performance or non-compliances are actively managed.	• Delivery Subcontractor or Project Director • Engineers • Supervisors	CPB Sustainability Representative	Internal sustainability inspection forms Internal sustainability audit reports External sustainability audit reports Record as per Air Emissions Data Workbook (9TP-FT-439) Supplier audits
All sustainability audits undertaken by suitably qualified and experienced personnel	**Auditor competency** • Persons conducting audits and reviews are suitably experienced and qualified as per the requirements outlined within the ISC IS Design, As Built and Operation Rating Tools	N/A	CPB Sustainability Representative	Auditor qualifications and competency (CV) saved on file.

The Sustainability Representative will monitor, measure, analyse, and evaluate the Project's sustainability performance. The Project will determine:

- What needs to be monitored and measured.
- The methods for monitoring, measurement, analysis, and evaluation, as applicable, to ensure valid results.
- The criteria against which the organisation will evaluate its environmental performance, and appropriate indicators.
- When the monitoring and measuring will be performed.

- When the results from monitoring and measurement will be analysed and evaluated.

6.3 Audit, Inspections, and reviews

Audits, inspections, and reviews will be undertaken where required to achieve targeted 'Excellent' ISv1.2 Rating requirements and adequate evaluation of project performance associated with sustainability. All persons conducting audits and reviews will be suitably experienced and qualified as per the requirements outlined within the IS v1.2 Technical Manual.

The Sustainability Representative will prepare a sustainability audit schedule that summarises the required external and internal audits, inspections, reviews, and reporting, and their required actions, frequency, and responsibilities throughout construction.

The schedule will include the following list presented in **Table 6-3** below (non-exhaustive):

Table 6-3 Sustainability audits, inspections, reviews, and reporting items to be included in the schedule

Item	IS Credit	Frequency/stage
Risk and Opportunities Review	Man-2, Level 2	At least annually and at each key project phase
Independent Sustainability Professional (ISP) Performance monitoring & review	Man-3, Level 2	6 monthly during construction
Sustainability and Environmental inspections	Man-4, Level 2	Weekly, subject to construction program
Sustainability Management System Audit	Man-4, Level 2	Four per year during construction (three internal, and one external undertaken by the ISP)
Quarterly Sustainability Report	Man-5, Level 2	Quarterly
Annual performance review reporting and review session/presentation	Man-5, Level 2	Annual
Energy and Carbon Footprint Audit	Ene-1, Level 1	Once
Light spill study/Audit	Dis-5, Level 1	Once during construction
Contamination Assessment/Audit Report	Lan-3, Level 2	Once or as necessary
Waste Management System Audit	Was-1, Level 2	At least annually for construction
Waste to Final Destination Audit	Was-1, Level 2	Must be undertaken at least 6 monthly for construction
Stakeholder Engagement Strategy Review	Sta-1, Level 2	Once
UDLP Review & Report	Urb-1, Level 2	Once-internal review, for Level 3, independent review
UDLP Implementation Audit Report	Urb-1, Level 2	Once

6.4 Reporting

The Sustainability Representative will prepare Quarterly Project Sustainability Reports for submission to TfNSW.

The reports must :

- Assess and report on progress against this SMP including objectives and/or targets, and must identify areas for improvement, as per Man-5 Level 1.
- Provide provisional updates to the IS Rating.
- Identify opportunities or deficiencies to be addressed to meet the IS Rating requirements.
- Be report and reviewed by senior management at least annually to meet Man-5 Level 2.

The reports will include:

- An executive summary.
- A summary of construction works that were undertaken during the quarter.
- A summary of sustainability strategies and activities that were undertaken during the quarter.

- An update of the Project's performance against the IS Rating tool and the sustainability objectives and targets.
- A summary of Project activities and deliverables pertaining to sustainability, including:
  - Materials,
  - Energy use,
  - Water use,
  - Procurement activities.
- A summary of sustainability related risks and opportunities when applicable.

The Sustainability Representative will provide the report to the TfNSW Project Sustainability Representative within ten days of the end of each quarter. For any lags to available data, the Sustainability Representative will inform the details within the report.

7 Review and improvement

7.1 Management plan and system review

This SMP will be reviewed annually by the Sustainability Representative to assess the adequacy of the plan and overall performance against Project sustainability requirements, targets, and objectives. Applicable findings of the review will be incorporated into the SMP.

Formal reviews will consider the results of:

- 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.
- Actions from previous management reviews and recommendations for improvement.

Continuous improvement will be achieved through continual monitoring, reporting, evaluation, and adjustment in response to the changing delivery context, generating opportunities to improve sustainability outcomes.

7.2 Corrective actions and improvements

As sustainability is about driving performance beyond BAU, audits, inspections, and reviews are focused on progress towards achieving targets, best practice initiatives and innovations rather than a strict adherence to compliance requirements. Where non-achievement of sustainability requirements or credits is imminent, including supplier sustainability performance, a non-conformance will be issued.

Sustainability performance will be determined through sustainability audits and reviews in terms of:

- **Conformance –** Meets or complies with the system delivery requirements.
- **Strength** – Area of implementation that is exceptional or innovative in nature or an aspect of implementation that has the potential to improve the wider SMS.
- **Opportunity for Improvement** – Area of improvement identified for the delivery of sustainability, including observations and suggestions.
- **Minor Nonconformance –** A deficiency which if not addressed has potential to lead to a major sustainability nonconformance.
- **Major Nonconformance –** Where necessary, based on objective evidence, observed absence of, or a significant failure to implement and/or maintain conformance to requirements of the SMS.

8 Appendices

8.1 Appendix A – TfNSW Environment and Sustainability Policy

NSW GOVERNMENT

Transport Environment and Sustainability Policy

Transport is a key enabler of economic and social activity. We are committed to delivering transport which contributes to economic prosperity and social inclusion in an environmentally responsible and sustainable manner, consistent with the Future Transport Strategy 2056.

Transport for NSW's activities cover the whole State and its infrastructure will last for generations to come. We have a duty to undertake our activities in the interest of the greater good, moving beyond compliance, and being a genuine leader in environment and sustainability performance.

We will work towards achieving this for NSW by:

- Leadership – contributing to and influencing the strategic environment and sustainability agenda of the NSW Government
- Environmental protection – being accountable for addressing and minimising the environmental impacts of our activities to satisfy the expectations and legislative requirements of the NSW Government and community
- Energy and carbon – improving energy efficiency and working towards net zero carbon emissions
- Resilience – embedding climate risk and resilience considerations in our activities
- Sustainable procurement – procuring and delivering sustainable, efficient and cost effective transport options, including responsible supply chains
- Whole of life – considering whole of life benefits and impacts from our activities across all life cycle stages - demand/need, plan, acquire, operate/maintain and disposal
- Social – recognising the social impacts and benefits of our activities, and working for healthy liveable communities
- Awareness – raising the awareness and capacity of our workforce to be accountable for implementing the Policy through their activities to achieve enhanced environmental outcomes and a culture of environmental responsibility
- Communication – communicating openly, responsively and empathetically with our customers, partners and stakeholders on environmental matters and report on our performance

This Policy applies to the agencies listed below:

- Transport for NSW
- Department of Transport
- Sydney Trains
- NSW Trains
- RailCorp
- State Transit Authority
- Sydney Metro

This Policy applies to permanent, temporary and casual staff of the above agencies, staff seconded from another organisation and contingent workers including labour hire, professional services contractors and consultants.

Rodd Staples
Secretary
13 January 2020

Transport for NSW T 8202 2200 | F 8202 2209
18 Lee Street, Chippendale NSW 2008 | PO Box K659, Haymarket NSW 1240

CP20000

8.2 Appendix B – Project Specific Targets/Goals aligned to RMS/TfNSW objectives and targets

TfNSW Objectives	TfNSW Management Targets	Project Specific Target /Goal	ISC Credit Ref
Energy and carbon management			
Minimise energy use and reduce greenhouse gas emissions without compromising the delivery of services to our customers	• Reduce operational energy consumption as measured against level of activity by 15% by 2023. • Improve year-on-year construction energy efficiency on all State significant infrastructure projects. • Install energy efficient LED light sources into all new and end-of-life replacement streetlights owned by Roads and Maritime. • Complete a feasibility study on sourcing operational electricity from carbon neutral or zero carbon energy sources by end of 2019. Implement feasible options by end of 2021. • Improve year-on-year supply chain carbon emissions intensity (including embodied energy in materials) when sourcing construction materials for State Significant Infrastructure Projects.	• Implement measures to minimise energy use and greenhouse gas emissions across the project's lifecycle. • Target a reduction in operations induced greenhouse gas emissions over the life of the project by 15% compared to a Base Case scenario. • Target a reduction in embodied material impacts by 10% compares to a Base Case scenario	Ene-1 Ene-2 Mat-1
Climate change resilience			
Design and construct transport infrastructure to be resilient to climate change impacts	• Assess climate change risks for all potentially affected projects and programs. • Address all identified climate change risks ranked as high or above during project planning.	• Conduct a Climate Change Risk Assessment and implement adaptation measures to increase the resilience of the project. • Implement adaptation options to treat all very high and high risk and 25-50% of all medium climate change risks.	Cli-1 Cli-2
Air quality			
Minimise the air quality impacts of road projects and support initiatives that aim to reduce transport-related air emissions.	• Construction activities will identify and apply best practice air emissions controls.	• No recurring or major exceedances of air quality goals.	Dis-4
Resource use and waste management			
Minimise the use of non-renewable resources and minimise the quantity of waste disposed to landfill.	• 100% beneficial reuse of virgin excavated natural material. • 100% recovery of clean concrete for beneficial reuse. • 100% recycling of clean reclaimed asphalt pavement.	• Beneficially reuse non-contaminated topsoil and sub soil on site or off site where practical.	Man-1 Was-1 Mat-1

	• Minimum of 10% cement replacement material (when locally available), measured by mass, used in concrete during construction. • Minimum of 10% recycled content (when locally available) by volume in road base and subbase. • Prior to disposal of waste or wastewater an assessment of viable reuse or recycling options must be carried out.	• Target a reduction in embodied material impacts by 10% compares to a Base Case scenario Identify measures to minimise waste during construction and operation.	
Pollution control			
Minimise noise, water and land pollution from road and maritime construction, operation, and maintenance activities.	• 100% of environmental incidents are reported and tracked in incident reporting systems. • 100% of Category 1 (significant) incidents are self-reported. • Schedule and complete environmental compliance audits on 100% of sites that incur a formal penalty notice or financial penalty from a regulator.	• Implement measures to minimise adverse impacts to receiving water environmental values during construction and operation. • Target no recurring or major divergences from noise management process during construction and no exceedances of noise goals for operation. • Target no recurring or major exceedances of vibration goals for structural damage to buildings and structures during construction or for human comfort criteria for operation.	Dis-1 Dis-2 Dis-3 Dis-4
Biodiversity			
Improve outcomes for biodiversity by avoiding, mitigating or offsetting the potential impacts of road and maritime projects on plants, animals and their environments.	• 100% of applicable projects will apply the Roads and Maritime Biodiversity Management Guidelines. • All connectivity and mitigation measures will be monitored for effectiveness post implementation.	• Enhance ecological value by 10% in line with IS requirements (TfNSW to provide offsetting to achieve this). • Maintain existing habitat connectivity.	Eco-1 Eco-2
Heritage – Aboriginal and non-Aboriginal			
Manage and conserve cultural heritage according to its heritage significance and contribute to the awareness of the past.	• All identified heritage assets must be assessed in early project planning stages to allow appropriate consideration of potential impacts and solutions.	• Adverse impacts to heritage during construction and operation will be minimised. • Opportunities to enhance heritage will be considered and implemented where feasible. • Community and key stakeholders will participate in any heritage studies.	Her-1
Liveable communities			
Provide high quality urban design outcomes that contribute to the sustainability and liveability of communities in NSW.	• Meet the objectives of the Roads and Maritime Beyond the Pavement policy on all projects. • In the Greater Sydney Region and major regional cities, complete road development projects with no net loss of tree canopy cover.	• Measures to positively contribute to community health and wellbeing for priority issues will be identified and at minimum one measure/ initiative will be implemented. • Crime Prevention Through Environmental Design (CPTED) guidelines will be implemented during design, construction, and operation to minimise crime.	Hea-1 Hea-2 Urb-1

		• Prepare an Urban and Landscape Plan that meets the IS Requirements.	
Sustainable procurement			
Procure goods, services, materials and works for infrastructure development and maintenance projects that over their lifecycle deliver value for money and contribute to the environmental, social and economic wellbeing of the community.	• All tendered procurement must include non-price selection criteria that assess relevant sustainability and social procurement measures. • We will not procure from suppliers known to be applying poor labour practices. • Where fit for purpose, 100 per cent of timber and timber products will be sourced from sustainably managed forests which have obtained Forest Management Certification.	• Consideration of environmental and sustainability aspects in the procurement process. • Implement sustainable procurement practice commitments detailed under **Section 3.9** where appropriate.	Pro-1
Corporate sustainability			
Communicate our sustainability objectives to employees, contractors and other key stakeholders, and foster a culture which encourages innovative thinking to address sustainability challenges.	• All employees are to be provided with sustainability training at a level commensurate with their responsibilities by the end of 2020	• All project employees will be provided with sustainability training at a level commensurate with their responsibilities within six months of contract award. • Achieve an IS Rating of 'Excellent'. Environment, social and economic aspects will be considered in options assessment processes. • Undertaken knowledge sharing internally as well as outside of the project. • Consider opportunities to share outside the boundary of the project to the wider industry. • Sustainability team to conduct training sessions for all staff.	Man-1 Man-6 Man-7

8.3 Appendix C – IS As Built Scorecard

The following table provides CPBGG JV's IS As Built targeted pathway and the stretch target pathway. The IS Pathway is subject to change through further investigation of opportunities throughout the construction phase.

Category	Credit	Materiality Score	Possible Score	Max Level	Target Level	Stretch Level	Target Score	Stretch Score
Management Systems								
	Man-1	Sustainability leadership and commitment	0.78	3	3	3	0.78	0.78
	Man-2	Risk and opportunity management	0.78	2	2	2	0.78	0.78
	Man-3	Organisational structure, roles and responsibilities	0.78	2	2	2	0.78	0.78
	Man-4	Inspection and auditing	0.78	2	2	2	0.78	0.78
	Man-5	Reporting and review	0.78	3	2	2	0.52	0.52
	Man-6	Knowledge sharing	1.76	3	3	3	1.76	1.76
	Man-7	Decision-making	2.55	3	2	2	1.70	1.70
		Sub-total	8.23				7.10	7.10
Procurement and Purchasing								
	Pro-1	Commitment to sustainable procurement	0.98	3	2	3	0.98	0.98
	Pro-2	Identification of suppliers	0.98	3	2	3	0.65	0.98
	Pro-3	Supplier evaluation and contract award	0.98	3	3	3	0.98	0.98
	Pro-4	Managing supplier performance	0.98	3	2	3	0.65	0.98
		Sub-total	3.92				3.26	3.92
Climate Change Adaptation								
	Cli-1	Climate change risk assessment	3.92	3	2	2	2.61	2.61
	Cli-2	Adaptation options	3.92	3	3	3	3.92	3.92
		Sub-total	7.84				6.53	6.53
Energy and Carbon								
	Ene-1	Energy and carbon monitoring and reduction	7.05	3	2.3	2.3	5.41	5.41
	Ene-2	Use of renewable energy	1.18	3	1.2	1.2	0.47	0.47
		Sub-total	8.23				5.88	5.88
Water								
	Wat-1	Water use monitoring and reduction	5.29	3	1	1	1.76	1.76
	Wat-2	Replace potable water	2.94	3	2.4	2.4	2.35	2.35
		Sub-total	8.23				4.11	4.11
Materials								
	Mat-1	Materials footprint measurement and reduction	7.05	3	1.76	1.76	4.14	4.14
	Mat-2	Environmentally labelled products and supply chains	1.18	3	1	1	0.39	0.39
		Sub-total	8.23				4.53	4.53
Discharges to Air, Land & Water								
	Dis-1	Receiving water quality	2.79	3	1	2	0.93	1.86
	Dis-2	Noise	2.79	3	1	2	0.93	1.86
	Dis-3	Vibration	0.93	3	3	3	0.93	0.93

Category	Credit	Materiality Score	Possible Score	Max Level	Target Level	Stretch Level	Target Score	Stretch Score
	Dis-4	Air quality	2.79	3	2	2	1.86	1.86
	Dis-5	Light pollution	1.18	1	1	1	1.18	1.18
		Sub-total	10.48				5.83	7.69
Land								
	Lan-1	Previous land use	1.96	3	0.5	0.5	0.33	0.33
	Lan-2	Conservation of on site resources	0.78	3	2	2	0.52	0.52
	Lan-3	Contamination and remediation	1.57	3	3	3	1.57	1.57
	Lan-4	Flooding design	1.76	2	0	0	0.00	0.00
		Sub-total	6.07				2.42	2.42
Waste								
	Was-1	Waste management	2.35	2	2	2	2.35	2.35
	Was-2	Diversion from landfill	4.11	3	3	3	4.11	4.11
	Was-3	Deconstruction/ Disassembly/ Adaptability	0.59	3	0	0	0.00	0.00
		Sub-total	7.05				6.46	6.46
Ecology								
	Eco-1	Ecological value	5.88	3	3	3	5.88	5.88
	Eco-2	Habitat connectivity	2.35	3	1	1	0.78	0.78
		Sub-total	8.23				2.74	2.74
Community Health, Well-being, and Safety								
	Hea-1	Community health and well-being	1.96	3	3	3	1.96	1.96
	Hea-2	Crime prevention	1.96	2	2	2	1.96	1.96
		Sub-total	3.92				3.92	3.92
Heritage								
	Her-1	Heritage assessment and management	3.92	3	3	3	3.92	3.92
	Her-2	Monitoring and management of heritage	3.92	3	1	1	1.31	1.31
		Sub-total	7.84				5.23	5.23
Stakeholder Participation								
	Sta-1	Stakeholder engagement strategy	1.47	3	2	2	0.98	0.98
	Sta-2	Level of engagement	1.47	3	2	2	0.98	0.98
	Sta-3	Effective communication	1.47	2	2	2	0.98	0.98
	Sta-4	Addressing community concerns	1.47	2	0	0	0.00	0.00
		Sub-total	5.88				2.94	2.94
Urban and Landscape Design								
	Urb-1	Urban design	4.70	3	3	3	4.70	4.70
	Urb-2	Implementation	1.18	2	2	2	1.18a	1.18
		Sub-total	5.88				5.88	5.88
Innovation								
	Inn-1	Innovation	10	10	7	10	7.00	10.00
		Sub-total	10				7.00	10.00
		Grand-total	110					

	Target	Stretch
Total Score	**77.78**	**83.29**