North Penrith

Stage 1 Project Application

Preliminary Construction Environmental Management Plan

27 October 2010

Contents

1 INTRODUCTION 1

1.1 Background 1

1.2 Purpose and Scope 2

1.3 Planning and Environmental Assessment Context 2

1.4 Landcom's Sustainability Targets for Projects 2

1.5 Project Scope and Timeframe 3

1.6 Project Management and Policies 4

1.7 CEMP for the construction works under the Stage 2 Project Application 4

1.8 Environmental Management Systems 4

2 LEGISLATIVE AND APPROVAL REQUIREMENTS 6

2.1 General 6

2.2 Conditions of Approval of the Concept Plan 6

2.3 Conditions of Project Approval 6

2.4 Licences and Permits 6

+3 ENVIRONMENTAL MANAGEMENT PROCESS 7

3.1 Organisational structure 7

3.2 Landcom 8

3.3 Main Works Contractor 8

3.4 Contract Administrator 8

3.5 Landcom's Project Manager 8

3.6 Main Works Contractor's Project Manager 8

3.7 Main Works Contractor's Site Manager 9

3.8 Main Works Contractor's Foreman 9

3.9 Environmental Management Auditor 9

3.10 Checklist, Forms and Registers 10

3.11 Environmental Control 10

3.11.1 Environmental Monitoring, Inspections and Auditing 10

3.11.2 Training and Awareness 10

3.11.3 Complaints Procedure 11

3.11.4 Amendments, Variations or Updating 12
3.11.5 Performance Reporting and Recording..... 12
3.12 Emergency Contacts 13

4 CONSTRUCTION ENVIRONMENTAL MANAGEMENT SUB PLANS 14

Appendices

APPENDIX A SUB PLANS

- Construction Air Quality Plan;
- Construction Sediment and Erosion Control Plan;
- Unexpected Finds Management Plan;
- Construction Waste Management Plan;
- Retained Vegetation Management Plan;
- Working Adjacent Site Boundary Management Plan;
- Construction Heritage Management Plan;
- Construction Noise and Vibration Management Plan;
- Construction Traffic Management Plan;
- Unexploded Ordnance Management Plan; and,
- Soil and Water Salinity Management Plan

APPENDIX B CHECKLISTS, FORMS AND REGISTERS

APPENDIX C EMERGENCY CONTACTS

APPENDIX D LANDCOM'S SUSTAINABILITY TARGETS FOR PROJECTS

lation to environmental management pertaining to construction. This advice is preliminary a
e refined by the Main Works Contractor, subject to detailed design, approval conditions a
erational preferences of the Main Works Contractor.

ne final CEMP will be prepared by the Main Works Contractor prior to commencement
nstruction works.

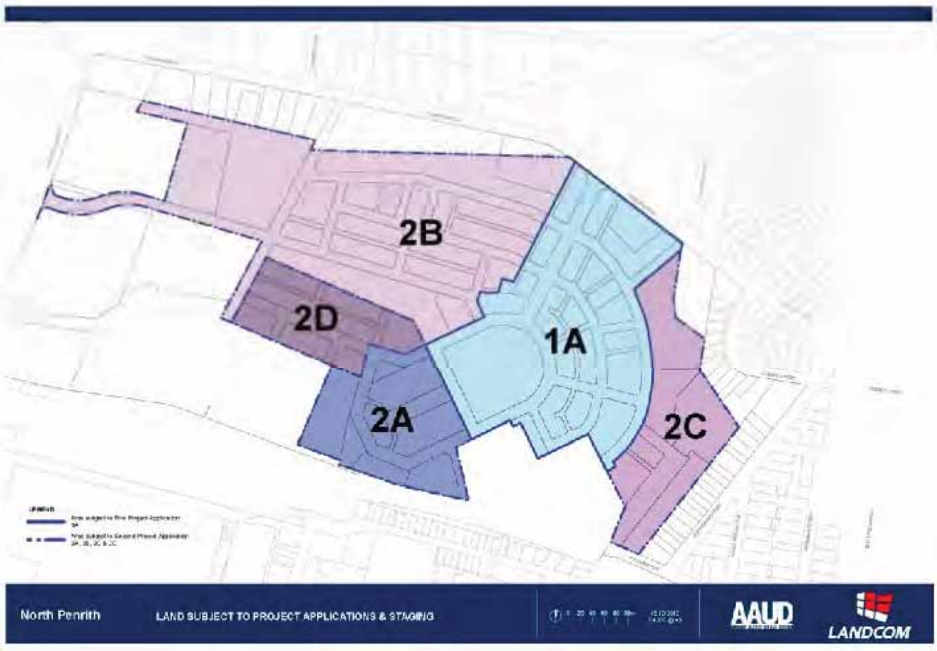
his Prelim CEMP should be read in conjunction with the JBA-prepared Environmental Asses
:A) under Part 3A of the *Environmental Planning and Assessment Act*, 1979 for the Stage 1 I
pplication.

gure 1 shows:

- the 40 ha North Penrith site;
- the intended sequencing of construction for the infrastructure works; and,
- the Stage 1 Project Application area (being 1A) (the Site) to which this Prelim applies.

ne number refers to the Project Application and the letter to the sequential staging.

gure 1 – Site Plan



1.2 Purpose and Scope

This Prelim CEMP outlines environmental controls and measures to be implemented during the Project.

The primary objectives of this Prelim CEMP are:

- to act as an overarching plan to address and provide a framework to manage environmental issues such as: construction noise, air quality, soil and erosion, UXO, contamination, construction traffic, flora and fauna protection, waste management, heritage protection as well as guidelines regarding safe working near RailCorp, Council (new Commuter Car Park) and Defence land;
- to provide continuous and safe access for pedestrians and cyclists during construction as appropriate, particularly at the interface of the site with existing public roads;
- to identify (at a high level) where mitigation measures are required;
- to document project requirements for monitoring the implementation of the Contractor's Environmental Management System in accordance with the requirements of the contract (through the audit and surveillance process);
- to ensure compliance with relevant legislation, approvals and licenses; and
- to specify the monitoring, reporting and auditing requirements, with nominated responsibilities and timing to ensure the necessary performance criteria are met.

This Prelim CEMP describes how the range of environmental issues associated with the Project's works will be managed and controlled by way of mitigation measures, monitoring, applying compliance standards, corrective actions, reporting and auditing proceedings.

A series of preliminary Sub Plans (**Appendix A**) have been prepared to outline the related management protocols of the various environmental matters. These Sub Plans will be applicable to all contractors and their subcontractors and suppliers, during the relevant project phases.

1.3 Planning and Environmental Assessment Context

This Prelim CEMP relates to an application made under Part 3A of the *Environmental Planning and Assessment Act* 1979 (EP&A Act) to allow construction of Stage 1 at the North Penrith site, being preparatory works, bulk earthworks, services infrastructure works, road infrastructure works, stormwater management works, landscaping works and the construction of the Community Pavilion.

An EA for the Concept Plan is being prepared by JBA in parallel with the preparation of this Prelim CEMP. It will contain a Statement of Commitment relating to the construction phase identifying the environmental safeguards and mitigation measures in order to minimize impact on the environment.

The relevant Conditions of Approval for the Concept Plan will be inserted in the Prelim CEMP upon receipt.

1.4 Landcom's Sustainability Targets for Projects

Appendix D contains the latest version of Landcom's Sustainability Targets for Projects. In the main, the targets pertain to matters of design but those that relate to construction have been taken up in this Prelim CEMP and are to be further developed for the final CEMP.

1.5 Project Scope and Timeframe

The Project will include these construction works:

- site establishment and perimeter security measures;
- establishment of environmental and safety controls and traffic control measures;
- preparatory works, including small building demolition, trees/ shrub removal, topsoil stripping and stockpiling for later reuse and the disposal of unsuitable topsoil material, and taking up and stockpiling existing concrete and asphalt hardstands and roads for later reuse in other stages of the construction works;
- bulk earthworks – cut and fill, including the importation of material to raise levels;
- sections of retaining wall next PTD;
- roads and road intersections;
- drainage and stormwater management infrastructure;
- utilities servicing infrastructure, viz, electrical, sewerage (including a sewage pumping station), telecommunications, potable water and gas;
- lots formation;
- minor works external to the Site, such as footpaths;
- the Community Building;
- landscaping;
- erecting informative signage at different road entries to the wider site; and
- site de-establishment and handover.

Subject to receipt of timely approvals, the Project is set to commence on-site in the third quarter of 2011. The projected timeframe is 8 – 12 months.

Construction activities will be undertaken within the approved work hours which are anticipated will be:

- Weekdays 7 am – 6 pm
- Saturday 8 am – 1 pm
- Sunday and Public Holidays No construction

1.6 Project Management and Policies

This Prelim CEMP describes measures for minimizing and managing environmental risks associated with the Project's activities as required under the *Environmental Planning and Assessment Act*, 1979. As such it is the duty of the Proponent and its contractors to ensure these risks are minimized through the application of industry best-practice and adherence to recognized standards and legislative requirements.

Landcom and each of its contractors must also ensure their own company and policy standards and development standards are met. These would include the likes of:

- Environmental Policy;
- Occupational Health and Safety Policy; and,
- Quality Management Policy.

1.7 CEMP for the construction works under the Stage 2 Project Application

It is the intention the final CEMP prepared for the construction of the works under Stage 1 Project Application will be adopted as the base document for the CEMP for the construction works under the Stage 2 Project Application, and augmented and customised to reflect:

- the construction works under Stage 2, which will not be dissimilar to those under Stage 1;
- the location of the works within the wider site, with reference to site boundaries and neighbours, and,
- site specific 'red flag ' matters such as vegetation retention areas and heritage items/ areas.

1.8 Environmental Management Systems

The CEMP is the key management tool and lead environmental management document in relation to environmental performance during the construction phase of the Project. However, it is important to acknowledge that this Prelim CEMP forms only part of the overall environmental management framework for the project and that the Prelim CEMP is supported by a range of supplementary documents and measures.

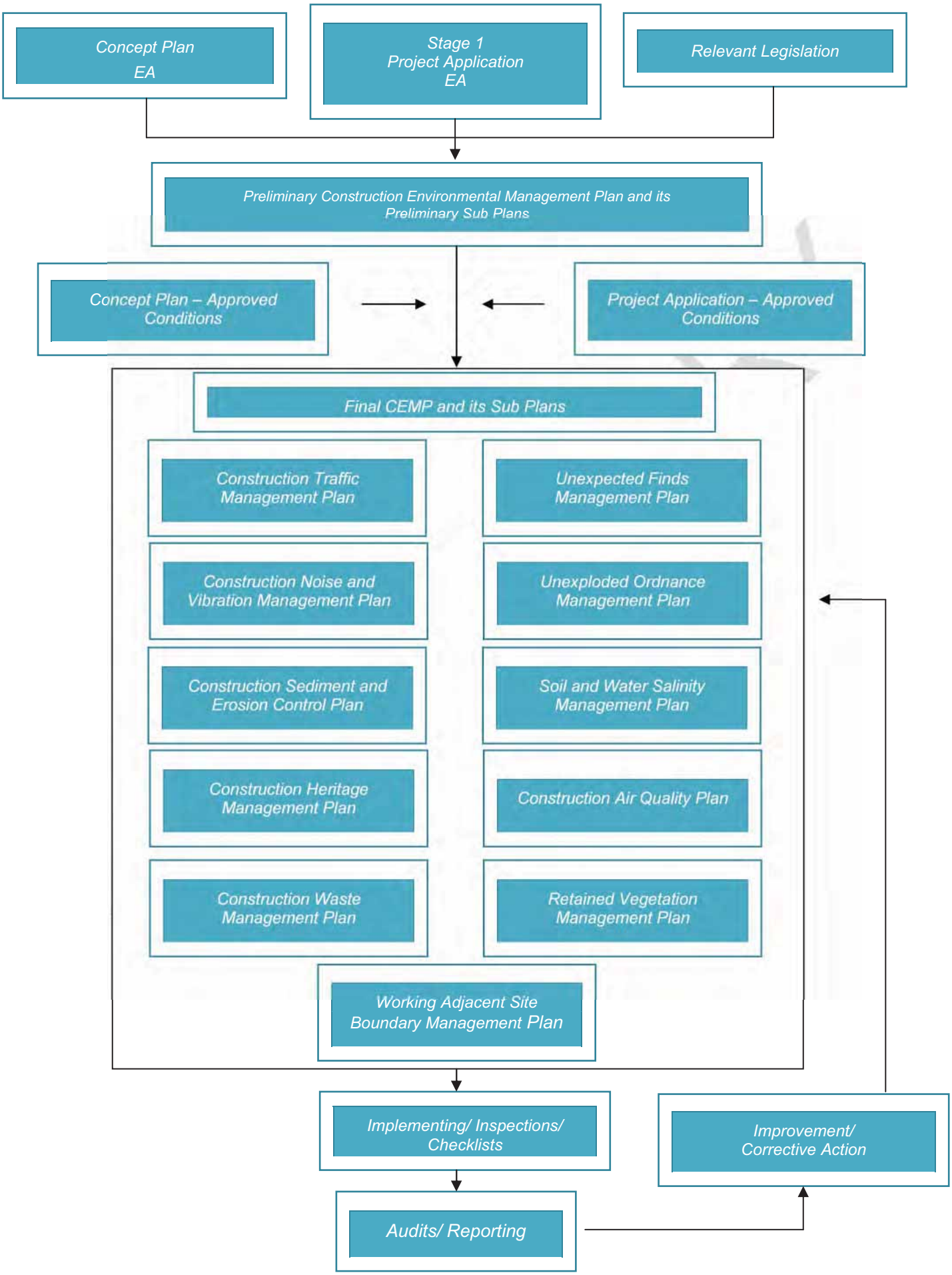
Figure 2 provides an outline of the environmental management frameworks and documents to be considered in the overall management of the Project.

In addition, conditions imposed on the Project and all relevant legislation must be adhered to for carrying out various activities in relation to the Project. Key approval and legislative requirements relating to this project are further outlined in **Section 2**.

It should be noted that this Prelim CEMP will require review following the issue of the Conditions of Approval and will form a guide as to the Contractor's requirements.

Adherence to the protocols contained within, or referred by, this document is the responsibility of the Contractor.

Figure 2 – Environmental Management Framework



2 LEGISLATIVE AND APPROVAL REQUIREMENTS

2.1 General

The primary legislative requirements considered by this Prelim CEMP are those determined under the *Environmental Planning and Assessment Act*, 1979 (through the Part 3A process).

Reference should be made to the EA for the Stage 1 Project Application, which this Prelim CEMP is a part, for the full range of environmental matters and their consideration..

In addition to the approvals issued under the Environmental Planning and Assessment Act, 1979, supplementary licenses or approvals under relevant environmental legislation may be required for the Project.

In particular, a licence under the *Protection of the Environment Operations Act*, 1997 (PoEO Act, 1997) may be required. The PoEO Act 1997 is administered by DECCW and a licence will be required from DECCW if any of the activities associated with the Works are determined to be a "scheduled activity" under Schedule 1 of the Act.

It is to be ascertained if a licence is necessary, to obtain it and make appropriate amendment to incorporate the relevant conditions of the licence in the final CEMP.

2.2 Conditions of Approval of the Concept Plan

Once the Concept Plan is approved, this Prelim CEMP will need to be updated to incorporate any relevant conditions from the approval of the Concept Plan.

2.3 Conditions of Project Approval

Once the Stage 1 Project Application is approved, this Prelim CEMP will need to be updated to incorporate all relevant conditions from the Project Approval.

2.4 Licences and Permits

The Main Works Contractor will obtain and keep current all licences and approvals (other than the development consent and the Construction Certificate to enable commencement of the Works). The Main Works Contractor will comply with the terms of the licences and approvals, and maintain a register of all permits and licences, including information on:

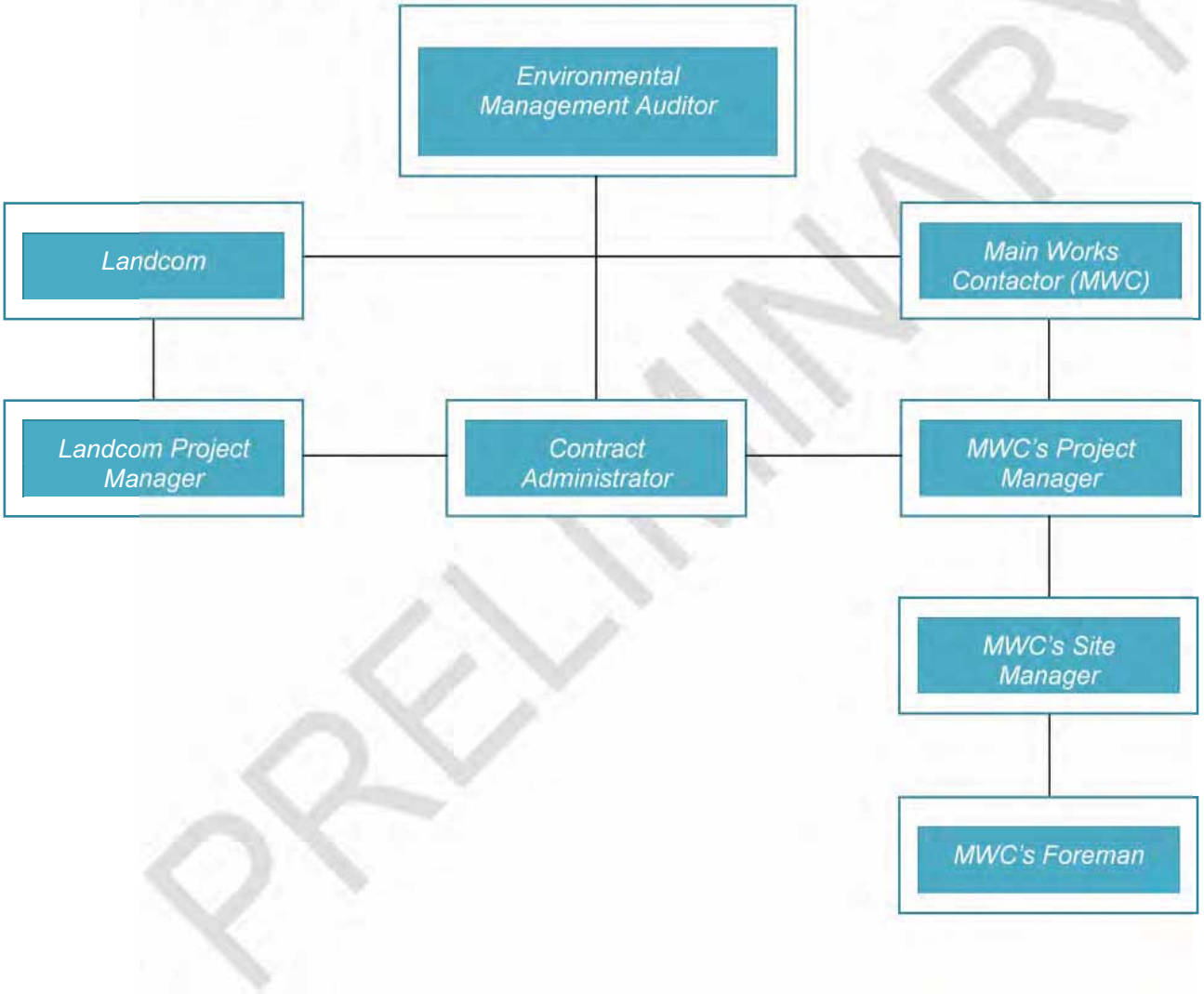
- regulatory authority;
- licence/ permit reference;
- purpose;
- licence holder, and;
- expiry/ renewal date.

3 ENVIRONMENTAL MANAGEMENT PROCESS

3.1 Organisational structure

The organisational structure for the environmental management process during construction is shown in **Figure 3**.

Figure 3 – Management Structure for the environmental management process



3.2 Landcom

Landcom defines and drives the Project. Landcom is responsible for obtaining planning approvals, and ensuring all relevant conditions are met.

3.3 Main Works Contractor

The Main Works Contractor will be responsible for the delivery of the Project under the terms of its contract with Landcom, and in accordance with all relevant legislation and planning conditions.

The Main Works Contractor will have ownership of the CEMP with all its measures to adequately prevent, minimise and/ or mitigate the environmental impact of the Project, and will be bound to implement it. The Main Works Contractor will be required to ensure all its subcontractors and suppliers are familiar with. and implement, the requirements of the CEMP.

3.4 Contract Administrator

The Contract Administrator will be named in the construction contract between Landcom and the Main Works Contractor and will have responsibility for ensuring the conditions of the contract, including those conditions pertaining to the protection of the environment, are met in full.

The Contracts Administrator will work closely with the Main Works Contractor's Project Manager and Landcom's Project Manager.

The Contract Administrator will have significant responsibility and accountability for environmental performance on the Project and must ensure consistency with the relevant legislative requirements, corporate standards and contractual obligations.

3.5 Landcom's Project Manager

Landcom's Project Manager has responsibility and accountability for the delivery of the Project. The Landcom's Project Manager must ensure adequate resources are provided to the Contract Administrator and the Environmental Management Auditor to enable them to effectively fulfil their roles.

The Landcom's Project Manager will work closely with the Contract Administrator and report to Landcom.

When on site, the Landcom's Project Manager will demonstrate commitment to the CEMP by participating in compliance audits and support the Environmental Management Auditor in reviewing overall environmental performance against stated objectives.

3.6 Main Works Contractor's Project Manager

The Main Works Contractor's Project Manager will have responsibility for ensuring the commitments of the Main Works Contractor are met in full, and that the CEMP is fully implemented.

The Main Works Contractor's Project Manager will ensure the necessary resources are provided to enable the Main Works Contractor to meet its responsibilities in full. The Main Works Contractor's Project Manager will liaise closely with the Environmental Management Auditor.

Responsibilities of the Main Works Contractor's Project Manager will include:

- implementing, monitoring and reviewing the CEMP;
- monthly evaluation of how effectively environmental controls are performing;
- liaising with Authorities and implementing any remedial measures should an environmental incident occur;
- active participation in auditing of site contractors and suppliers in relation to environmental performance and adherence to the CEMP; and
- updating the CEMP as required.

3.7 Main Works Contractor's Site Manager

The site-based Main Works Contractor's Site Manager will report to the Main Works Contractor's Project Manager and will ensure the requirements of the CEMP are implemented at all times during the Works.

Responsibilities of the Main Works Contractor's Site Manager will include:

- ensuring personnel receive site specific induction training that incorporates the environmental relevance of the CEMP and, as is reasonably practical, ongoing environmental awareness training;
- keeping records of environmental performance;
- liaising with Authorities and implementing any remedial measures when an environmental incident occurs; and,
- ensuring any complaints received are managed in accordance with the latest version of the CEMP.

3.8 Main Works Contractor's Foreman

The Main Works Contractor's Foreman will report to, and work closely with the Main Works Contractor's Site Manager.

3.9 Environmental Management Auditor

The Environmental Management Auditor will be a Landcom appointment but be independent and will work closely with the Contract Administrator, Landcom's Project Manager and the Main Works Contractor's Project Manager.

The Environmental Management Auditor performs the key role of monitoring the performance of the Main Works Contractor in the implementation of and compliance with the latest version of the CEMP.

The Environmental Management Auditor's responsibilities will include:

- conducting an environmental aspects and impact analysis to support the Main Works Contractor's CEMP;
- providing specialist environmental advice and guidance to the Project;
- to review any revisions of the CEMP;
- review and approve the environmental monitoring schedule required during the works;

- to liaise with the Main Works Contractor, authorities and local community as necessary;
- to ensure licenses, clearances, permits and approvals required are in place at the appropriate time;
- to attend the CEMP team meetings;
- to undertake regular audits of the Works against the requirements of the CEMP;
- ensuring others in the project team are informed in a timely manner of all non-compliances and environmental incidents; and,
- participating in environmental incident investigations and assisting in the development and implementation of corrective/ preventative actions.

3.10 Checklist, Forms and Registers

Appendix B contains proforma checklists, forms and registers to be utilised as part of the environmental management process. These documents will be developed and customised for inclusion in the final CEMP.

3.11 Environmental Control

3.11.1 Environmental Monitoring, Inspections and Auditing

A number of safeguards were developed during the preparation of the EA for the Stage 1 Project Application to prevent or minimize the environmental impacts that may be generated by the Project.

These measures are outlined in the Environmental Assessment (*JBA Urban Planning Consultants, 2010*) and are to be implemented throughout the duration of the Project.

Appendix B provides a checklist to record the monitoring and inspection of each measure to mitigate potential environmental impacts.

Environmental audits will be carried out to verify the safeguards listed in this Prelim CEMP are being carried out. Audits will be attended by the Main Works Contractor's Project Manager, the Main Works Contractor's Site Manager and the Environmental Management Representative as well as a representative for sub-contractors where relevant.

Completed checklists, registers and reports will be made available and a site inspection undertaken at each audit.

If a non-conformance is identified during an audit, the Main Works Contractor's Project Manager will be responsible for investigating the non-conformance and instigating corrective action. A corrective action report will be prepared, submitted to the Contract Administrator and the Environmental Management Representative and filed with the audit report.

3.11.2 Training and Awareness

All personnel will be suitably qualified and experienced to undertake their work in an environmentally responsible manner.

All personnel who have formal responsibilities under the CEMP will be trained in the requirements of the CEMP.

All personnel will receive both initial and ongoing environmental awareness training sufficient to ensure they are familiar with their responsibilities under the CEMP.

Project induction will provide all new site employees with an overview of the Project Environmental Management System and key aspects of the CEMP prior to allowing access to the worksite. Induction training will include the following environmental information as a minimum:

- knowledge of relevant legislation;
- roles and responsibilities of staff and management in regards to the environment;
- key environmental issues and controls (particularly in regards to sediment control);
- hazards, risks and emergency response plans;
- incident reporting procedure;
- complaint handling procedure; and,
- consequence of departure from the CEMP.

In addition, the Main Works Contractor and each sub-contractor will be required to provide all new employees with environmental induction training which addresses the CEMP and which at a minimum details:

- individual responsibilities under the CEMP; and,
- risk management strategies for accessing potential environmental impacts and for developing appropriate control strategies for any activity perceived to pose an environmental risk.

A register of environmental training provided will be maintained. The register will include nature of the training, dates, the names of persons trained, and training details as well as any refresher training that may be required. An example training record form is contained in **Appendix B**.

3.11.3 Complaints Procedure

Prior to the commencement of construction, the following will be established for dealing with complaints:

- a telephone number on which complaints about all activities at the site may be registered;
- a postal address to which written complaints can be sent; and,
- an email address to which electronic complaints may be transmitted.

The telephone number, address and email address will be clearly displayed on a sign near to the construction entrance to the site. The purpose of the sign will be clearly indicated on the sign.

A complaint will be entered as an incident by the person who received the initial complaint. The following information will be recorded:

- date and time of complaint;
- means of which complaint was received (phone, mail, email);
- personal details of complainant (if available);
- brief description of the complaint; and,
- action taken.

The information will be given to the Main Works Contractor's Project Manager who will liaise with the relevant personnel to close out the complaint. A complaints summary register is provided in **Appendix B**.

3.11.4 Amendments, Variations or Updating

The requirements of the CEMP may need to be amended, varied or updated as the Project progresses.

Following each revision of the CEMP, distribution is the responsibility of the Main Works Contractor's Project Manager.

A register of distribution will be maintained and relevant updates will be communicated to site personnel at weekly toolbox meetings. A copy of the most recent CEMP will be kept on site and will be easily obtainable at all times.

For all proposed amendments, or variations to the CEMP, the amendments and the subsequent responsibility will be documented in an amendment register, an example of which is contained in **Appendix B**.

Site environmental training will also be updated where relevant and the current version of the CEMP noted on the training register.

3.11.5 Performance Reporting and Recording

The Contractor's Site Manager is responsible for ensuring all relevant documentation is submitted and maintained within the Project filing and document control system.

Applicable documentation will include:

- all accidents and incidents reports and investigation outcomes;
- weekly and monthly environmental checklists and reports by contractors;
- internal and external audit reports;
- environmental monitoring reports;
- training records;
- complaint register;
- amendment register; and,
- minutes of meetings.

The Environmental Management Representative will report weekly to the Contract Administrator and Landcom's Project Manager on the status of all site environmental matters.

In addition to submitting a copy of the weekly checklists, the Main Works Contractor's Project Manager will report monthly to the Environmental Management Manager about environmental and compliance issues and the overall status of CEMP and regulatory compliance.

The Main Works Contractor's Site Manager will report monthly to the Main Works Contractor's Project Manager on the status of site environmental matters.

When a contractor or employee becomes aware of an environmental incident or hazard that is causing, or has the potential to cause, environmental harm, that person must advise his/ her

immediate supervisor who will notify the Environmental Management Representative and ensure that an incident report is completed.

3.12 Emergency Contacts

Appendix C contains a schedule of emergency contacts in the event of an environmental incident.

4 CONSTRUCTION ENVIRONMENTAL MANAGEMENT SUB PLANS

A number of Construction Environmental Management Sub Plans have been prepared to manage specific environmental risks associated with the Project (all preliminary):

- Construction Air Quality Plan;
- Construction Sediment and Erosion Control Plan;
- Unexpected Finds Management Plan;
- Construction Waste Management Plan;
- Retained Vegetation Management Plan;
- Working Adjacent Site Boundary Management Plan;
- Construction Heritage Management Plan;
- Construction Noise and Vibration Management Plan;
- Construction Traffic Management Plan;
- Unexploded Ordnance Management Plan; and,
- Soil and Water Salinity Management Plan

They are contained in **Appendix A** and will be further developed and duly implemented by the Main Works Contractor.

APPENDIX A SUB PLANS

This Appendix contains a number of Construction Environmental Management Sub Plans that have been prepared to manage specific environmental risks associated with the Project (all preliminary):

- Construction Air Quality Plan;
- Construction Sediment and Erosion Control Plan;
- Unexpected Finds Management Plan;
- Construction Waste Management Plan;
- Retained Vegetation Management Plan;
- Working Adjacent Site Boundary Management Plan;
- Construction Heritage Management Plan;
- Construction Noise and Vibration Management Plan;
- Construction Traffic Management Plan;
- Unexploded Ordnance Management Plan; and,
- Soil and Water Salinity Management Plan.

Construction Air Quality Plan

Objectives:

To minimise the impact of airborne pollutants, including odour, dust, windblown soil and exhaust emissions arising from construction activities.

Airborne pollutants have the potential to affect the health and amenity of site personnel and neighbours, and the vigour of vegetation.

See also the Construction Sediment and Erosion Control Plan.

Legislation/ Policy/ Guidelines/ References:

Protection of Environment Operations Act, 1997.

Regional Air Quality Index (RAQI).

National Environmental Protection Measure (NEPM) for Ambient Air Quality.

Performance Criteria:

No fugitive emissions (odour, dust, smoke and fumes) to air causing, or likely to cause, an environmental nuisance at or beyond the boundaries of the site.

Implementation Strategy

Requirements	Project Stage		
	Pre Construction (Design and Planning)	Earthworks	Infrastructure
Undertake the Works in accordance with the Construction Sediment and Erosion Control Plan.	X	X	X
A temporary hardcore roadway is to be placed on areas where large numbers of vehicle movements will occur, e.g. internal to the Site in the vicinity of site access points.	X	X	X
Site access and 'no-go zones' are to be established and maintained so as to minimise the footprint of the Works.	X	X	X
Material being transported to or from the Site by trucks is to be covered.		X	X

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure**
Plant and equipment is to be regularly serviced to ensure they are in working order to minimise exhaust emissions.		X	X
Where possible, ground cover is to be established on soil stockpiles and exposed surfaces.		X	X
Remove from Site any organic waste material that has the potential to emit an odour.		X	X
Cease relevant works during high wind conditions and/ or implement additional dust suppression.		X	X
Undertake dust suppression by water cart with water (non-potable, if/ when can be reasonably sourced at the Site) by routinely dampening down surfaces.		X	X
Monitoring:			
Corrective Action: If a complaint is received from a neighbour or the relevant Authorities, the Main Works Contractor's Site Manager will immediately: - take steps to resolve the complaint; and, - take steps to implement further mitigation measures to prevent further disturbance from the same cause. All complaints will be recorded in the Complaints Register.			
Responsibility: MWC's Project Manager. MWC's Site Manager. MWC's Site Foreman.			

Construction Sediment and Erosion Control Plan

Objectives:

To provide guidelines for the management of stormwater during construction.

To minimise the risk of soil erosion and loss during construction.

To provide procedures to ensure water quality objectives are met during construction.

Ground cover vegetation will be retained on those parts of the wider site designated for later stages of construction.

Legislation/ Policy/ Guidelines/ References:

Protection of Environment Operations Act, 1997.

Soil Conservation Act, 1938.

NSW Managing Urban Stormwater – Soils and Construction Manual (2004) 'Blue Book'.

Performance Criteria:

No ponding water to be discharged off site following a storm event or construction process without the appropriate level of treatment and compliance with the release criteria.

Implementation Strategy

Requirements		Project Stage		
		Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Preparation of a Site-specific Sediment and Erosion Control Plan (SECP) (including drawings and accompanying notes detailing required sediment and erosion control measures). Implement the requirements of the SECP. (NOTE: THE SECP IS PART OF THE DESIGN PACKAGE PREPARED BY WP SUBMITTED AS PART OF THE STAGE 1 PROJECT APPLICATION)		X	X	X
Erosion Controls	Define access limitations	X		
	Define staging of works	X		

Implementation Strategy				
Requirements		**Project Stage**		
		Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Erosion Controls	Define stockpile locations	X		
	Develop contingency plan for major storm events on lines of: If impending heavy rainfall (say, >20 mm in any 24 hr period) is eminent, protective measures to minimise runoff from stockpiles, sediment treatment areas and temporary sumps is to be initiated. This may include: - increasing the height of bunding around each stockpile, treatment area and sump using sandbags or the like; and, - anchoring geotextile cover or similar over each stockpile and treatment pad using sandbags for the duration of each event. Excavations not being carried out in the event of impending adverse weather conditions.	X		
	Define water diversions (clean and dirty) – divert up-slope water around the Stage 1 Site and appropriately stabilise any drainage channels.	X	X	X
	Define site office and parking – install roof downpipes that flow to collection tanks at the construction offices as soon as practicable.	X	X	X

Implementation Strategy				
Requirements		**Project Stage**		
		Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Sediment Controls	Measures for gutters and roadways to be regularly swept to maintain them from sediment.		X	X
	Measures for drains, gutters, roadways and access ways be maintained free of sediment and to the satisfaction of Penrith City Council.		X	X
	Sediment basins.		X	X
	Sediment fences at low points at the extent of the Stage 1 works.		X	X
	Stabilised access points including shaker grids.		X	X
	Waste receptacles.		X	X
Maintenance	Flocculation of sediment basins (if dispersive soils).		X	X
	Identify inspection regimes.	X	X	X
	Identify cleaning and replacement requirements for erosion and sediment control measures.	X	X	X
Stabilisation	Establishment of stabilised site entry.		X	X
	Establishment of a wash down area (wheel bath) adjacent to the Coreen Road site entrance to prevent tracking of soil on to public roads from trucks leaving the Site.		X	X
	Establishment of ground cover ('c-factor') requirements.		X	X

Implementation Strategy				
Requirements		**Project Stage**		
		Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Stabilisation	Stabilisation of concentrated flows through the site.		X	X
	Topsoil handling and replacement.		X	X

Monitoring:

The MWC's Site Manager will conduct a daily check and a weekly compliance check, with additional compliance checks undertaken following each rain event greater than 10mm for:

- water at discharge points and receiving waters;
- sediment basins stability and water levels;
- disturbance of exposed soil surfaces and stockpiles; and,
- progress of stabilised and rehabilitated surfaces.

Corrective Action:

In the event that non-conformance measures are identified, the MWC's Site Manager will take steps to remediate the impacted environment and to prevent further disturbances.

Responsibility:

MWC's Project Manager, MWC's Site Manager. Site Foreman.

Unexpected Finds Management Plan

Objectives:

To manage the process immediately following discovery of unexpected in-ground find in the course of construction.

Given the history of the site, there is the possibility of encountering an unexpected in-ground find on any part of the Site. By way of examples, a find could be:

- an underground storage tank;
- a filled pit or gully;
- a rubbish pit or buried building rubble;
- some unusual soil staining or discolouration;
- an odour emanating from the ground during earthworks;
- fragments of potentially asbestos-based products on the surface or unearthed during excavation (there is the possibility of buried asbestos- cement conduits and pits throughout the site); and,
- ash, coal, coal dust and similar materials.

Note: Elsewhere in this CEMP are other Plans relating to finds on the Site:

- Unexploded Ordnance (UXO) Management Plan, with its own UXO Protocol; and,
- Construction Heritage Management Plan.

Legislation/ Policy/ Guidelines/ References:

Occupational Health and Safety Act, 2000.

Occupational Health and Safety Regulation, 2001.

National Code of Practice for the Safe Removal of Asbestos [NOHSC:2002(1988)].

State Environmental Planning Policy No 55 -- Remediation of Land.

Penrith City Council Policy for the Management of Contaminated Land 2005.

Your Guide to Working with Asbestos, WorkCover NSW, 2002.

Contaminated Lands Management Act, 1997.

Soil Conservation Act, 1938.

Protection of the Environment Operations Act 1997.

Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act, 1997.

Performance Criteria:

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
A straightforward Unexpected Finds Protocol (UFP) is to be prepared. The Protocol is to be on the lines of: Should any site person discover something unexpected on or within the ground then: - work is to immediately cease in the area of the discovery; - the site person is to immediately report the discovery to the MWC's Site Foreman; - the area of the discovery is to be cordoned off; - the MWC's Site Foreman or MWC's Site Manager is to immediately call the Landcom Project Manager; - Landcom's Project Manager is to arrange for an environmental engineer to visit the Site and assess the discovery. The environmental engineer is to advise on the required course of action – in the immediate term and in the longer term - to appropriately deal with the discovery. This may involve sampling and testing, undertaking a detailed assessment and preparing a Remediation Action Plan (RAP) or Work Method Statement (WMS) to direct any required remediation works;	X		

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
- the report of the assessment and the RAP/ WMS is to be reviewed and endorsed by the Site Auditor; and, - the remediation works are to be are undertaken and the environmental engineer is to validate the remediation works on completion to the satisfaction of the Site Auditor.			
The Protocol is to be displayed at the site for the benefit of all site personnel.		X	X
Introducing the Protocol is to be part of the site induction program and its existence is to be refreshed at likes of routine toolbox talks.		X	X
Monitoring:			
Corrective Action:			
Responsibility: MWC's Project Manager, MWC's Site Manager. MWC's Site Foreman.			

Construction Waste Management Plan

Objectives:

To classify waste, minimise waste creation and disposal, and maximise the potential for material reuse/ recycling on the Site or external to the Site.

Landcom's Triple Bottom Line program (TBL Program) is an integrated framework for achieving social, environmental and economic/ financial sustainability. In relation to indicators for construction waste, Landcom has clear targets for the quantum of construction and demolition materials reused in site or elsewhere:

- achieve 95% recovery (reuse and recycle) of total construction and demolition waste materials generated from the sum of civil works contracts completed in that year; and,
- achieve 95% recovery (reuse and recycle) of total construction and demolition waste materials generated from the sum of building projects delivered in that year. This target will be applicable for the Community Building in Stage 1.

(Future: This Plan to be developed in relation to the beneficial reuse in later stages of the existing concrete and asphalt materials on the site).

Legislation/ Policy/ Guidelines/ References:

Waste Avoidance and Resource Recovery Act 2001 (WARR Act).

Protection of the Environment Operations Act, 1997.

Protection of the Environment Operations (Waste) Regulations, 2008.

Waste Avoidance and Resource Recovery Act, 2001.

Austroads Environmental Strategy, AP-S27" 2002.

Austroads Guide to Road Design Part 7 – Geotechnical Investigation and Design.

Performance Criteria:

Implementation Strategy

Requirements	Project Stage		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Where practical, use suppliers with a working waste minimisation policy.	**X**	**X**	**X**
Quantities of construction materials to be carefully managed to minimise surpluses and scrap.	**X**		**X**

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Empty drums and containers stored within a bounded area to be periodically removed by a licensed recycling or waste contractor.		X	X
Excess chemicals or liquid wastes to be disposed of using a contractor and/ or facility licensed to accept them for processing or disposal.		X	X
Where practical, green waste arising from landscape maintenance, such as mowing, brush cutting, trimming, tree pruning and weeding to remain in-situ. Vegetation from tree lopping activities to be mulched and reused in landscaped areas.		X	X
Green waste and trimmings to be kept away from drainage lines and waterways.		X	X
Where vegetative waste is to be disposed of, it is to be taken to an approved facility.		X	X
On-site waste receptacles such as mini-skips, bins & reo cages will be installed throughout the project in designated areas. These should be covered to prevent waste being moved by wind.			
Recyclable waste is to be collected, by type, separate from general refuse. Each recyclable waste is to be disposed of to a licensed recycling facility. General refuse is to be collected and transported to an approved disposal site.		X	X
All work areas to be maintained in a neat and tidy condition. Litter bins to be used at all times, with regular emptying to prevent any accumulation of litter on the Site.		X	X

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Introducing the correct waste management procedures (based on the principles of reduce, reuse and recycle and appropriate disposal) are to be part of the site induction program and its existence is to be refreshed at likes of routine toolbox talks.		X	X
Monitoring: The following waste streams will be monitored and reported on in order to maintain waste reduction and removal protocols: - waste generation; - waste reuse; - waste recycling; and, - waste treatment and disposal.			
Corrective Action: Incidences of deviation from this Plan will be promptly investigated by the MWC's Site Manager to identify the primary cause and corrective actions will be established to ensure the non-compliance is not repeated.			
Responsibility: MWC's Project Manager, MWC's Site Manager, MWC's Site Foreman.			

Retained Vegetation Management Plan

Objectives:

To minimise degradation or inadvertent damage to those items or areas of vegetation on the Site that are to be retained within the development. To manage items and areas within later stages of construction.

The retained vegetation in Stage 1 is:

- those mature trees on the curve of the new oval (OS 1).

- *(Future: Items and areas of vegetation to be retained (and thus the subject of a Retained Vegetation Management Plan) in a later Stage:*
- *tree stand and its understorey immediately west of Thornton Hall (OS X);*
- *trees stand and its understorey in the north east corner of the wider site where the vegetation has offered the possibility of indigenous peoples' artefacts being undisturbed;*
- *the single Hoop Pine adjacent the entry road off The Crescent; and,*
- *(possibly) trees associated with Coombewood at the wetland in the western part of the wider site).*

Legislation/ Policy/ Guidelines/ References:

Performance Criteria:

No disturbance of vegetated areas outside the construction area. No degradation or damage to identified items or areas within the construction area.

Implementation Strategy

Requirements	Project Stage		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Landcom will appoint an Arborist to give advice to the Main Works Contractor on the protection, and continued good health and wellbeing of those trees to be retained in the development. The advice will centre on *AS4970-2009 Protection of trees on development sites.*	**X**	**X**	**X**

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
The areas outside the Stage 1 area (identified as 'future' above and including a generous buffer) will be fenced off and or otherwise identified as 'no-go' areas for construction or wider site upkeep activities.	X	X	
Existing topsoil will be taken-up, stockpiled and re-used wherever possible.	X	X	X
To the extent practical, weeds, including woody weeds, found on the Site, will not be mulched and will be removed from the site to a facility accredited to receive green waste.		X	X
Introducing the measures to safeguard retained vegetation is to be part of the site induction program and its existence is to be refreshed at likes of routine toolbox talks.		X	X
Monitoring: The Arborist will monitor the protection, health and wellbeing of the retained trees and liaise with the Main Works Contractor on the steps to be taken to safeguard the trees. The Arborist will report to Landcom's Project Manager and the Contract Administrator on the diligence of the Main Works Contractor in this regard.			
Corrective Action: As directed by the Contract Administrator upon advice from the Arborist.			
Responsibility: MWC's Project Manager, MWC's Site Manager, MWC's Site Foreman.			

Working Adjacent Site Boundary Management Plan

Objectives:

To establish appropriate practices with respect to construction activities near and on the boundary with the different neighbours around the Site.

There will be occasions when works are carried out on neighbouring land. Specific Work Method Statements or similar will be prepared for those activities. Any work within or immediately adjacent the railway corridor will require considerable planning, liaison and adherence to established protocols with RailCorp.

The site boundaries to note in Stage 1 are:

- the boundary with the Penrith Training Depot; and,
- Coreen Avenue.

(Future: site boundaries associated with future stages (and thus the subject of an updated Working Adjacent Site Boundary Management Plan) in a later Stage:

- *the railway corridor;*
- *the Commuter Car Park;*
- *the short length of western boundary section with Museum of Fire and the longer section with SkillsWest Training Centre;*
- *the section that is the rear boundary of Coombewood;*
- *the western boundary section with Kennards;*
- *the northern section with Mobil Lubes Direct; and,*
- *the eastern boundary that is the rear of the Lemongrove residences).*

Legislation/ Policy/ Guidelines/ References:

Performance Criteria:

No issues with any neighbours due to poor communication by the Main Works Contractor or due to construction activity being contrary to previous advice to the neighbour.

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
This plan to be developed by the Main Works Contractor, to address the likes of: - Safety and security; - Site fencing; - Stormwater and sediment controls; - Stockpiling adjacent boundaries; - Vehicle movements; and, - Timing and program.			
Monitoring:			
Corrective Action:			
Responsibility:			

Construction Heritage Management Plan

Objectives:

To minimise degradation or inadvertent damage to those items or areas of heritage-significance at North Penrith during construction. To manage items and areas within later stages of construction.

There is no specific item or area within the Stage 1 construction area.

(Future: later stages of construction will need to consider for later versions of the Construction Heritage Management Plan:

- *Thornton Hall and its curtilage;*
- *trees stand and its understorey in the north east corner of the wider site where the vegetation has offered the possibility of indigenous peoples' artefacts being undisturbed (see Retained Vegetation Management Plan);*
- *the single Hoop Pine adjacent the entry road off The Crescent (see Retained Vegetation Management Plan); and,*
- *(possibly) trees associated with Coombewood at the wetland in the western part of the wider site (see Retained Vegetation Management Plan)).*

Note: Elsewhere in CEMP are other Plans relating to finds on the Site:

- Unexploded Ordnance (UXO) Management Plan, with its own UXO Protocol; and,
- Unexpected Finds Management Plan, relating to soils and contamination.

Legislation/ Policy/ Guidelines/ References:

Performance Criteria:

No unauthorised disturbance to potential indigenous heritage material. No breach of protocols set out in relation to Aboriginal Heritage. No complaints received in relation to the management of indigenous heritage values.

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Notwithstanding the areas of particular interest are clear of the Stage 1 area, prior to the commencement of any construction works, undertake: - an archival recording of items of heritage significance (recommendation source: Tanner Architects) - an archaeological recording of the area south of Combewood and to the rear of Thornton Hall (recommendation source: Casey and Lowe).	X		
Thornton Hall is currently fenced off and the building itself locked up. This will be maintained during Stage 1 construction. Landcom will arrange for the building to be inspected on a weekly basis to confirm the security measures remain in place and there has been no unwarranted entry.	X		
A straightforward Indigenous Artefact Finds Protocol is to be prepared. The Protocol is to be on the lines of: Should any site person discover a suspected indigenous artefact on or within the ground then: - work is to immediately cease in the area of the discovery (10m clearance all round); - the site person is to immediately report the discovery to the MWC's Site Foreman;	X		

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
- the area of the discovery is to be cordoned off; - the MWC's Site Foreman or MWC's Site Manager is to immediately call the Landcom Project Manager; - Landcom's Project Manager is to arrange for its heritage consultant to visit the Site and assess the discovery. The environmental engineer is to advice on the required course of action - in the immediate term and in the longer term considering, inter alia, statutory obligations - to appropriately deal with the discovery.			
The Protocol is to be displayed at the site for the benefit of all site personnel.		**X**	**X**
Introducing the measures to identify potential indigenous artefacts and the steps to be taken in the event that a potential artefact is discovered is to be part of the site induction program and its existence is to be refreshed at likes of routine toolbox talks.		**X**	**X**
Monitoring:			
Corrective Action:			
Responsibility: MWC's Project Manager, MWC's Site Manager. MWC's Site Foreman.			

Construction Noise and Vibration Management Plan

Objectives:

To mitigate noise and vibration generated as a result of the construction activities so as to maintain the local acoustic amenity at an acceptable level.

The most sensitive receivers will be the residents in the Lemongrove precinct to the east of the site. In addition, there is potential for construction noise and vibration to be nuisance for the Penrith Training Depot.

Construction noise impacts may result from construction traffic, materials and waste handling and from the operation of construction plant and equipment.

The Noise and Vibration Assessment predicted statutory compliance for noise would be achieved at all offsite receiver locations provided best practice amelioration measures are adopted.

Legislation/Policy/Guidelines/References:

Environmental Planning and Assessment Act, 1979.

Protection of Environment Operation Act, 1997.

NSW Interim Construction Noise Guidelines (2009).

Assessing Vibration: A Technical Guideline (2006).

Performance Criteria:

Nil complaints from neighbours or the relevant Authorities.

Implementation Strategy

Requirements	Project Stage		
	Pre Construction (Design and Planning)	Earthworks	Infrastructure and Subdivision Works
Appropriate respite times are to be identified for any particularly noisy activity.	X	X	X
Consider whether temporary noise barriers are required during the undertaking of works to mitigate noise impacts to neighbours.	X	X	X

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Consider if attended vibration monitoring is appropriate to validate safe working distances at the commencement of any vibration intensive activities to ensure compliance with BS 7385 at the northern boundary (next the Mobil site and its underground tanks) and on the eastern boundary (next the residences and the heritage significant Thornton Hall).	X	X	X
Set up and maintain a complaints and feedback hotline or equivalent and promptly address all complaints pertaining to noise and vibration.	X	X	X
Give advance notification to nearby residents and business owners of construction activities that have the potential to cause noise or vibration nuisance.	X	X	X
Use of a broadband style 'quacker' alarm or flashing lights in lieu of the conventional 'beeper' style reversing alarms.		X	X
Use of silenced equipment where feasible, with appropriate mufflers fitted and maintained on construction and earth-moving equipment.		X	X
Trucks transporting materials to and from the site are to avoid local roads. This will be achieved by virtue of the Construction Traffic Management Plan.		X	X
Combustion engine plant, such as generators, compressors and welders, are to be carefully checked to ensure they produce minimal noise, with particular attention to residential grade exhaust silencers and shielding around motors.		X	X
Trucks and other machines are to be turned off when not in use and are not to be left idling.		X	X

Monitoring:

Environmental Management Representative site inspections.

Receipt of any noise and vibration related complaints.

Corrective Action:

If a complaint is received from a neighbour or the relevant Authorities, the Main Works Contractor's Site Manager will immediately:

- take steps to resolve the complaint; and,
- take steps to implement further mitigation measures to prevent further disturbance from the same cause.

All complaints will be recorded in the Complaints Register.

Responsibility:

MWC's Project Manager, MWC's Site Manager. MWC's Site Foreman.

Construction Traffic Management Plan

Objectives:

To safely manage construction traffic and to mitigate any potential impacts to public transport, walking and cycling accessibility, amenity and safety during construction.

The only construction entry to the Site will be off the access road to the Commuter Car Park. There will be no access off Coreen Avenue. Vehicles will enter and exit the Site in a forward motion. All large construction vehicles will be required to turn left from the Commuter Access Road into Coreen Avenue.

Temporary closures and diversions of traffic will be required to undertake construction of the new roundabout on Coreen Avenue. A potential diversion route exists via Coombes Drive. It would be deployed only during peak periods.

Local Roads will not be impacted by construction traffic. The occasional requirement for heavy vehicles access to Penrith Training Depot will be satisfied. Commuters moving between the Commuter Car Park (current temporary or future new) are not impacted by the Works under the Stage 1 Project Application.

Cyclists and pedestrians will not be affected by the Works, excepting for:

- the relatively short period when constructing those works beyond the boundary of the Site in Coreen Avenue; and,
- for anyone cycling or walking between the railway station and Coreen Avenue along the access road to the Commuter Car Park where they may be impacted by construction traffic entering or exiting the Site from the same road.

Both situations are eminently manageable.

The nearest public transport route is along Coreen Avenue and it will only be impacted by the Works for those works beyond the boundary of the Site in Coreen Avenue.

There will be car parking for Site Personnel within the Site. Site Personnel will be encouraged to car pool. The existing road network within the Site will be used, wherever practical.

Construction traffic will be generated by these principal activities:

- trucks importing fill material to raise site levels;
- trucks removing from the Site any suitable excavated material (minimal)
- trucks delivering ready-mixed concrete (infrequent, and volumes are not significant in Stage 1);
- daily movement of small vehicles for site personnel coming to/ from work; and,
- general delivery of materials and equipment.

In relation to peak traffic activity, the provisional estimate of the volume of imported fill is circa 20,000m^3. Considering the probable construction program, this will equate to circa 1,600 – 1,700 truck arrivals, at 25 - 30 truck arrivals per typical working day for a period of some 12 weeks. Reasonable to assume that at the same time there could be further, say, 15 daily vehicular arrivals. Therefore, the peak traffic activity would be circa 45 daily truck arrivals throughout the day, augmented by Site Personnel vehicles movement at the start and end of the day.

Off-peak, after the site has been filled, the traffic activity will reduce to circa 10 -15 truck arrivals per typical working day, augmented by Site Personnel vehicles movement at the start and end of the day.

Adjacent the Site is Castlereagh Road, a main arterial road, which via Mulgoa Road, connects directly with the M4 motorway, the predominant major route in the region. It can be expected the majority of large vehicles will use this route.

Legislation/ Policy/ Guidelines/ References:

Performance Criteria:

Safe and efficient movement of vehicles and pedestrians at all times.

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
Individual Traffic Control Plans (TCPs) will be prepared for specific areas of work or activities on Coreen Avenue. In preparing each TCP, the Main Works Contractor will liaise with the appropriate Roads and Traffic Authority. (Future Stages: Lemongrove Road, The Crescent and again at Castlereagh Road at end of access road to Commuter Car Park).	X		X
Plan and implement traffic control measures (temporary signage, traffic barriers, traffic control crew, delineation devices, ROL applications, temporary speed zones).	X		X
Movement of large construction vehicles will be timed so as not to interfere with the tidal movements of commuters (in early morning, and out early evening).		X	X
Construction vehicles entering and exiting the Site will be controlled by security access at the entrance gates. These gates will be set back into the Site to enable arriving vehicles to be off the access road whilst undertaking entry formalities.		X	X

Monitoring:

The Main Works Contractor's Site Manager will undertake a daily inspection of any work area in Coreen Avenue and be satisfied on all matters relating to safety and traffic movement, and compliance with the TCP.

Corrective Action:

The Main Works Contractor's Site Manager will immediately direct and oversee any shortcomings relating to safety and traffic movement, including liaising with the roads and traffic Authorities and amending the TCP as required.

Responsibility:

MWC's Project Manager, MWC's Site Manager, MWC's Site Foreman.

Unexploded Ordnance (UXO) Management Plan

Objectives:

To manage the process immediately following discovery of an item that may or may not be a UXO to safeguard the risk to life and the environment.

A UXO is explosive ordnance, such as artillery shells, mortars or grenades, which did not explode when used.

The potential discovery at North Penrith is considered very low, however, considering the site's history, it is appropriate that there be an Unexploded Ordnance (UXO) Management Plan.

Legislation/ Policy/ Guidelines/ References:

Performance Criteria:

Nil injury to anyone on the site in the course of carrying out the construction works due to inappropriate action or inaction arising from discovery of a UXO item.

Implementation Strategy

Requirements	Project Stage		
	Pre Construction (Design and Planning)	Earthworks	Infrastructure and Subdivision Works
A straightforward Unexploded Ordinance (UXO) Protocol is to be prepared. The Protocol will be on the lines of: Should any site person discover an item on the site that may be an UXO item then: - there is to be no attempt to touch the item; - there is to be no attempt to move the item to a 'safer' location; - the site person is to immediately report the discovery to the MWC's Site Manager; - the location is to be immediately cordoned off and all site personnel are to be moved well clear of the cordoned off area; the MWC's Site Manager is to immediately inform the Police;	X		

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**
- upon arrival of the Police, the MWC's Site Manager is to follow the instructions of the Police and arrange for the Main Works Contractor to facilitate the Police; - depending on the location of the find, it may be appropriate for the MWC's Site Manager to inform neighbours to the site; - with the immediate site adjacency of the Department of Defence's Penrith Training Depot (PTD), the MWC's Site Manager is to inform the senior personnel in the PTD after informing the Police; and, - the MWC's Site Manager is to inform Landcom and/ or Landcom's Project Manager.			
The Protocol is to be displayed at the site for the benefit of all site personnel.		**X**	**X**
Introducing the Protocol is to be part of the site induction program and its existence is to be refreshed at likes of routine toolbox talks.		**X**	**X**
Monitoring:			
Corrective Action: It is the responsibility of the Police to instigate and oversee the process of investigation and disposal.			
Responsibility: MWC's Project Manager, MWC's Site Manager, MWC's Site Foreman.			

Soil and Water Salinity Management Plan

Objectives:

TO BE PREPARED BY THE GEOTECHNICAL ENGINEER AND THE MAIN WORKS CONTRACTOR

Legislation/ Policy/ Guidelines/ References:

Performance Criteria:

Implementation Strategy			
Requirements	**Project Stage**		
	Pre Construction (Design and Planning)	**Earthworks**	**Infrastructure and Subdivision Works**

Monitoring:

Corrective Action:

Responsibility:

APPENDIX B PROFORMA CHECKLISTS, FORMS AND REGISTERS

This Appendix contains proforma checklists, forms and registers to be utilised as part of the environmental management process. These documents will be developed and customised for inclusion in the final CEMP:

- Environmental Monitoring and Inspection Checklist;
- CEMP Amendment Register;
- Training Register;
- Complaint Log Sheet; and,
- Complaints Summary Register.

Environmental Monitoring and Inspection Checklist			
Date:	**Inspection by:**	**Inspection no.**	
Item	**Satisfactory Yes/No/NA**	**Follow up Required Yes/No (Responsibility)**	**Comments**
Stormwater Erosion and Sediment Control			
Have open areas of excavation and disturbed soils been kept to a minimum?			
Are temporary sediment and erosion controls (e.g. silt fences) installed and maintained in an effective condition?			
Road status (is there sediment/material on roads surrounding the site?)			
Shake-down area established and maintained			
Visual signs of water pollution			
Are stockpiles clear of drains, gutters and footpaths?			
Is surface water diverted from upstream areas to minimise the amount of water flowing through the site?			
Are wheels on trucks leaving the site inspected for soil and cleaned if necessary?			
Contamination			
Are suspected Acid Sulphate Soils being tested and treated (if required) as per ASS Management Plan?			

Contamination			
Are liquid storage areas well bunded?			
If flooding has occurred, have construction works ceased?			
Are spill kits available on site? If so are they appropriately stocked?			
Has potentially contaminated stormwater been contained in storage bunds and first flush tanks?			
Have disturbed areas been revegetated?			
Air Quality			
Is plant and equipment in proper working order?			
Has dust been effectively controlled by water or ceasing work if necessary?			
Have site access and no go zones been established to minimise the site footprint?			
Noise Management			
Is construction equipment of appropriate size and capacity and inspected and maintained regularly?			
Have noise control measures been implemented around noisy activities?			
Is the Complaints register up to date?			

Waste Management			
Are bins and waste disposal recycling facilities available on site and clearly labelled?			
Are soils being re-used on site where feasible?			
Is the Site tidy and clear of general refuse?			
Is waste being separated and recycled?			
Heritage Management			
Are Heritage items appropriately protected?(e.g. fencing)			
If any indigenous or non-indigenous items have been found, has NPWS or the Heritage Council been notified?			
Flora and Fauna Management			
Are trees and vegetation to be retained on site adequately protected?			
Is landscaping being carried out using native flora endemic to the region?			
Inspected by: Signature: Date:			

CEMP Amendment Register				
Date	**Amendment**	**Reason for Amendment**	**Responsibility**	**Follow up required** **Yes/ No**

Training Register					
Date	**Name**	**Company**	**Position**	**Training Details**	**Follow up required** **Yes/ No**

Complaint Log Sheet

Complaint Information:

Received: **Date:** **Time:**

Name of Person Taking Details of Complaint:

Type: (circle)

Phone call / Fax / personal contact / Letter / Email

Other

Details of Person Making the Complaint:

Name:

Contact Details (Address and/or Phone):

Commitment Given:

Action Taken:

Details of Resolution:

Signed:

Name:

Title:

Date:

Complaints Summary Register			
Name of Person Making Complaint	**Address and Contact Phone Number**	**Brief Description of Complaint (including Date Complaint Received)**	**Follow Up Date and Details of Resolution Process and Outcome**

APPENDIX C EMERGENCY CONTACTS

This Appendix contains a schedule of emergency contacts in the event of an environmental incident.

Emergency Contacts

Project Contacts		
Position	**Name and Organisation**	**Phone**
MWC's Project Manager		
MWC's Site Supervisor		
MWC's Site Foreman		
Landcom nominated contact(s) (Project Director/ Senior Development Manager)		
Landcom's Project Manager		
Contract Administrator		
Environmental Management Representative		

Emergency Services and Others	
Ambulance	000
Fire Brigade	000
Police	000
District Hospital	TBA

DECCW (EPA) Pollution Line	131 555
Dangerous Goods Licensing Hotline	131 050
Work Cover-Sydney	(02) 4321 5000
WIRES	1300 094 737
Sydney Catchment Management Authority	1800 061 069
Local Aboriginal Land Council	
Telstra	132 000
Sydney Water	132 090
Integral Energy	
Jemena	
Penrith City Council	
Penrith Training Depot (neighbouring site)	
Museum of Fire (neighbouring site)	
SkillsWest Training Centre (neighbouring site)	
Penrith Station (neighbouring site)	
Mobil (neighbouring site)	

APPENDIX D LANDCOM'S SUSTAINABILITY TARGETS FOR PROJECTS

LANDCOM SUSTAINABILITY TARGETS FOR PROJECTS

Indicator	Target (overall Landcom performance)	Applicable to Project Type*
Water Cycle Management	(a) All projects to have project-specific WSUD strategies. (The strategy should be appropriate to the size, scale, sensitivity and location of the project). For detailed case studies and specific requirements, refer to Landcom's Water Sensitive Urban Design Policy http://www.landcom.com.au.	A & B
• Water conservation	(b) Combination of water efficiency and reuse options – achieve the following scores for BASIX water index. • 45% for single and attached dwellings not serviced by reticulated recycled water. (Stretch target 60%). • 60% for single and attached dwellings serviced by reticulated recycled water. (Stretch target 70%). • 45% for all apartments not serviced by reticulated recycled water. (Stretch target 55%). • 55% for all apartments serviced by reticulated recycled water. (Stretch target: 65%).	B
	(c) Public domain irrigation must be from non-potable sources and designed with water efficiency in mind.	A & B
	(d) All new developments are to incorporate a dual water reticulation system to supply non-potable water to toilets gardens and laundry. Where recycled water is available it must be connected and utilised for these uses.	B
• Pollution control	(e) Using best practice WSUD technologies achieve the following pollution targets: • 45% reduction in the mean annual load of Total Nitrogen (TN). (Stretch Target 65%) • 65% reduction in the mean annual load of Total Phosphorus (TP). (Stretch Target 85%) • 85% reduction in the mean annual load of Total Suspended Solids (TSS). (Stretch Target 90%).	A & B
• Flow management	(f) To minimise the impact of frequent storm events on the natural waterways and minimise bed and bank erosion achieve: • Stream Erosion Index (SEI) of 2.0. (Stretch Target – 1.0) • (Until methodology is confirmed, use post-development storm discharges = pre-development storm discharges for 1.5 year ARI event)	A & B
Energy and Greenhouse Gas Emissions	(a) All Landcom residential projects must achieve the following minimum scores for BASIX energy index : • BASIX 50 for detached and attached dwellings • BASIX 40 for 3 storey apartments • BASIX 35 for 4 and 5 storey apartments	B

Indicator	Target (overall Landcom performance)	Applicable to Project Type*
	• BASIX 30 for 6 storeys and above	
Cont.	(a) All dwellings must achieve a minimum 6* thermal efficiency rating (measured using a NatHERS or similar based tool e.g. Accurate, BERS)	B
	(b) All Landcom-built dwellings are to be fitted with solar water heaters with capability to achieve a minimum of 30 Renewable Energy Certificates (RECs), except where: • Homes are 2 bedrooms or less. A system capable of achieving 19 RECs should be fitted instead. • No gas supply is available; a heat pump hot water system should be fitted instead. • Solar panels cannot be suitably positioned (for example because of orientation or overshadowing). In which case single dwellings should be fitted with an Australian Gas Association (AGA) registered 6★ gas water heater. • A cogeneration system is supplying the hot water.	B
	(c) Commercial buildings must be designed to achieve a 5★ NABERS Rating.	B
	(d) All projects greater than 500 dwellings or with a commercial component or town centre, include a minimum of 5% on-site or off-site renewable energy supply.	A & B
	(e) All projects greater than 500 dwellings to achieve a 50% or greater reduction in greenhouse gas emissions	A & B
	See case studies on http://www.landcom.com.au	
Material Reuse, Recycling and Waste Reduction	(a) Achieve 95% recovery (reuse and recycle) of total construction and demolition waste materials generated from sum of civil works contracts completed in that year.	A & B
	(b) Achieve 95% recovery (reuse and recycle) of total construction and demolition waste materials generated from sum of building projects delivered in that year.	B
Native Vegetation Management (net loss or gain).	(a) No loss of high conservation value vegetation. (b) An appropriate Vegetation Management Plan (VMP) is to be prepared for all projects where Native vegetation management is required.	A & B
Riparian Corridor Management (net loss or gain).	The following apply to all projects: (a) Conservation of 20 – 40m core riparian zone and 10m vegetated buffer for any Third Order or greater watercourses and where there is a defined channel where water flows intermittently or permanently. Includes estuaries, wetlands and any parts of rivers influenced by tidal waters. (b) Conservation of 20m core riparian zone and 10m vegetated buffer for any permanently flowing first order watercourse, or second order water course; and where there is a defined channel where water flows intermittently or permanently. (c) Conservation of 10m for any First Order watercourses where	A & B

Indicator	Target (overall Landcom performance)	Applicable to Project Type*
	there is a defined channel and where water flows intermittently (d) No loss of length or in-stream breaks for Third Order streams.	
Design Guidelines for Built Form (eg guidelines for courtyards lots, corner lots etc)	(a) All projects to have design guidelines to control the siting of dwellings, garages and fencing and incorporate appropriate building elements which contribute to the streetscape quality and promote casual surveillance and improve sustainable home design. (b) All projects to utilise the "Landcom Guidelines" (c) All design guidelines to specify solar orientation and passive solar design, 6* thermal efficient design, application of minimum 4* WELS rated taps, fittings, fixtures, shower roses, and toilets, and kitchen recycling facilities	A & B A & B A & B
Social Sustainability Due Diligence	(a) All new projects to have social sustainability due diligence completed prior to masterplan or DCP approval.	A & B
Strategic Social Plan	(a) All new projects to have a Strategic Social Plan completed prior to masterplan or DCP completion.	A & B
Ageing In Place	(a) All projects to provide a suitable portion of Universal Housing product. (b) All residential display villages to contain at least one Universal House.	B B
Moderate Income Housing	(a) 7.5% of Landcom's total product is moderate income housing. Moderate income housing is delivered where commercially viable consistent with Landcom's Moderate Income Housing Policy.	A & B
Sustainable Community Programs	(a) All projects over 200 lots have community development programs in place. (b) All projects greater than 200 dwellings must have a Welcome Program. (c) All projects have a structured Sustainable Living Education program in place.	A & B A & B A & B
Community Facilities	Targets are to be determined on each project based on the community demographic and needs.	A & B
Conservation of Indigenous Heritage (including items, values, and places of cultural significance)	(a) All projects with indigenous heritage issues have Conservation Management Plans.	A & B
Conservation of Non-indigenous Heritage	(a) All projects with non-indigenous heritage have Conservation Management Plans.	A & B
Regulatory Compliances	(a) All projects achieve full compliance with the Protection of Environment Operation (POEO) Act, or other environmental, Planning and OHS legislation – Landcom actions (ie. Penalties issued in Landcom's name).	A & B

Indicator	Target (overall Landcom performance)	Applicable to Project Type*
Cont.	(b) All civil or demolition works have environmental and OHS audits carried out in accordance with contract requirements.	A & B
	(c) All builder contracts have environmental and OHS audits carried out in accordance with contract requirements.	B
	(d) No immediate action requests are issued based on findings of either environmental or OHS audits.	A & B
	(e) Number of repeat offences and repeat non-compliances with immediate rectification requests	A & B
Sustainable supply chain	(a) Number of project managers, civil works and landscaping contractors prequalified by Landcom	A & B
	(b) Percentage of project managers, civil works and landscaping contracts let sourced from Landcom's prequalified list	A & B
	(c) Number and percentage of construction contracts tendered that included selection criteria relating to sustainable materials, design and/or practices	A & B
	(d) Number and percentage of construction contracts let that included selection criteria relating to sustainable materials, design and/or practices	A & B
	(e) Number and description of development partnerships Landcom entered into that included sustainability requirements	A & B
	(f) Number and percentage of public space design contracts tendered that included selection criteria relating to sustainable materials, design and/or practices	A & B
	(g) Number and percentage of public space design contracts let that included selection criteria relating to sustainable materials, design and/or practices	A & B

Notes:

* *Type A projects* – are projects where Landcom's product is the land/homesite. Landcom carries out land subdivision and sells the land directly to the public (ie. infrastructure, public domain – subdivision of land with either no further control/influence on housing/buildings or has influence on design through design guidelines).

Type B projects – are projects where Landcom's product is the dwelling. Project subdivision plus buildings where Landcom has control over the built form (ie. through joint ventures, project delivery agreements or other builder partnering arrangements).

Stretch Targets – reflect outcomes considered necessary to protect the receiving environment from the impact of urban development. They are included to encourage the attainment of outcomes beyond the standard targets, where practicable.

RECs (Renewable Energy Certificates) - Electronic, tradeable commodities each equal to 1 Megawatt per hour of renewable energy generation. Each solar hot water system generates a certain number of RECs. A register of Solar Hot Water Systems and the number of RECs generated can be found at: http://www.orer.gov.au/swh/register.html

"*All*" means 100% of projects