

ARMADALE ROAD TO NORTH LAKE ROAD BRIDGE (ARNLR)

Supplier Workshop: Sustainability Requirements

(Tuesday 10TH September 2019)

ARNLR – Supply Chain Day

Project Scope



Project Overview

Project Name: Armadale Road to North Lake Road Bridge Project

Capital Value: AU\$ 237m

Armada Access Alliance - Consortium comprising Main Roads Western Australia, Laing O'Rourke BG&E

Alliance Contract Value: AU\$ 146m

Design Completion: 20-Dec-2019

Construction will start: late 2019

Practical Completion:

SP01 (Excl. Landscaping) 15-Dec-2021

SP02 (Landscaping) 31-Aug-2022



Project Scope

Option B Confirmed - Elevated roadway over the Armadale Road/ Tapper Road/Verde Drive roundabout, and an **underpass trench structure** (duck and dive) under the Armadale Road/Solomon Road roundabout

Local traffic connectivity at Solomon Road is maintained through ground level roundabouts, with through traffic lanes passing in a below ground structure.



Supplier Workshop: Armada Road to North Lake Road Project

Hayley Jarick

SECTION ONE

About the

SUPPLY CHAIN SUSTAINABILITY

SCHOOL

SUPPLY CHAIN SUSTAINABILITY

SCHOOL

SUPPLY CHAIN SUSTAINABILITY
SCHOL
Partners

action sustainability

CUNDALL

Downer
Relationships creating success

Dulux

EDGE

FAIRSUPPLY

GLOBAL GREEN TAG^{Cert™}

CSQ
STRONGER FUTURES
IN CONSTRUCTION

GHD



Stockland



LANDCOM



LIBERTY

green building
council australia

ISCA Infrastructure
Sustainability
Council of Australia

**JOHN
HOLLAND**

LAING O'ROURKE

lendlease

mirvac

**PROPERTY
COUNCIL
of Australia**

**NSW
GOVERNMENT**

**M sydney
METRO**

POINTS BUILD
CPD | Education | Training | Innovation

**RMIT
UNIVERSITY**

GECA

Supply Nation

SOCIAL TRADERS

**Sustainability
Victoria**

**VICTORIA
State Government**

JOIN THE MEMBERSHIP COMMUNITY



1179

unique
Member
organisations

2168

people
registered

450+

FREE Member
resources

6,508

resource
views by
Members

\$0

cost to
become a
Member

SECTION TWO

Sustainable procurement

eco labels



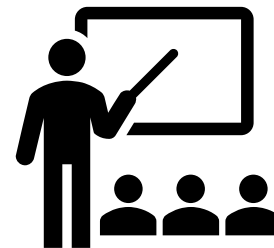
ISO 20400

Sustainable Procurement



ICS > 13 > 13.020 > 13.020.20

ISO 20400:2017 SUSTAINABLE PROCUREMENT -- GUIDANCE



SUPPLY CHAIN SUSTAINABILITY
SCHOL

SUPPLY CHAIN SUSTAINABILITY
SCHOL

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Sustainable Procurement

[View all resources for this issue](#)

Sustainable procurement is defined in the standard ISO 20400 as "Procurement that has the most positive environmental, social & economic impacts possible over the entire life cycle". This definition can be applied to everything we buy and helps us to address sustainability through competitive markets to deliver short- and long-term value. Up to 80% of the spend on construction projects with major contractors is passed through to their supply chain. Sustainable procurement is therefore a critical part of client and contractors' policies and strategies.

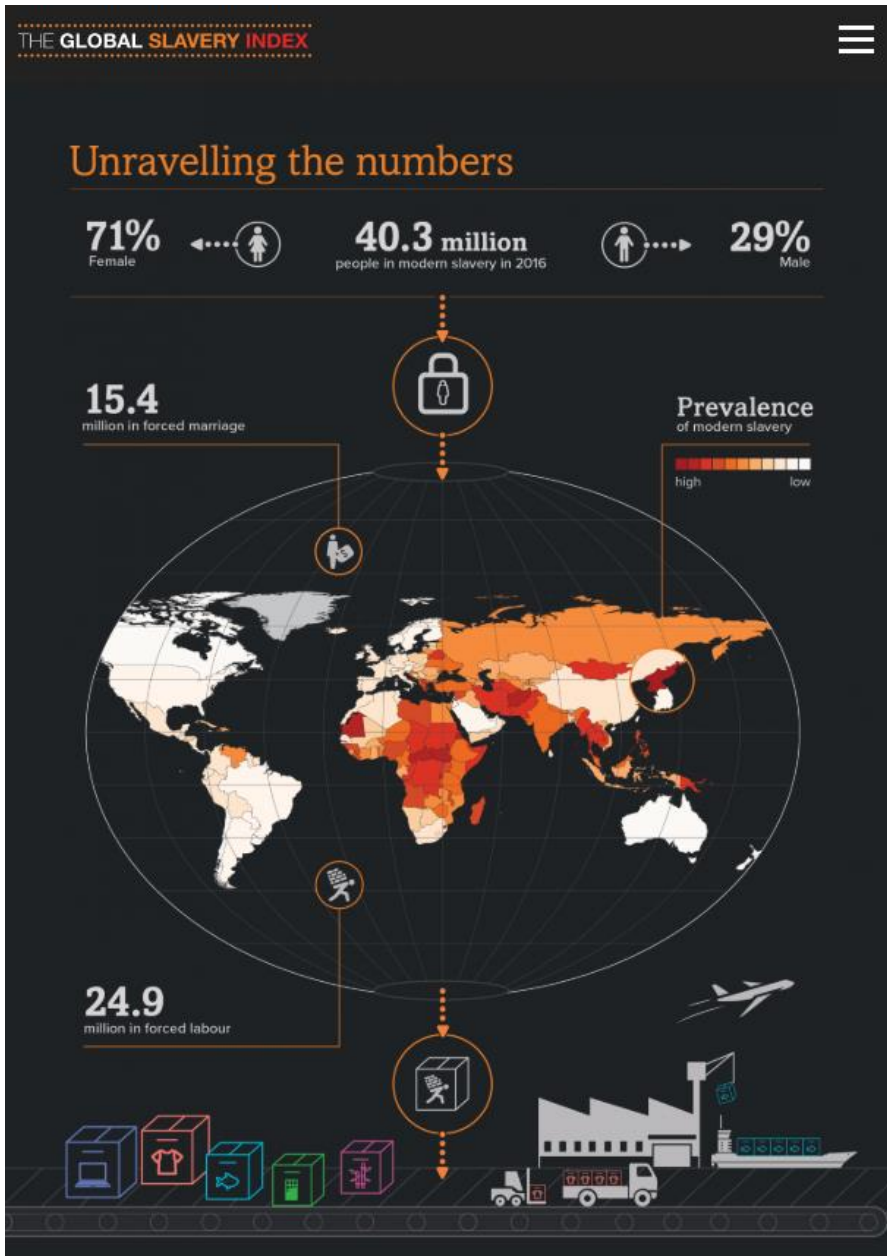
If Australia's property, construction and infrastructure sectors are to respond to project, client and strategic objectives and deliver work more sustainably and more efficiently, we must build the skills necessary to achieve these objectives through the supply chain.

ISO 20400

SUSTAINABLE DEVELOPMENT GOALS







40.3 million people in conditions of modern slavery worldwide



Modern Slavery eLearning Module





YOUR CONSTRUCTION PROJECT



Sustainability learning resources and events, free to ISCA members



Product type: Education & Training
Region/s: ACT (AU), ANZ Wide, AU Wide, Auckland (NZ), Central North Island (NZ), Central Otago & Southland (NZ), Christchurch & Canterbury (NZ), NSW (AU), NT (AU), NZ Wide, Northland (NZ), Old (AU), SA (AU), Tas (AU), VIC (AU), WA (AU), Wellington & Wairarapa (NZ)
Related ISv2.0 Credits: Spr-3, Wts-2
Related ISv1.2 Credits: IC-6
Rating Phases: As Built, Design
Rating Phases: As Built, Design, Operations

About

The Supply Chain Sustainability School provides free e-learning education, information, videos, templates and face-to-face training for construction and infrastructure suppliers, contractors and service providers from local sole traders to international organisations. Learning resources address all key and emerging sustainability issues including materials, waste, energy and carbon, environmental management, water, biodiversity, ethics, community, climate adaptation, procurement, social sustainability and supplier diversity, as well as human rights and modern slavery. Companies, teams or individuals signing up can access a wealth of free resources and tools to meet increasing sustainability demands and performance benchmarks; they can also create a tailored learning Action Plan relevant to their profession, size of organisation and level of knowledge, that will help build clever, collaborative and competitive construction and infrastructure sectors.

Sustainability Outcomes

Using the School's extensive range of learning resources may help your project or asset achieve L1 in ISv2.0 Wts-2 as part of the required induction program. L3.2 in ISv2.0 Spr-3 asks for suppliers to be engaged to build their sustainability credentials, and the variety of topics, resources and case studies means there is something for every organisation through the supply chain. The School's e-learning resources, videos and educational materials may be used to build the capacity of your project's or asset's supply chain through selected e-learning modules for material sustainability issues. For ISv1.2, Innovation Challenge 6 (IC-6) encourages the industry to educate their supply chains and School resources represent a flexible, free and fantastic way to meet these requirements. In addition, the school's resources may help your site employees and sub-contractors understand good sustainability management practices such as carbon management, environmental discharges, waste and resource recovery, biodiversity, community engagement, climate change, human rights and modern slavery as well as sustainable procurement, each of which may be helpful in achieving associated ISv1.2 and ISv2.0 credits.

Associated Projects

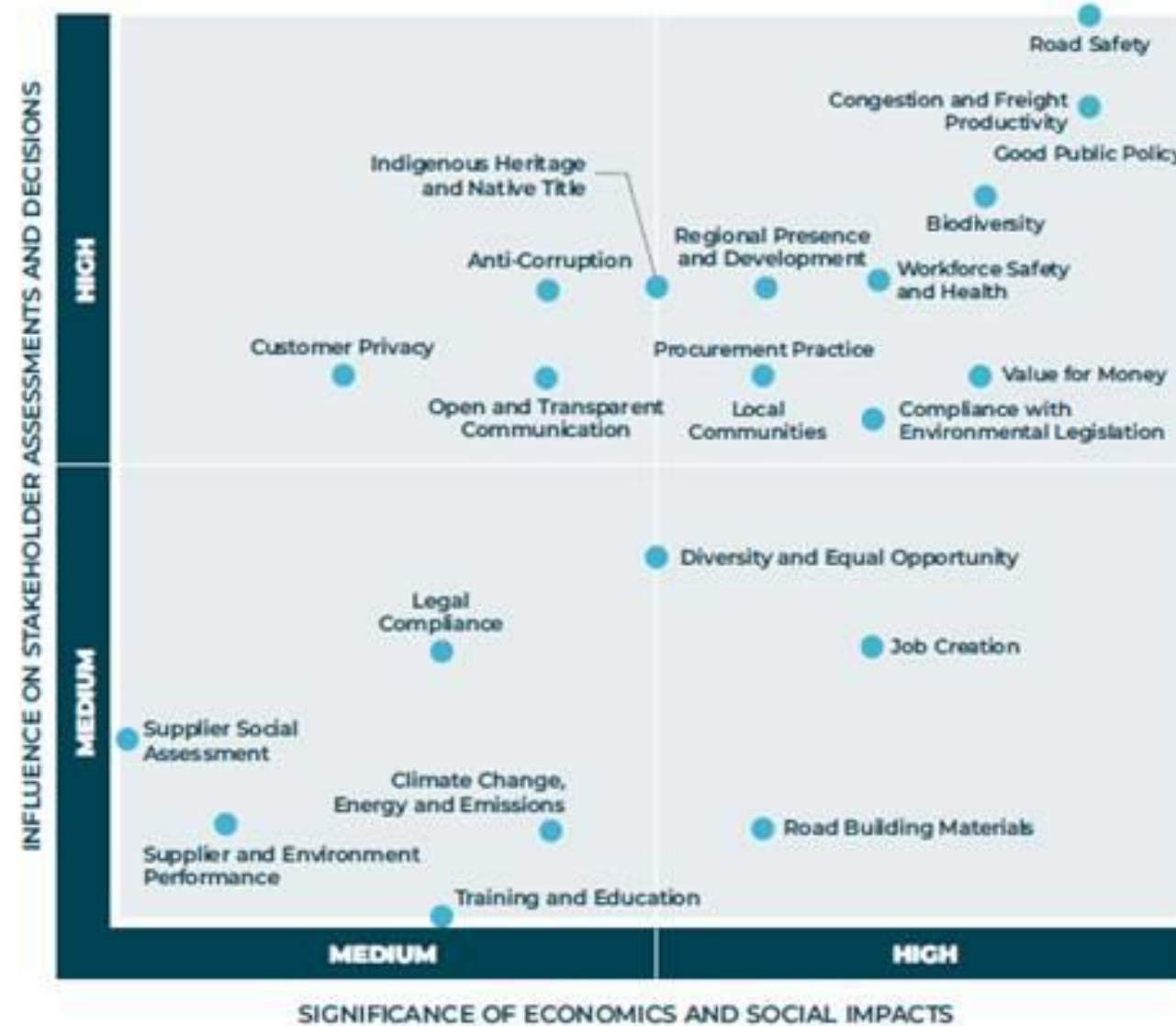
- Northlink WA Central Section
- Sydney Metro Northwest
- Northlink WA
- Canberra Metro Stage 1



The ISupply Directory

SECTION THREE

Main Roads WA key sustainability themes





Road safety



Congestion and
freight
productivity



Good public policy



Biodiversity



Workforce safety
and health



Value for money



Regional presence
and development



Compliance with
environmental
legislation



Indigenous
heritage and
native title



Local communities



Procurement practices

SECTION FOUR

Main Roads WA key sustainability issues

waste
not





Scope 1 or 2 and 3

GHG Type (t CO ₂)	2016/2017	2017/2018	2018/2019
Fuel	2,860	3,088	3,150
Street and traffic lights	16,804	18,614	19,026
Buildings	4,230	4,183	2,934
Air travel*	271	331	527
Projects and maintenance fuel use*	8,010	27,661	40,686
Waste*	8,391	10,184	19,317
Offsets	-1,183	0	-2,749
Total	44,472	53,877	82,891
*Note: Project and maintenance fuel usage, Waste and Air travel are Scope 3 emissions			

*Women and
indigenous in the
workforce*





Search Indigenous Business Direct

Supply Nation provides Australia's leading database of verified Indigenous businesses: search by business name, product, service, area, or category.

Supply Nation's Indigenous Business Direct



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Key Procurement Supply Packages

Sept/Oct 2019

Quarry Products Sep 2019
Drainage Precast Materials Sept 2019
Precast L Shape Wall Supply Sept 2019
Noise Walls Precast Sept/Oct 2019
Noise Wall Steel Posts Sept/Oct 2019
Plexiglass Supply Sept/Oct 2019
Screen Wall Supply Sept/Oct 2019
Precast MSE Supply Oct 2019
Precast MSE Columns Oct 2019

Nov/Dec 2019

Concrete Supply Nov 2019
Reinforcing Supply Nov 2019
T-Roff Supply and Transport Dec 2019

Precast Upass, Wingwall & Spandrell **Feb 2020**

Bridge Pier Formwork Supply **May 2020**

Precast Parapet & Barriers **Jun 2020**

Condeck Formwork Supply **Jul 2020**

Key Subcontractors

Sept/Oct 2019

Drainage Sept 2019
Noise Wall Install Sept / Oct 2019
Asphalt Oct / Nov 2019
ITS & Lighting Oct 2019

Earthworks Sept – Nov 2019
Form Reo Concrete Oct 19 – May 2020
Steel Reo Fixing Oct 19 – May 2020

Landscaping Feb 2020 onwards
Structural Steel Install Mar 2020
T-Roff Falsework Subcontract Apr 2020

The Project is registered with Infrastructure Sustainability Council Australia seeking a 'Design and As Built' rating based on new IS v2.0 Rating Tool, being one of the first projects in Australia to commit to new v2.0.



*"Infrastructure that is **planned, designed, constructed and operated**
to optimise **environmental, societal and economic** outcomes over the long term"*

ISCA (Infrastructure Sustainability Council of Australia) – member based not for profit industry council:

- improve productivity and liveability of industry & communities through sustainability in infrastructure

IS is deployed across Aus & NZ
to measure and report
sustainability performance
and drive
better infrastructure outcomes
benefiting communities and industry

State	Agency	Mandate
NSW	Department of Planning	Critical state significant infrastructure
	Transport for NSW	ALL projects >\$50m, High risk projects <\$50m
	Sydney Metro	ALL project in program
	Queanbeyan Palerang Regional Council	ALL projects >\$2m
QLD	Transport and Main Roads	ALL projects >\$100m
WA	Main Roads WA	ALL projects >\$100m
VIC	Vic Roads	ALL projects >\$100m
	Level Crossings Removal Authority	ALL projects in program
	Melbourne Metro	ALL projects in program
	City of Casey	Capital works projects
NZ	City Rail Link Ltd	ALL projects in program



Social Sustainability:

1. Understanding our Economic Impact
2. Inspiring the Next Generation
3. Investing in Future Talent
4. Building an Inclusive Workforce
5. Enhancing Sense of Place

Environmental Sustainability:

1. Saving Energy and Carbon
2. Achieving Resource Efficiency
3. Improving Biodiversity
4. Preventing Pollution
5. Using Sustainable Materials

The following requirements are mandated:

- Subcontractor is to provide details on their environmental and sustainability policy and if applicable details on the implementation of both policies.
- It is deemed that the sustainability objectives and targets shall be included in the Subcontract Sum.
- Subcontractor shall be monitored with regards to performance against the agreed objectives and targets.
- Subcontractor is to identify where any input materials have environmental product disclosure statements and /or are environmentally certified (i.e. good environmental choice Australia certification).
- Subcontractor is to identify where their product energy requirements are sourced from renewable energy and/or carbon offsets.
- The Subcontractor shall briefly describe initiatives that the Subcontractor will carry out to contribute to the sustainability topics.
- Subcontractor must identify and report on any sustainability initiatives that result in a reduction of raw materials, energy use, water use and impacts to air (emissions), land and water. These initiatives will become the agreed objectives and targets.

Project Commitment: Actively investigate water reduction opportunities to help eliminate excessive water use or reduce water consumption across the infrastructure life cycle

Water Efficiency

- The Subcontractor must not use drinking water for tasks where non-potable water would be best to use – e.g. street sweeping / dust suppression, where on-site or local sources of non-potable water are suitable for use in the Subcontractor's Activities and are available.
- All construction equipment requiring water is selected taking into account the water efficiency of the equipment and associated construction methodology.

The Subcontractor shall List the water efficient construction methods and confirm that these will be described in ALL construction method statements.

Water Efficiency Initiatives (include this table with your Construction Management Plan)

Tasks requiring water	Actions to minimised / eliminate water use	Water source (potable / non potable)

Energy & Carbon Efficiency

A critical theme of the Project Sustainability Documentation is energy efficiency, during construction.

The Subcontractor to take steps to ensure that all vehicles, plant and equipment, are:

- 1. selected and operated for optimum energy efficiency;**
- 2. not left idling when not in use;**
- 3. fitted with catalytic converters, diesel particulate filters or equivalent devices where reasonable and feasible; and**
- 4. well maintained and serviced in accordance with relevant equipment maintenance documentation to reduce emissions due to poor engine performance.**

Briefly describe and confirm approach in your Construction Management Plan

Plant and Equipment Schedule

The Subcontractor shall Identify and implement opportunities for energy efficiency.

Complete Table below to provide a schedule of major plant and equipment and confirm how this has been selected for optimum efficiency or ability to use alternates such as hybrid plant, solar lighting towers, battery-powered machinery, including the use timers while recharging plant and equipment.

Plant & Equipment Energy Efficiency Initiatives (include this table with your Construction Management Plan)

Plant / Equipment Item	Fuel / energy source	Measures to select or operate to max efficiency	Alternate option

Materials Schedule & Certifications

A critical theme of the Project Sustainability Documentation is minimising material usage and ensuring that materials have the correct environmental or sustainability certificates.

Where applicable, source materials and/or products with an ISCA approved environmental label (e.g. GECA, GBCA BEP, Ecospecifier, ISEAL and product or industry wide EPDs).

Include Materials Certification Schedule with your Procurement and Materials Management Plan)

[Materials and Waste Minimisation](#)

During design, there has been a focus on reducing materials use and associated wastage. The design has been detailed such that the quantity required has been reduced as far as practical.

Construction activity still has potential to generate large volumes of waste materials.

To reduce on-site waste and meet Project waste targets, the Subcontractor shall complete the predictive waste form **Appendix A**. This form includes target percentages for allowable waste of temporary and permanent materials.

The form should be completed to reflect the significant material products that will be used by the Subcontractor; Subcontractor materials wastage allowance should be noted; the Subcontractor shall note its waste minimisation actions and initiatives.

Appendix A – Scope of Works

Predictive Waste Schedule

Material Category	Quantity ordered	Wastage rate %	Target Waste allowance	Initiatives to meet reduce waste and meet target waste age rate
Bricks & Blocks				
Aggregate				
Tiles and ceramics				
Concrete Pre- Cast (large precast elements)				
Small Precast components (Kerbs etc.)				
Concrete – cast in place				

Packaging Takeback Schemes

For the identified materials and the Predictive Waste Form, use Table below to confirm what arrangements can be put in place to use zero packaging, minimal packaging and have the excess packaging returned to the materials supplier/ manufacturer.

Packaging Takeback initiatives (include this table with your Procurement and Materials Management Plan)



Material	Packaging Type	Packaging minimisation action	Packaging takeback scheme

Reporting

The Subcontractor shall report all sustainability data relevant to the scope of works. Data is to be provided electronically using Subcontractor Monthly Progress Report, with each monthly payment claim. Supporting data (dockets and/or invoices) corresponding to the reported data should also be provided.

The Subcontractor shall complete Table below to identify and confirm the sustainability reporting requirements relevant to the scope of works. *Reporting Requirements (to be included with monthly Progress Report)*

Item	Metrics	What (will be collected)
Energy, Fuels, Lubricants & Solvents	kg, l, kWh,	Quantities
Waste	kg/t, m ³	Quantities, Types, Recycled, Landfilled, Classifications, Descriptions
Spoil	kg/t	Quantities, Types, Reused, Recycled, Landfilled, Classification, Descriptions
Water	l/kl	Quantities, Potable, Non-potable, Source, Usage
Materials	kg/t	Quantities, Structural & Reinforcing Steel, Concrete, Timber, Supplier info, Certifications, Recycled Contents, Chain of Custody

Industry Key issues:

- The global demand for resources is forecasted to rise significantly this century
- Infrastructure uses a large quantity, but relatively small number, of key materials
- Transport of the materials and their sourcing is highly significant
- opportunities to reuse materials locally that would otherwise have ended up in landfill

Project objective is to **minimise** “Embodied” environmental impacts with materials used in a project:

- extraction and treatment of raw materials
- product manufacturing
- transport and distribution
- use of temporary materials
- use of materials for maintenance and replacements during the service life

What is required from you (monthly reporting):

- Report on delivered materials and products and their quantities
- Report on transport modes and distances for materials from manufacturer gate to project
- Report on materials used for subcontract works that are environmental labelled, accredited or certified products
- Provide details of the % of recycled/reused materials in your products

Examples of information requested:

Asphalt & bitumen

Asphalt products (modelled using generic data)	Amount	Unit	Transport mode(s)	Distance(s)
Select asphalt type		Select unit	Select transport mode	
Select asphalt type		Select unit	Select transport mode	
Select asphalt type		Select unit	Select transport mode	

Asphalt EPDs	Amount	Unit	Transport mode(s)	Distance(s)
[product]; [EPD registration number]		Select unit	Select transport mode	
[product]; [EPD registration number]		Select unit	Select transport mode	
[product]; [EPD registration number]		Select unit	Select transport mode	

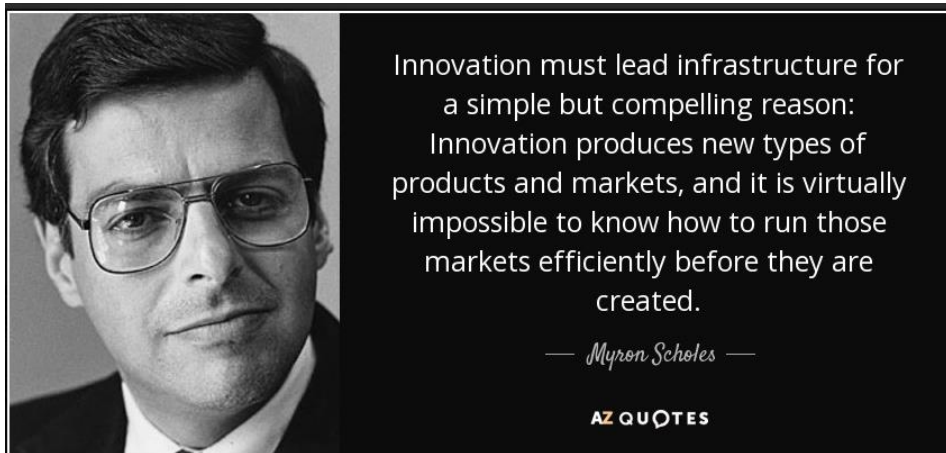
Ready Mixed (in-situ) Concrete - default mix designs

For information on default concrete compositions, see "Default concrete compositions" tab.

	Amount	Unit	Transport mode(s)	Distance(s)
Default Ready Mixed Concrete 1:		Select unit	Select transport mode	
Strength grade	Select MPa		Comments	
SCM	Select % SCM	of total binder content		
Default Ready Mixed Concrete 2:		Select unit	Select transport mode	
Strength grade	Select MPa		Comments	
SCM	Select % SCM	of total binder content		
Default Ready Mixed Concrete 3:		Select unit	Select transport mode	
Strength grade	Select MPa		Comments	
SCM	Select % SCM	of total binder content		

Do you have any Innovations ready to be trialled?

Have you implemented any innovations on other projects within last 12 months?



Key sustainable development issues relevant to the Armadale Project:

- **Natural Resource Management** (concrete, steel, piping, asphalt, aggregates, coatings, timber, cabling, chemicals, fill)— explore improved productivity, technological developments, new sources of supply, availability of substitutes and increased efficiency in resource-using production processes
- **Use of Energy**
- **Environmental and Social impact** (local businesses, residents) of the Project
- **Innovation and Technology**
- **Skills Training**

innovative
technology or
process

- **Example** - Energy saving technology, New material used, Site-wide infrastructure systems, Workshop/engagement processes, Software programs to aid in sustainability performance, Partnership and other arrangements and mechanisms that deliver sustainability outcomes
- **Must be WA, Australian, or a world first**

market
transformation

- **Must** contribute to market transformation towards sustainable development, innovation may not necessarily be new but applied in the market in a new way

Innovation
challenge

- **High Clinker Substitution** - Concrete (including pre-cast) used on the project has an average of 50% to 100% clinker substitutes (such as supplementary cementitious materials (SCMs) and fillers) by volume
- Clinker substitution may include fly ash, slag (all metals), metakaolin/clay-based, volcanic rock, silica fume, waste glass, vegetable ashes (eg. bagasse ash), ground limestone etc.

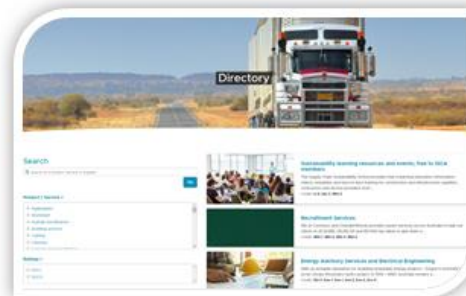
Supply Chain Sustainability School

The Subcontractor for Major Subcontract Packages are encouraged to complete a sustainability self-assessment with the Supply Chain School of Sustainability should the Supplier not operate under its own Company Sustainability Policy. The Sustainability Self-Assessment Review is free of charge and the steps are as follows:

1. Register to be a member of the school – go to the website: www.supplychainschool.org.au/self-assessment/
2. Complete the Self-Assessment Tool
3. Once completed, send to the Alliance the prioritised company action plan generated from the Self-Assessment



The **ISupply Directory** connects sustainable suppliers with projects and assets undertaking the IS Rating Scheme. The directory provides a unique opportunity for suppliers to market their products and services to projects that have requirements through the IS rating, and for IS rating partners to identify suppliers that will help them achieve sustainability outcomes rewarded under the scheme.



ARNLR – Supply Chain Day

Tender Evaluation



B. Tender Analysis - Non-Cost Comparison				
Project Name:		Armada Road to North Lake Road Bridge		
Package:		AAA-XXXX - Insert Package Title		
Legend: 1 = Very Poor, 2 = Poor, 3 = Fair, 4 = Good, 5 = Very Good				
		Tenderer:		Supplier A
		Tender Sum:		\$0
		Rank:		1
CRITERIA TO BE ASSESSED		PROJECT WEIGHT %	COMMENT	ASSESSMENT SCORE (1-5)
Non-Cost Criteria		Reviewed by:		
			40%	
A	Health & Safety management	Health & Safety	15%	
B	Environmental management	Environment	10%	
C	Sustainability management	Sustainability	10%	
D	Quality management / ISO 9001	Quality	20%	
E	Previous Experience	Package Engineer	10%	
F	Resources, Capability, Plant and Ease of doing business	Package Engineer	10%	
G	Understanding of Program, Drawings, Specs and Scope	Package Engineer	15%	
H	Workforce Participation (MRWA Prequal / Aboriginal Business / Buy Local)	Package Commercial	10%	
Sub Total		100%	Weighted Non-Cost Assessment %	0%
Cost Criteria		Reviewed by:		(Score 1 -5)
			60%	
I	Tender Price	Package Engineer	55%	
J	Contract Conditions	Package Commercial	15%	
K	Building Code 2016	Package Commercial	10%	
L	Insurances (WC, PL, PI, Transit, MV, Plant)	Package Commercial	10%	
M	Financial Capacity & Trust Legal Review	Package Commercial	10%	
Sub Total		100%	Weighted Commercial Assessment %	0%
			Total Rating:	0%
PREFERRED TENDERER:				
OTHER COMMENTS:				
▶ A. Tender Cost Comparison B. Tender Non-Cost Comparison				

What is Aboriginal Participation?

Aboriginal participation refers to creating and extending employment, training, contracting and engagement opportunities for Aboriginal and Torres Strait Islander people, enterprises and communities in areas we operate.

What is Social Procurement?

The act of choosing to purchase a social outcome as part of delivering goods and services; or, by engaging with social enterprises that support disadvantage people into the labour market.

- NOPs focus and plans
- Client drivers and plans
- State and Federal Government Policies
- Subcontractor plans

Aboriginal Participation Plan

\$5m
Business

10%
Employment



Cultural
Awareness

Achieving participation results:

Direct Hire

Targeted opportunities within our project delivery team.

Indirect Hire

Targets and supports in place across subcontracts to support Aboriginal employment.

Training and Development

Training partnerships and coordination of a Project wide program.

Support

Support our contract partners through resourcing, mentoring and trainee placement.

Procurement

Identification of opportunities for local Aboriginal businesses.

Relationship Building

Working in partnership with Main Roads and the local community to achieve a common goal.

Team Culture

A whole-team approach to creating a culturally aware and inclusive workplace.



Aboriginal
Employment



Aboriginal
Business
Engagement



Community
Engagement

Supporting Policies

NOP's Reconciliation Action Plans • Indigenous Participation Statement • Diversity and Inclusion Statement

Reporting Requirements



Ongoing monthly reporting will be a requirement of the project Sub-contractors and information will be collated into a Monthly Report

Reports will be submitted on a monthly basis

Accountability

Supports available at project level

Aboriginal Reference Group

Training programs

Referrals

Aboriginal Participation Project Fact sheet information on other local resources

Aboriginal Participation Manager Amanda Inman ainman@laingorourke.com.au Ph: 0400 269 366

