



# **Potts Hill Reservoir Development Site**

Preliminary Construction Environmental  
Management Plan (CEMP)

Phase 1 – Demolition and Contaminated Land Remediation

**600246/Rep2591**



**Prepared for Landcom**

**9 October 2009**



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### Document Control

Version	Status	Date	Author	Reviewer
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## **Table of Contents**

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Background.....	1
1.2	Purpose and Scope .....	2
1.3	Planning and Environmental Assessment Context .....	3
1.4	Project Overview.....	4
1.5	Project Management and Policies .....	4
1.6	Environmental Management Systems.....	5
<b>2</b>	<b>Legislative and Approval Requirements .....</b>	<b>7</b>
2.1	Conditions of Approval.....	7
2.2	Additional Legislative Requirements .....	8
<b>3</b>	<b>Environmental Management Process .....</b>	<b>9</b>
3.1	Roles and Responsibilities.....	9
3.1.1	Principal.....	9
3.1.2	Contract Administrator.....	9
3.1.3	Landcom's Project Manager.....	10
3.1.4	Principal Contractor .....	10
3.1.5	Contractor's Project Manager.....	10
3.1.6	Contractor's Site Supervisor.....	10
3.1.7	Contractor's Foreman.....	11
3.1.8	Environmental Management Representative (EMR).....	11
3.2	Emergency Contacts .....	12
3.3	Environmental Control .....	12
3.3.1	Environmental Monitoring, Inspections and Auditing .....	12
3.3.2	Training and Awareness.....	13
3.3.3	Complaints Procedure .....	13
3.3.4	Amendments, Variations or Updating .....	14
3.3.5	Performance Reporting & Recording .....	14
<b>4</b>	<b>Construction Environmental Management Sub Plans .....</b>	<b>15</b>
<b>5</b>	<b>References .....</b>	<b>16</b>

## **List of Figures**

Figure 1.1 Location Map, Potts Hill Reservoir Development Site (Source Google Maps 2009) .....	1
Figure 1.2 Potts Hill Reservoirs Site Proposed Development Footprint (After Eco Logical, 2008) .....	2
Figure 1.3 Environmental Management Framework.....	6

## **Appendices**

Appendix A	Demolition Plan and Contamination Summary
Appendix B	Conditions of Approval
Appendix C	Sub Plans
Appendix D	Forms and Registers



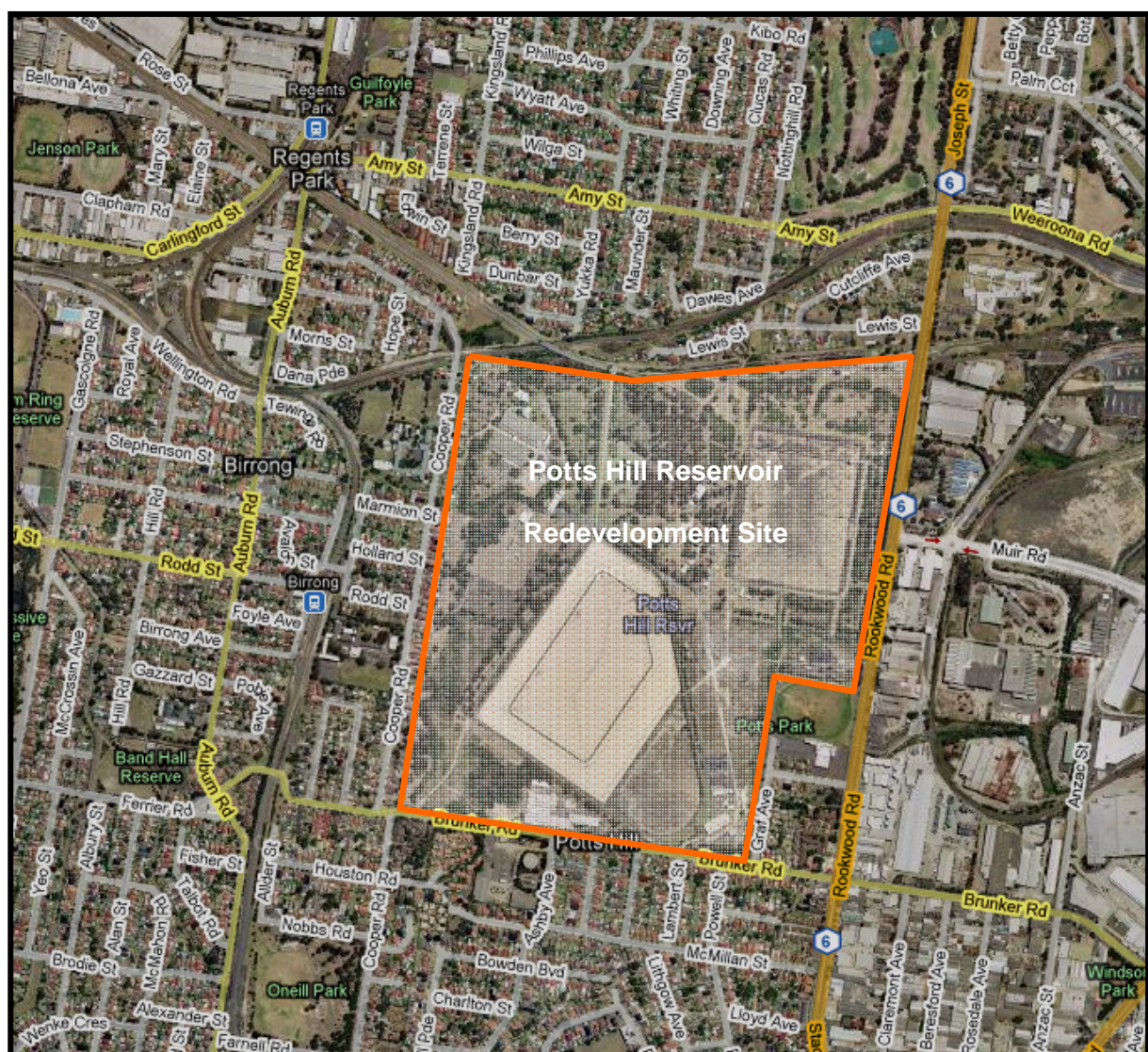
# 1 Introduction

## 1.1 Background

Cardno has been commissioned by Landcom to develop this Preliminary Construction Environmental Management Plan (CEMP) for implementation during the initial phases of the Potts Hill Reservoir redevelopment in Sydney's south western suburbs, approximately 2 kilometres north of Bankstown.

This Preliminary CEMP has been prepared as an overarching document and should be read in conjunction with the Clause 75W application under the *Environmental Planning and Assessment Act, 1979* (prepared by Architectus).

**Figure 1.1** shows the locality and the approximate outline of the proposed development site.



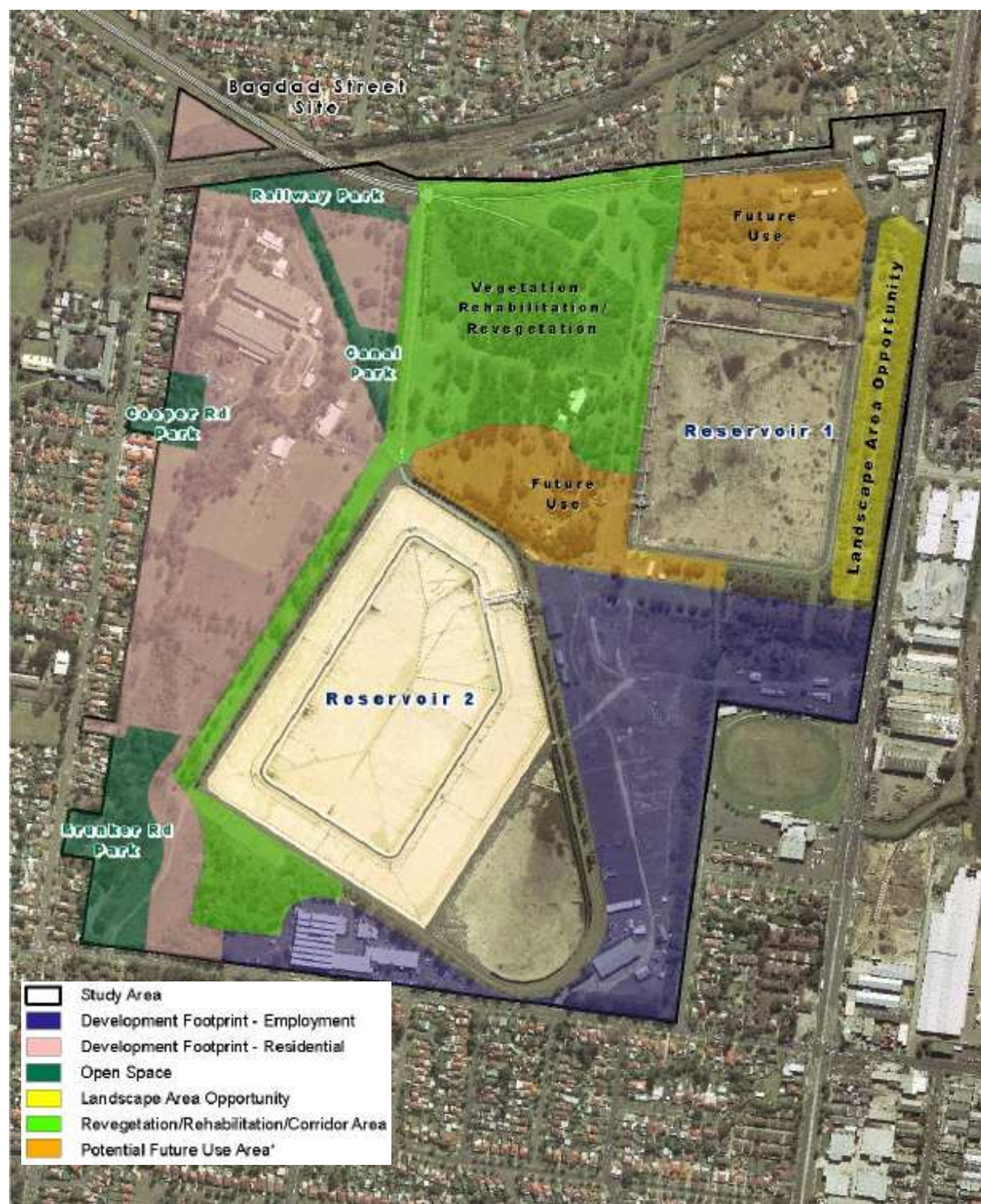
**Figure 1.1 Location Map, Potts Hill Reservoir Development Site (Source Google Maps 2009)**



## 1.2 Purpose and Scope

Specifically, this Preliminary CEMP details environmental controls and measures to be implemented during the demolition and contaminated land remediation works within the residential development footprint, shown as the pale pink areas in **Figure 1.2**.

The demolition is described schematically by Ysco Geomatics (2009) and the contaminated land remediation works are broadly outlined in AECOM (2009). Both are provided in **Appendix A**.



**Figure 1.2 Potts Hill Reservoirs Site Proposed Development Footprint (After Eco Logical, 2008)**

In accordance with the Conditions of Approval for the Major Project Concept Application No. 07\_0099 (dated 27 April 2009) the primary objectives of this Preliminary CEMP are as follows:

- To act as an overarching plan to address environmental issues including; construction noise, air quality, soil and erosion, salinity, contamination and construction traffic,
- To identify (at a high level) where mitigation measures are required,
- 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 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 licences;
- To review environmental controls and mitigation measures for environmental risks identified in the environmental assessments (Cité Urban Strategies, 2008; JBA Urban Planning Consultants, 2008), and to ensure they are properly managed throughout the life of the project;
- To specify the monitoring, reporting and auditing requirements, with nominated responsibilities and timing to ensure the necessary performance criteria are met.

The Preliminary CEMP describes how the range of environmental issues (as identified within the Environmental Assessment) associated with the project's demolition and remediation phases (described in **Appendix A**) are to be managed and controlled.

A series of Preliminary Sub Plans to this CEMP (**Appendix C**) have been prepared to outline the related management protocols and complement this document as an overarching Management Plan. These sub plans will be applicable to all contractor staff and subcontractors during the relevant project phases.

### **1.3 Planning and Environmental Assessment Context**

This Preliminary Construction Environmental Management Plan (CEMP) relates to an application made under Section 75W of the *Environmental Planning and Assessment Act* 1979 (EP&A Act) to modify Conditions 1, 2, 3 and 9 of the Project Application 08\_0069 to allow demolition and remediation works to be undertaken in the western residential precinct in advance of the residential subdivision, bulk earthworks and services infrastructure works.

An Environmental Assessment was prepared by JBA Urban Planning Consultants (2008) to support the Project Application 08\_0069. Environmental safeguards and mitigation measures are identified in the Environmental Assessment in order to minimise impact on the environment. It is important to note that this Project Application has been subject to a separate modification application (08\_0069 – Mod 1) which has been approved.

The proposed modification application will satisfy the Conditions of Approval for the Concept Approval (07\_099) requiring demolition and remediation works to be assessed under the Project Application approval for the Western Precinct.

An Environmental Assessment was prepared by Cité Urban Strategies (2008) to support the Concept Application 07\_099. Environmental safeguards and mitigation measures are identified in the Environmental Assessment in order to minimise impact on the environment and also seek to achieve a net environmental benefit from the proposed works.

This CEMP provides an overview of environmental management and mitigation measures to minimise the impact of demolition and remediation works on the local environment (described in YSCO Geomatics, 2009 and AECOM, 2009; **Appendix A**). A copy of the relevant approval conditions can be found in **Appendix B**.

Remediation works are the subject of a separate Remediation Action Plan or Plans to be agreed by an accredited Site Auditor (under the *Contaminated Land Management Act*, 1997).



## **1.4 Project Overview**

Sydney Water Corporation (Sydney Water) has been investigating its operational land requirements at a site in Potts Hill that has been used for water storage and distribution since the 1880s. Those investigations identified that a portion of the property is no longer needed for Sydney Water's operational purposes, and could be used for alternative purposes. The remainder of the land is to be retained by Sydney Water for on-going water storage, treatment, management and distribution.

Landcom has since entered into an agreement with Sydney Water to investigate suitable uses for the redevelopment of the land.

Specifically, the proposed redevelopment area is shown in **Figure 1.2** and consists of the following:

- 15.3 hectares suitable for employment/ business park uses,
- 19.8 hectares suitable for residential uses, and
- 4.9 hectares suitable for public open space.

This Preliminary CEMP applies to the 19.8 hectares determined to be suitable for residential use only (i.e. the Western Precinct). The initial planning for the residential precinct indicates that it has the capacity for around 410 dwellings, comprising around 230 predominantly detached dwellings, and two medium density sites that have the capacity for about 180 apartments or seniors housing (Cité Urban Strategies (2008)).

Following the submission and approval of the 75W application (described in **Section 1.3**), this Preliminary CEMP will be revised to establish a more detailed approach to the environmental management initiatives associated with the proposed land remediation. Ultimately, the revised CEMP will incorporate Remediation Action Plans (RAP's) and modified conditions of approval as advised by the Minister.

Subject to the review and approval of the 75W application, demolition and remediation works within the Western Precinct are due to commence in 2010. The projected time frame for these works is approximately 3-4 months. The proposed timing and staging of the works are to be determined by the Proponent and Contractor. Works will include as a minimum:

- Site Establishment and Security;
- Establishment of Environmental and Safety Controls;
- Traffic Control Measures;
- Construction of Road/Site Access;
- Demolition of Existing Structures;
- Excavation of contaminated land; and
- Bulk Earthworks – Filling of excavated land with Virgin/Certified Material.

## **1.5 Project Management and Policies**

This Preliminary CEMP describes a system for minimising 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 contractor to ensure these risks are minimised through the application of industry best-practice and adherence to recognised standards. The Proponent and the selected Contractor must also ensure their own company and policy standards development standards are met. These include the groups: Environmental Policy, Occupational Health and Safety Policy and Quality Management Policy.

This Preliminary CEMP should be reviewed and updated to reflect any environmental commitments outlined if the Proponent adopts a project-specific Environmental Policy.

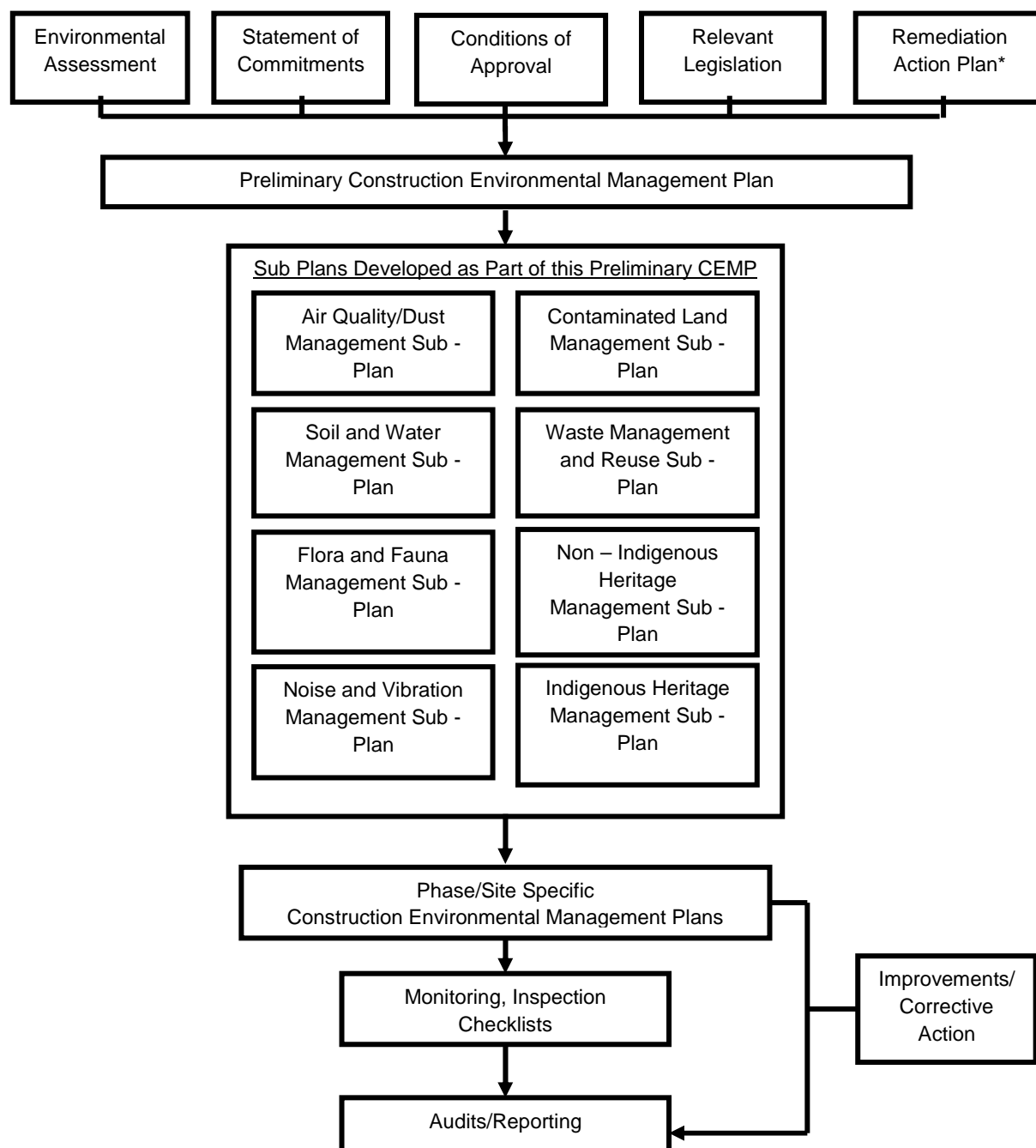


## **1.6 Environmental Management Systems**

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 Preliminary CEMP forms only part of the overall environmental management framework for the project and that the Preliminary CEMP is supported by a range of supplementary documents and measures. **Figure 1.3** 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 construction phase of 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 Preliminary CEMP will require review following preparation of the Remediation Action Plan or Plans (RAP), and will form a guide as to the Contractors requirements. Adherence to the protocols contained within, or referred by, this document is the responsibility of the Contractor.



**Figure 1.3 Environmental Management Framework**

\* Not yet available.

*Note that a Salinity Management Sub Plan has not been incorporated in this Preliminary CEMP as Salinity was not identified as an issue for the site in the Environmental Assessments (Cité Urban Strategies (2008) and JBA Urban Planning Consultants (2008)).*

## 2 Legislative and Approval Requirements

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

There are a number of Conditions of Approval under the Concept Approval (07\_099), and the Project Approvals (08\_0069 and 08\_0069-Mod 1, as a consolidated approval) relevant to the preparation of this CEMP. A copy of these approvals can be found in **Appendix B**.

In addition to the approvals issued under the Environmental Planning and Assessment Act, 1979, supplementary licences 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* may be required.

### 2.1 Conditions of Approval

The Concept Approval (dated 27 April 2009) contains conditions relevant to this CEMP:

- Condition B1: Voluntary Conservation Agreement and Associated Management Plans
    - (3) and (4) Environmental Management Plan
  - Condition B6: Construction Impacts
    - (1) Construction Environmental Management Plan for:
      - (a) the residential precinct with first application in relation to subdivision or civil works for the residential precinct
      - (b) the Bagdad Street site prior to the determination of the first application or the issue of a construction certificate, whichever is first.
- The CEMP (as an overarching plan) is to address: construction noise, air quality, soil and erosion, salinity, contamination, construction traffic and measures to mitigate adverse construction impacts on the operational land. The Plan shall provide for continuous and safe access for pedestrians and cyclists during construction as appropriate, particularly at the interface of the site with existing public roads.

The Project Approval (described in the consolidated consent, dated 16 January 2009 after the approval of Modification 1) contains the following conditions relevant to this CEMP:

- Condition 1: Development Description (to be modified as part of the 75W application)
- Condition 2: Development in Accordance with Plans (to be modified as part of the 75W application)
- Condition 9: Site Audit (to be modified as part of the 75W application)
- Condition 10: Environmental Management Plan
- Condition 11: Construction Hours
- Condition 12: Construction Noise
- Condition 13: Construction Vibration
- Condition 14: Notification of Noisy Works
- Condition 15: Dust Control Measures
- Condition 16: Disposal of Seepage and Stormwater
- Condition 18: Site Notice
- Condition 19: Complaints Management System
- Condition 20: Storage of Hazardous or Toxic Material.

The final CEMP must receive the Director-General's approval before construction commences. In accordance with the Statement of Commitments (dated June 2008), the CEMP must be prepared and reviewed by the EMR prior to the first project application.

## **2.2 Additional Legislative Requirements**

The *Protection of Environment Operations Act* 1997 (PoEO Act, 1997) is administered by the Department of Environment, Climate Change and Water (DECCW) and ultimately aims to protect, enhance and restore the quality of the environment in New South Wales, to reduce risk to human health and promote mechanisms that minimise environmental degradation through a strong set of provisions and offences. A licence is required from DECCW if any of the activities associated with the proposed works are determined to be a “scheduled activity” under Schedule 1 of the Act.

The need for a licence will be dependent on the outcomes of the Remediation Action Plan, which follows on from the Remediation Work Statement (AECOM, 2009).

For example, clause 15 of Schedule 1 of the *Protection of Environment Operations Act* 1997, indicates that a licence is required for contaminated soil treatment if on site treatment of contaminated soil is proposed (including, in either case, incineration or storage of contaminated soil but excluding excavation for treatment at another site). The activity to which this clause applies is declared to be a scheduled activity if the proposal involves:

- Incineration of more than 1,000 cubic metres per year of contaminated soil, or
- Treatment (otherwise than by incineration) and storage of more than 30,000 cubic metres of contaminated soil, or
- Disturbance of more than an aggregate area of 3 hectares of contaminated soil.

Where treatment is at an off-site facility, that facility would need to have a licence if it has the capacity to treat more than 1,000 cubic metres per year of contaminated soil received from off site.

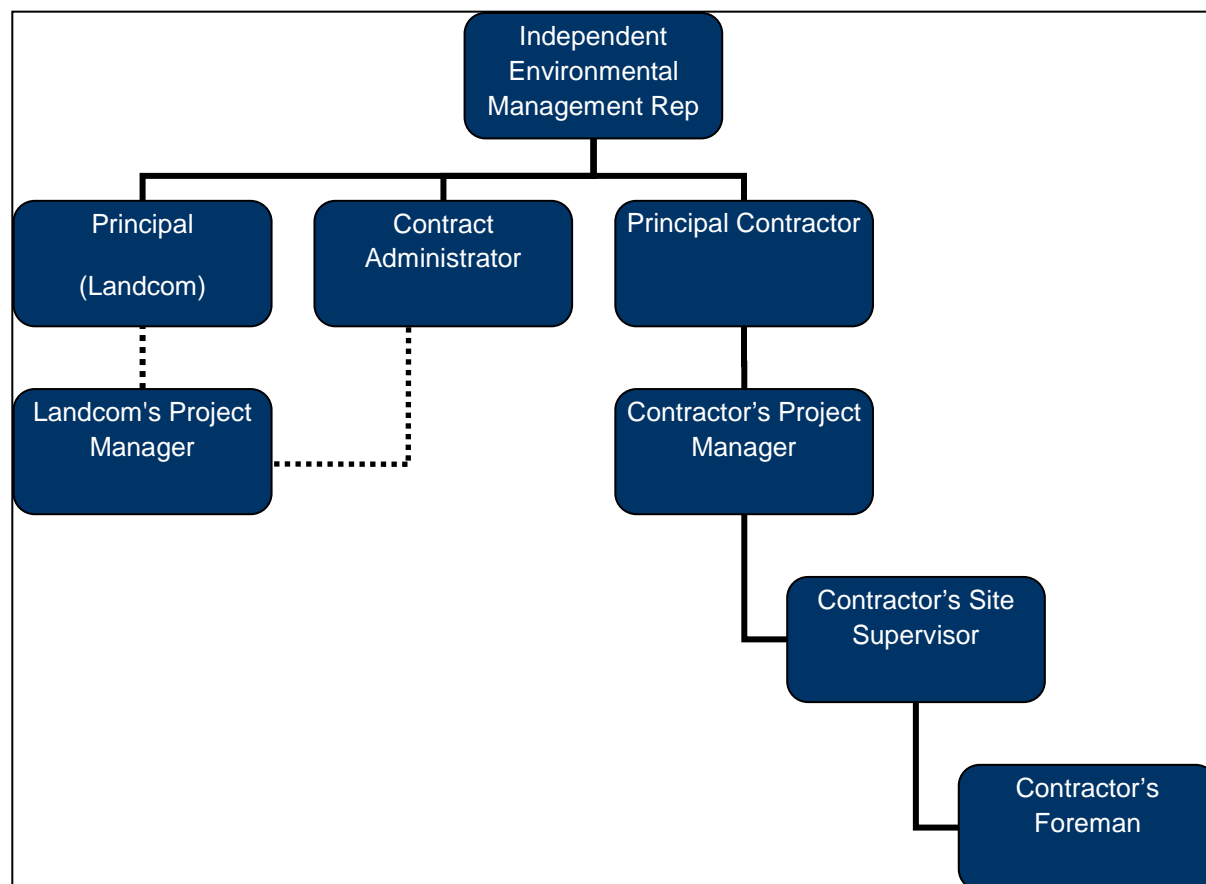
The Conditions of Approval do not specifically refer to the need for a license for the demolition or remediation. However, once the remediation plan is prepared, then confirmation of the need for a licence prior to the implementation of this CEMP should be made.



### 3 Environmental Management Process

#### 3.1 Roles and Responsibilities

Details of the roles and responsibilities in the environmental management process are outlined in **Figure 3.1**. An explanation of the roles of each member of the team is described below.



**Figure 3.1 Management Structure for the Construction Environmental Responsibilities**

##### 3.1.1 Principal

As the Principal, Landcom are the proponent/developer, and are responsible for defining and driving the project. The Principal is responsible for obtaining planning approvals, and ensuring that all relevant conditions are met. They are ultimately responsible for the project, however it should be noted that much of the responsibility will be delegated to other parties through letting of contracts.

##### 3.1.2 Contract Administrator

The Contract Administrator will be independent of both the Principal and Principal Contractor, and will have responsibility for ensuring that the conditions (including environmental conditions) of the contract are met in full. They will work closely with both the Principal Contractor and the Landcom 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.

### **3.1.3 Landcom's Project Manager**

The Landcom Project Manager has responsibility and accountability for the delivery of the project. They must ensure that adequate resources are provided to the Contract Administrator and the Environmental Management Representative (EMR) to enable them to effectively fulfil their role. They will work closely with the Contract Administrator and report to the Principal.

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

### **3.1.4 Principal Contractor**

The Principal Contractor will be responsible for the delivery of the project under the terms of the contract agreed with the Principal, and in accordance with all relevant legislation and planning conditions. The Principal Contractor will be required to develop and follow a detailed CEMP which adequately prevents, minimises or mitigates the environmental impact of the project, and will be required to ensure that all sub-contractors also meet in full the requirements of the CEMP.

The Principal Contractor will be required to work closely with the Contract Administrator and with the Environmental Management Representative.

### **3.1.5 Contractor's Project Manager**

The Contractor's Project Manager will have responsibility for ensuring that all commitments of the Principal Contractor are met in full, and that the CEMP is fully implemented. They shall ensure that the necessary resources are provided to enable the Principal Contractor and their sub-contractors to meet their responsibilities in full. The Contractor's Project Manager will liaise closely with the EMR.

Responsibilities of the 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 in relation to environmental performance and adherence to this preliminary CEMP; and
- Ensuring the CEMP is updated as required.

### **3.1.6 Contractor's Site Supervisor**

The Contractor's Site Supervisor will be site based and will report to the Contractor's Project Manager, and will ensure that the requirements of the CEMP are implemented at all times during the works.

Responsibilities of the Contractor's Site Supervisor include:

- Ensuring all personnel receive site specific induction training that incorporates the environmental relevance of the CEMP and - as far as is reasonably practical, ongoing environmental awareness training;
- Keeping records of environmental performance;
- Liaising with Authorities and implementing any remedial measures should an environmental incident occur;
- Ensuring any complaints received are managed in accordance with the latest version of the CEMP.

### **3.1.7 Contractor's Foreman**

Each shift or work team will include a contractor foreman, who will report to, and work closely with the Contractor's Site Supervisor.

### **3.1.8 Environmental Management Representative (EMR)**

The Project EMR will be independent and will work closely with the Contract Administrator, Landcom's Project Manager and the Contractor's Project Manager. The EMR performs a key role in the implementation, maintenance, and monitoring of compliance to the latest version of the CEMP.

The EMR responsibilities include:

- Conducting an environmental aspects and impact analysis to support development of the 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 Contractor and sub-contractors, authorities and local community as necessary;
- To ensure that all licenses, clearances, permits and approvals required are in place at the appropriate time;
- To co-ordinate and attend the CEMP team meetings;
- Review and update of the CEMP;
- Undertake regular auditing 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.

**Appendix D** details the relevant forms and registers to be utilised to ensure compliance is maintained.

## 3.2 Emergency Contacts

Emergency contacts for the project in the event of an environmental incident are outlined below.

Position	Name	Organisation	Phone
Landcom's Project Manager	TBC	TBC	TBC
Contract Administrator	TBC	TBC	TBC
Environmental Management Representative	TBC	TBC	TBC
Contractor's Project Manager	TBC	TBC	TBC
Contractor's Site Supervisor	TBC	TBC	TBC
Contractor's Foreman			
Accredited Site Auditor (Contamination)	TBC	TBC	TBC
Demolition Advisor	TBC	TBC	TBC

Emergency Services	
Ambulance	000
Fire Brigade	000
Police	000
Bankstown Police Station	(02) 9783 2199
Bankstown Fire Brigade	(02) 97905404
District Hospital	(02) 9722 8000
DECCW (EPA) Pollution Line	131 555
Dangerous Good Licensing Hotline	131 050
Work Cover - Sydney	(02) 4321 5000
DII (NSW Fisheries)	1800 043 536
WIRES	1300 094 737
Bankstown City Council	(02) 9707 9999
Auburn Council	(02) 9735 1222
Sydney Catchment Management Authority	1800 061 069
Local Aboriginal Land Council	(02) 9602 5208
Telstra	132 000
Sydney Water	13 20 90
Energy Australia	131 535
Gas (AGL)	131 707

## 3.3 Environmental Control

### 3.3.1 Environmental Monitoring, Inspections and Auditing

A number of safeguards were developed during the Environmental Assessment process to prevent or minimise the environmental impacts that may be generated by the Project. These measures are outlined in the Environmental Assessment (Cité Urban Strategies, 2008 and JBA Urban Planning Consultants, 2008) and are to be implemented throughout the duration of the project. **Appendix D** provides a checklist to record the monitoring and inspection of each measure to mitigate potential environmental impacts.

Environmental audits will be carried out in order to verify that the safeguards listed in this Preliminary CEMP are being carried out. Audits must be attended by the Contractor's Project Manager, the Contractor's Site Supervisor and the Environmental Management Representative as well as a representative for sub-contractors where relevant. 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 Contractor's Project Manager will be responsible for investigating the non-conformance and instigating corrective action. A corrective



action report should be prepared, submitted to the Contract Administrator and the EMR and filed with the audit report.

### **3.3.2 Training and Awareness**

All personnel shall be suitably qualified and experienced to undertake their work in an environmentally responsible manner. Personnel who have formal responsibilities under this plan will be trained in the requirements of this Preliminary CEMP and the Final CEMP.

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

Project induction will provide all new site employees with an overview of the Project Environmental Management System and key aspects of the Preliminary CEMP prior to allowing access to the worksite. Induction training shall 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 this Preliminary CEMP.

In addition, the Principal Contractor and each sub-contractor shall 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 plan;
- 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 all environmental training provided shall be maintained. The register shall 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 can be found in **Appendix D**.

### **3.3.3 Complaints Procedure**

Prior to the commencement of construction of the project the following should be made available for complaints:

- a) A telephone number on which complaints about all activities at the site may be registered;
- b) A postal address to which written complaints can be sent;
- c) An email address to which electronic complaints may be transmitted.

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

Any complaints 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 complaint;
- Action taken.

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

### **3.3.4 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 Contractor's Project Manager. A register of distribution should be maintained and relevant updates should be communicated to site personnel at weekly toolbox meetings. A copy of the most recent CEMP is to be kept on site and should be easily obtainable at all times.

For all proposed amendments, or variations to the Final CEMP, the amendments and the subsequent responsibility shall be documented in an amendment register, an example of which can be found in **Appendix D**.

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

### **3.3.5 Performance Reporting & Recording**

The Contractor's Site Supervisor 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 EMR shall report weekly to the Contract Administrator and Landcom's Project Manager on the status of site environmental matters.

In addition to their weekly checklists, the Principal Contractors shall report monthly to the EMR about environmental and compliance issues and the overall status of the Preliminary CEMP and regulatory compliance.

The Contractor's Site Supervisor is required to report monthly to the Contractor's Project Manager on the status of site environmental matters.

Should any contractor or employee become aware of an environmental incident or hazard that is causing - or has the potential to cause environmental harm - the person must advise their immediate supervisor who shall notify the EMR, and ensure that an incident report is completed.

## **4 Construction Environmental Management Sub Plans**

Preliminary Construction Environmental Management Sub Plans have been prepared to control specific environmental risks associated with the project.

Preliminary Sub Plans for each environmental risk identified in the Concept Environmental Assessment (Cité Urban Strategies, 2008) are attached in **Appendix C**. It is expected that these will be further developed and provided to potential Principal Contractors at the tender stage as a minimum set of requirements to be met.

Ultimately the Principal Contractor will be required to develop and adhere to a more detailed CEMP and associated Sub Plans.

These Sub Plans should identify the following:

- Potential impacts of each significant risk / aspect as it relates to the Project;
- The physical and management safeguards;
- Mitigation measures;
- Responsibilities;
- Monitoring requirements to be implemented to prevent or minimize potential impacts on the environment.

## **5 References**

AECOM (2009) Potts Hill Western Precinct Contamination Summary, October, Prepared for Landcom.

Cite Urban Strategies (2008) Concept Plan Application Under Part 3A, Environmental Assessment: Potts Hill Reservoirs Land Bunker Road/Cooper Road Potts Hill. Prepared for the Department of Planning.

Department of Environment and Climate Change (2009) Interim Construction Noise Guideline.

Eco Logical (2008) Ecological Assessment, Potts Hill Reservoirs Site Part 3A Concept Plan. Report Prepared for Landcom.

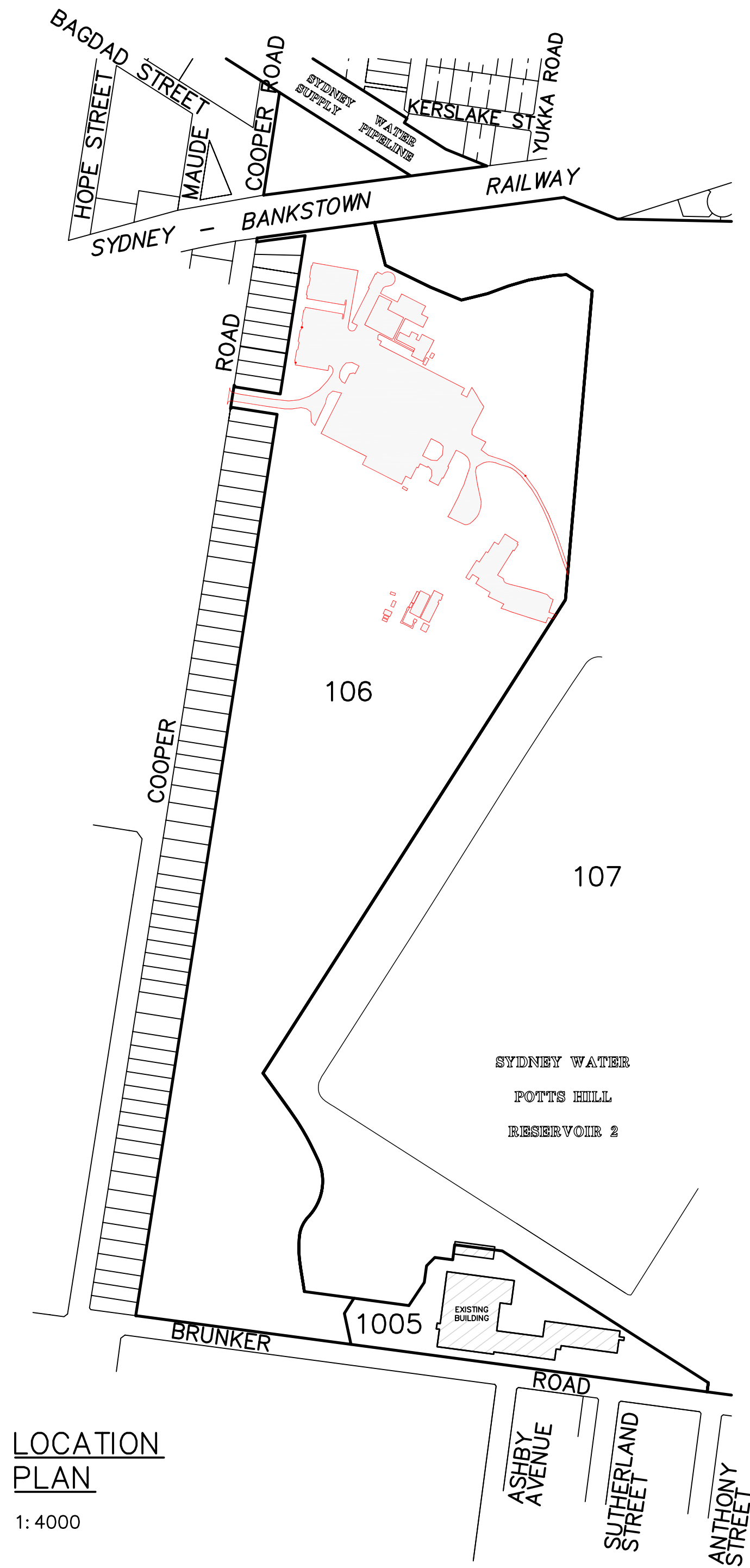
JBA Urban Planning Consultants (2008) Environmental Assessment Report Project Application Potts Hill Reservoirs Site - Stage 1 Civil Infrastructure Works, Submitted to Department of Planning on Behalf of Landcom, August.

YSCO Geomatics (2009) Plan Showing Proposed Demolition Works for Western Precinct Developments of Part of Sydney Water Land at Cooper Road, Potts Hill, in Bankstown LGA, Plan 1008/32, 16 July 2009.

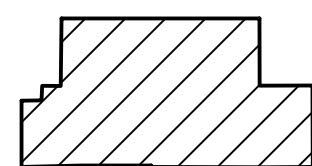


## **Appendix A**

# **Demolition Plan and Contamination Summary**



LEGEND



BUILDINGS/  
STRUCTURES  
TO BE DEMOLISHED

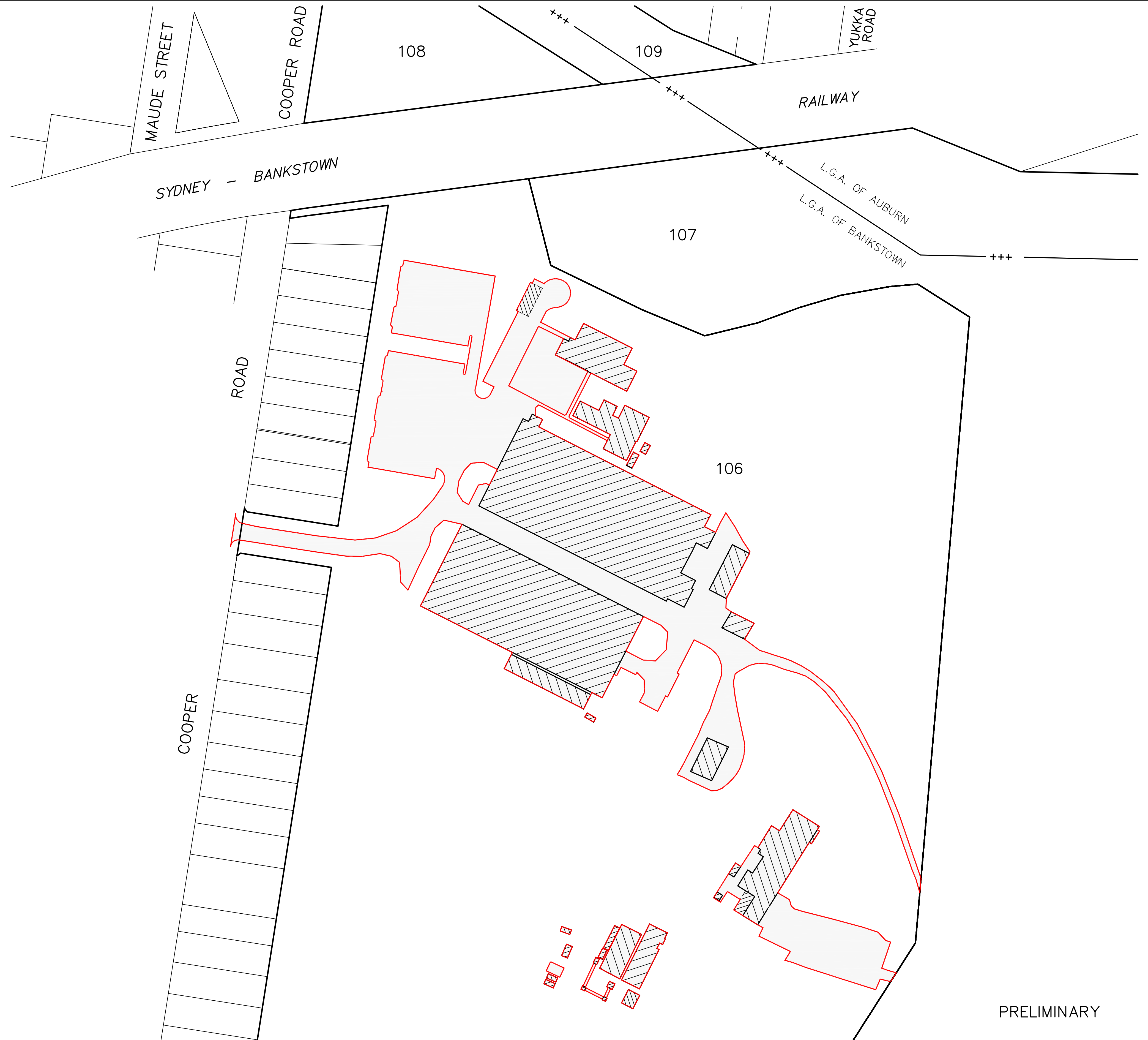


HARD STAND/  
PAVEMENT TO BE  
REMOVED



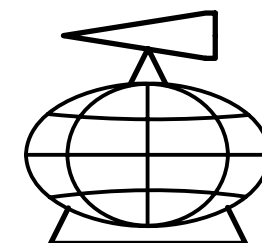
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PRIOR TO ANY EXCAVATION ON SITE

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PRELIMINARY

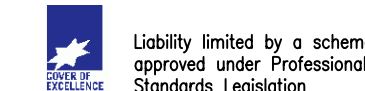
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GEOMATIC ENGINEERING  
LAND & ENGINEERING SURVEYING  
PROJECT MANAGEMENT  
SOIL AND WATER MANAGEMENT  
ENVIRONMENTAL PLANNING & DESIGN



PLAN SHOWING PROPOSED DEMOLITION WORKS FOR  
WESTERN PRECINCT DEVELOPMENTS OF PART OF  
SYDNEY WATER LAND AT COOPER ROAD, POTTS HILL,  
IN BANKSTOWN L.G.A.

DRAWN:	CHECKED:	SCALE:	DATUM:	REFERENCE:
16 JULY 2009	P.Y.	1:1000 © A1		1008/32

Prepared for:

**Landcom**

**Level 2, 330 Church Street  
Parramatta NSW 2124**

# Potts Hill Western Precinct Contamination Summary

## Final

AECOM

7 October 2009

**Document No.: S4089101\_RPT\_7Oct09**



## Distribution

### Potts Hill Western Precinct Contamination Summary

7 October 2009

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- \* AECOM Australia Pty Ltd (AECOM) has prepared this document for the purpose described in our fee proposal dated 29 July 2009, and was based on information provided by the client, AECOM's understanding of the site conditions, and AECOM's experience, having regard to the assumptions that AECOM can reasonably be expected to make in accordance with sound professional principles.
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Technical Peer Reviewer:

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Potts Hill Western Precinct Contamination  
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Potts Hill Western Precinct Contamination  
Summary

S4089101\_RPT\_7Oct09

## Contents

1.0	INTRODUCTION.....	1
2.0	BACKGROUND.....	3
3.0	CONTAMINATION OVERVIEW .....	5
4.0	ANTICIPATED REMEDIATION METHODOLOGIES .....	7
5.0	CONCLUSIONS.....	9

## Figure

Figure F1: Potts Hill Subdivision Boundaries and Contamination Zones

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Potts Hill Western Precinct Contamination  
Summary

S4089101\_RPT\_7Oct09

## 1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by Landcom to provide contamination investigation and remediation scopes and methodologies for the Western Precinct of the Potts Hill Reservoir Facility.

The Western Precinct comprises approximately 22.6 hectares of land that is proposed to become Lot 106. The land is currently identified as Zones 1A, 1B, 1C, 2, 3 and 11A, as shown on Figure F1. AECOM has provided contamination assessment services for all Zones except 2 and 11A.

Zone 11A is understood to be suitable for the proposed land use. Zone 2 has not been identified to be significantly affected with contaminants.

This report presents a brief summary of the contamination assessment works undertaken at Zones 1A, 1B, 1C, 2 and 3 and the anticipated remediation works that will be required to ensure suitability of the Western Precinct for the intended future residential and part recreational/open space land use. AECOM understands that this report will comprise part of an application to the Department of Planning to facilitate commencement of demolition and remediation activities.

The Western Precinct is currently owned by Sydney Water Corporation (SWC). Landcom will undertake part of the redevelopment, namely ground improvement works and installation of services and utilities.

A NSW EPA accredited (Land Contamination) Auditor, Mr Graeme Nyland of Environ Australia Pty Ltd (the Auditor), has been engaged by Landcom to provide audit services associated with the redevelopment project.

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Potts Hill Western Precinct Contamination  
Summary

S4089101\_RPT\_7Oct09



## 2.0 Background

A Phase I Environmental Site Assessment (ESA) of the entire Reservoir Facility was completed by SWC Environment & Innovation Division in July 2003. Subsequent to the Phase I ESA, intrusive investigations and sample analysis programs (i.e. Phase II ESAs), were completed by URS Corporation Pty Ltd (URS) and Coffey Environments Pty Ltd (Coffey). The Auditor has reviewed the data obtained from these investigations.

AECOM's contamination assessments were subsequently undertaken to gain a better understanding of the extent of some identified soil contamination, and also to enable the formulation of Remediation Action Plans (RAPs) that will be required to ensure suitability of the relevant Zones for the proposed land-uses.

The contamination investigations have been undertaken with reference to relevant NSW Department of Climate Change (DECC) and Environment Protection Authority (EPA) published guidelines. RAPs will be completed in accordance with the requirements of DECC/EPA guidelines and State Environmental Planning Policy (SEPP) 55.

The Auditor has reviewed AECOM's contamination investigation reports and considers that sufficient data is available to complete the RAPs. The Auditor will review AECOM's draft RAPs and after addressing any relevant comments, these will be issued as Final documents.

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Potts Hill Western Precinct Contamination  
Summary

S4089101\_RPT\_7Oct09

### 3.0 Contamination Overview

A large volume of clay and ripped shale bedrock, sourced from reservoir construction activities, is present over much of the Western Precinct. In some zones, such as 1C and 3, SWC historical activities (e.g. depot operations, equipment and materials storage, stockpiling of fill materials of unknown origin etc) has resulted in some contamination. The identified contamination is considered typical of former depot-type sites with some uncontrolled fill materials. The remediation measures anticipated to be required are expected to entail conventional methodologies.

The URS and Coffey investigations comprised the collection of fill and soil samples for subsequent laboratory analysis to evaluate concentrations of contaminants of potential concern (COPC). The URS investigations included an analysis regime, for various COPC, including total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, xylenes (BTEX), organochlorine and organophosphorus pesticides (OCP and OPP), polychlorinated biphenyls (PCB), asbestos, herbicides, 'solvents', polycyclic aromatic hydrocarbons (PAH) and a suite of eight heavy metals. On the basis of the URS results, the Coffey and AECOM investigations were undertaken on a more targeted basis.

In summary, the investigations have identified the following:

- **Zone 1A:** the site is covered in reservoir-derived fill material to an approximate average depth of 1.6 m. Some TPH contamination was identified within the fill material. The identified contamination can be excavated and remediated on-site or disposed to landfill, and the Site can be made suitable for the proposed residential land-use. Remediation would be undertaken in accordance with a RAP;
- **Zone 1B:** URS and Coffey did not identify soil contamination in their assessments. Some potential contaminant sources are present, such as transformers, former vehicle servicing pits and dis-used oil/water separators. It is envisaged that excavation and validation sampling of these features will be a relatively straight-forward process;
- **Zones 1C and 3:** large volumes of reservoir-derived fill are present, and a surface veneer (typically to 1 to 1.5 m thick) of filling material affected with TPH, PAH, metals and asbestos (to a lesser extent). The identified contamination will be remediated in accordance with RAPs, which are expected to comprise excavation and disposal to landfill. After completion of remediation, bulk earthworks will be undertaken to re-contour the Sites. The bulk earthworks will need to be undertaken in accordance with a construction phase Environmental Management Plan (EMP) and/or Unexpected Finds Protocol (UFP). The Auditor should approve the EMP/UFP prior to commencement of bulk earthworks;
- **Zone 2:** no significant soil contamination was identified by URS or Coffey in their assessments. Some additional assessment will be required after demolition of existing buildings. Based on historical information and Site use, the potential for significant soil contamination to be present is considered to be low; and
- **Zone 11A:** AECOM understands that URS and Coffey did not identify soil contamination in their investigations and that the Auditor is currently providing a Site Audit Statement for this Zone.

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Potts Hill Western Precinct Contamination  
Summary

S4089101\_RPT\_7Oct09

## 4.0 Anticipated Remediation Methodologies

As stated in Section 2.0, AECOM has not issued final RAPs for any of the subject Zones in the Western Precinct. However, based on the information presented in the contamination investigation reports and draft RAPs, remediation is anticipated to comprise a combination the following methodologies:

- Excavation of affected fill materials with subsequent disposal to an appropriately licensed landfill facility;
- Excavation of affected fill materials and on-site remediation with subsequent beneficial re-use after the material is validated as suitable for use;
- Excavation of fill materials affected with inclusions of rubbish materials (e.g. concrete, steel, general refuse, timber etc). Excavated materials will be screened, sorted and sifted to remove these “aesthetic” impacts. Separated rubbish materials will be processed by commercial recyclers where possible, or disposed to an appropriately licensed landfill facility. The screened/sorted/sieved fill materials will be beneficially re-used wherever possible, after it is validated as suitable for the intended land use. Materials not suitable for the intended land use will be disposed to an appropriately licensed landfill facility.



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Potts Hill Western Precinct Contamination  
Summary

S4089101\_RPT\_7Oct09

## 5.0 Conclusions

Based on the available soil contamination data, AECOM considers that the relevant Zones can be rendered suitable for the proposed land use.

The Auditor will provide an independent review and final 'sign-off' on the land-use suitability. The final 'sign-off' would comprise the issue of a Site Audit Statement for each relevant Zone, in accordance with the *Contaminated Land Management Act 1997*.

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## Figure

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## Worldwide Locations

Australia	+61-2-8484-8999
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Belgium	+32-3-540-95-86
Bolivia	+591-3-354-8564
Brazil	+55-21-3526-8160
China	+86-20-8130-3737
England	+44 1928-726006
France	+33(0)1 48 42 59 53
Germany	+49-631-341-13-62
Ireland	+353 1631 9356
Italy	+39-02-3180 77 1
Japan	+813-3541 5926
Malaysia	+603-7725-0380
Netherlands	+31 10 2120 744
Philippines	+632 910 6226
Scotland	+44 (0) 1224-624624
Singapore	+65 6295 5752
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United States	+1 978-589-3200
Venezuela	+58-212-762-63 39

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## About AECOM

AECOM is a leading provider of advanced environmental, planning, design, engineering, management and advisory services in the buildings, energy, environment, government, mining, power, transport and water markets.

From our offices across Australia and New Zealand, we leverage AECOM's global reach while providing a unique blend of local knowledge, innovation and technical excellence combined with a personal commitment to meeting our clients' specific needs.

Together, AECOM forms a strong global network of more than 43,000 professionals united by a common purpose to enhance and sustain the world's built, natural and social environments.

AECOM has over 740 offices across Africa, the Americas, Asia-Pacific, the Middle East, the United Kingdom & Europe.

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**Appendix B**

# **Conditions of Approval**

ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979

DETERMINATION OF MAJOR PROJECT NO. 07\_0099

(File No. S07/00748)

CONCEPT PLAN APPLICATION FOR SURPLUS LANDS  
AT POTTS HILL RESERVOIRS SITE

I, the Minister for Planning, under the *Environmental Planning & Assessment Act 1979* (the Act), determine:

- a) pursuant to section 75O of the Act, to grant Concept Plan approval to the proposal (as described in Schedule 1 and Part A of Schedule 2), subject to the conditions set out in Schedule 2;
- b) pursuant to section 75P(1)(b) of the Act, that approval to carry out the project or any particular stage of the project within the lands defined in the Concept Plan as the Potts Hill Reservoir Site is to be subject to Part 4 of the Act (excluding exempt and complying development), with Council as the consent authority, and are subject to further assessment requirements (as specified in Schedule 2 of this approval) in accordance with Section 75P(2)(c) of the Act, unless otherwise specified in the State Environmental Planning Policy (Major Projects) 2005; and
- c) pursuant to section 75P(2)(a) of the Act, that future applications to carry out the project or any particular stage of the project within the lands defined in the Concept Plan as the Potts Hill Reservoir Site is to be generally consistent with the terms of the approval of this Concept Plan.

The reason for the imposition of modifications and conditions are:

- (a) To ensure the site is appropriately managed for the proposed use;
- (b) To adequately mitigate the environmental impacts of the development;
- (c) To encourage good urban design and a high standard of architecture;
- (d) To reasonably protect the amenity of the local area; and
- (e) To protect the public interest.



The Hon Kristina Keneally MP  
Minister for Planning

Sydney,

27 April

2009

## SCHEDULE 1

### PART A – PROJECT

<b>Proponent:</b>	Landcom and Sydney Water Corporation
<b>Application made to:</b>	Minister for Planning
<b>Major Project Number:</b>	07_0099
<b>On land comprising:</b>	Lot 2 DP 456502, Lot 2 DP 225818, Lot 11 DP 16924, Lot 23 DP 16924, Lot 55 DP 16924, Lot 64 DP 16924, Lot 65 DP 16924, Lot 66 DP 16924, Lot 67 DP 16924, Corner of Rookwood Road and Brunner Road, Potts Hill and Pt Lot 1 DP 610303 Bagdad Street, Potts Hill
<b>Local Government Area:</b>	Bankstown City Council and Auburn Council
<b>Approval in summary for:</b>	Concept Plan for development of approximately 40 hectares of land surplus to operational needs of Sydney Water for water supply purposes comprising: an employment business park in the eastern portion of the site, residential development in the western portion of site in a mix of low and medium density housing forms (up to a maximum of 450 dwellings); and three areas of public open space, road access and the internal road network, stormwater and drainage, and associated infrastructure.
<b>Capital Investment Value:</b>	\$287,600,000
<b>Type of development:</b>	Concept Plan approval under Part 3A of the Act
<b>Determination made on:</b>	
<b>Determination:</b>	Concept Plan approval is granted subject to the conditions in Schedule 2 below.
<b>Date of commencement of approval:</b>	This approval commences on the date of the Minister's approval.
<b>Date approval will lapse:</b>	5 years from the date of determination



## PART B – DEFINITIONS

In this approval the following definitions apply:

<b>Act, the</b>	NSW <i>Environmental Planning and Assessment Act, 1979</i>
<b>Bagdad Street site, the</b>	Land defined as Pt Lot 1 DP 610303 Bagdad Street, Potts Hill.
<b>Concept Plan</b>	Plan approved by this instrument, as defined by the Environmental Assessment and Preferred Project Report.
<b>Concept Plan: Business Park Design Guidelines</b>	The Potts Hill Reservoir Concept Plan: Business Park Design Guidelines dated 9 July 2008 prepared by Allen Jack + Cottier and included at Appendix I to the EA.
<b>Concept Plan: Residential Precinct Design Guidelines</b>	The Potts Hill Reservoir Concept Plan: Residential Park Design Guidelines dated 9 July 2008 prepared by Allen Jack + Cottier and included at Appendix H to the EA.
<b>Concept Plan: Design Principles</b>	The Potts Hill Reservoir Design Principles dated 3 July 2008 prepared by Allen Jack + Cottier and included at Appendix G to the EA.
<b>Council</b>	Bankstown City Council
<b>DECC</b>	NSW Department of Environment and Climate Change
<b>Department, the</b>	NSW Department of Planning
<b>Director-General, the</b>	Director-General of the Department of Planning (or delegate).
<b>Director Strategic Assessments</b>	The Director Strategic Assessments at the Department of Planning
<b>Employment precinct</b>	Land designated as 'employment precinct' or 'eastern precinct' in the PPR.
<b>Environmental Assessment (EA)</b>	<i>Concept Plan Application under Part 3A – Environmental Assessment – Potts Hill Reservoirs Land</i> (including accompanying Appendices) prepared by Cité Urban Strategies on behalf of Landcom and Sydney Water Corporation dated June 2008.
<b>Minister, the</b>	Minister for Planning
<b>Operational land</b>	Means the land retained by Sydney Water for operational purposes.
<b>Preferred Project Report (PPR)</b>	<i>Concept Plan Application under Part 3A – Preferred Project Report – Potts Hill Reservoirs Land</i> (including accompanying Appendices and addendum titled <i>Potts Hill Eastern Precinct – Downstream Drainage System Capacity Assessment</i> by Worley Parsons, 22 October 2008) prepared by Cité Urban Strategies on behalf of Landcom and Sydney Water Corporation dated February 2009
<b>Proponents</b>	Landcom and Sydney Water Corporation
<b>Residential precinct</b>	Land referred to as the 'residential precinct' or 'western precinct' in this consent excludes reference to the Bagdad Street site.
<b>RTA, the</b>	NSW Roads and Traffic Authority
<b>Site, the</b>	The area of land affected by the Concept Plan and defined as the 'development lands' or 'surplus lands'.
<b>Statement of Commitments</b>	Revised Statement of Commitments submitted as part of the PPR

**SCHEDULE 2**  
**MODIFICATIONS TO CONCEPT PLAN**  
**CONCEPT PLAN APPLICATION NO. MP 07\_0099**

**PART A – ADMINISTRATIVE TERMS OF APPROVAL**

**A1. Limits of approval**

- (1) Concept Plan approval only is granted to the proposed development of the Potts Hill Reservoirs Site surplus lands as described in the EA and as amended by the PPR, including but not limited to:
- i. development of 15.66 hectares within the eastern part of the site for the purposes of an employment / business park precinct including associated infrastructure and road access;
  - ii. development of 19.9 hectares for residential purposes within the western part of the site, including:
    - 1. a maximum of 450 dwellings;
    - 2. new access roads;
    - 3. pedestrian facilities; and
    - 4. associated infrastructure.
  - iii. development of approximately 3.94 hectares of public open space comprising:
    - 1. Canal Park (0.46ha);
    - 2. Brunker Road Park (2.65ha); and
    - 3. New Park on Cooper Road (0.8ha).
- (2) No works under the Concept Plan shall proceed without additional specific approvals either under Part 3A or under Part 4 of the Act, as relevant. Project approval may pre-date approval of the Concept Plan where works are already permissible.
- (3) The complying development provisions, as detailed in the PPR, are not approved for:
- a. residential lots under 450sqm;
  - b. terrace lots/duplex lots;
  - c. zero lot line lots; and
  - d. bush reserve lots

Note: Approval under Part 4 of the Act, with Council as the consent authority, will be required for the following development (unless or until State wide exempt and complying provisions take effect):

- i. all detached single dwelling houses which do not comply with SEPP (Exempt and Complying Development) 2008, NSW Housing Code or Schedule 3 of this Approval;
- ii. medium density housing forms including garden apartments;
- iii. seniors housing;
- iv. zero lot housing; and
- v. terrace, semi detached and duplex development.

**A2 Development in accordance with Plans and Documentation**

- (1) The Proponent shall carry out the Concept Plan (as described in A1 of this Approval), generally in accordance with the following:
- a. the Environmental Assessment – Potts Hill Reservoirs Land (including accompanying Appendices);
  - b. the Preferred Project Report – Potts Hill Reservoirs Land (including accompanying Appendices and addendum titled Potts Hill Eastern Precinct – Downstream Drainage System Capacity Assessment by Worley Parsons, 22 October 2008) prepared by Cité Urban Strategies on behalf of Landcom and Sydney Water Corporation dated February 2009;
  - c. the Statement of Commitments dated February 2009; and
  - d. the conditions contained in this Approval.

**A3 Inconsistency between plans and documentation**

- (1) In the event of any inconsistency between:
- a. the terms of this Approval and any documents listed above, the modifications of this Concept Plan Approval (as amended by Part B of this approval) prevail; and
  - b. any documents listed in A2(1) a. to c., the most recent document shall prevail to the extent of the inconsistency.

**A4 Lapsing of Consent**

- (1) Approval of this Major Project No. MP07-099 shall lapse 5 years from the after the date of approval unless an application is submitted to carry out a development for which concept approval has been given.
- (2) To avoid any doubt, this Concept Plan Approval does not permit the construction of any aspect of the development.

**A5. Determination of future applications**

- (1) The determination of all future applications for development of the Site under Part 4 of the Act, which Council is the consent authority for, is to be generally consistent with the following as amended by Part B of this Approval, as appropriate:
- a. terms of this Approval;
  - b. the Concept Plan: Design Principles;
  - c. the Concept Plan: Residential Precinct Design Guidelines; and
  - d. the Concept Plan: Business Park Design Guidelines.

## PART B – CONDITIONS AND MODIFICATIONS TO THE CONCEPT PLAN

### B1 Voluntary Conservation Agreement and associated Management Plans

- (1) The Voluntary Conservation Agreement referred to in the Statement of Commitments in respect to the retained lands, is to be executed by the Sydney Water Corporation and the Minister (administering *the National Parks and Wildlife Act 1974*) prior to the commencement of any works within the residential precinct which would result in the removal of Endangered Ecological Communities and/or threatened species or the approval of the first application for subdivision or civil works within the residential precinct, whichever is the first.

The Voluntary Conservation Agreement is to be prepared in consultation with the DECC.

An executed copy of the Voluntary Conservation Agreement is to be forwarded to the Director Strategic Assessment.

- (2) No vegetation identified as an endangered ecological community or a threatened species under the *Threatened Species Conservation Act 1995* may be removed or impacted by development on the surplus lands until the Voluntary Conservation Agreement referred to in B1(1) has been executed.
- (3) The **Environmental Management Plan** and the **Vegetation Management Plan** referred to in the Statement of Commitments in respect to the retained lands, is to be prepared in consultation with the DECC prior to the commencement of any works in the residential precinct which would result in the removal of Endangered Ecological Communities and/or threatened species or any future approval in relation to subdivision or civil works for the residential precinct, whichever is the first.
- (4) The scope of the **Environmental Management Plan** referenced in Condition B1(3) is to be expanded to include appropriate procedures for the management and protection of the Grey-headed Flying Fox and the Eastern Bent-wing Bat, through all stages of development of the surplus lands.
- (5) A **Vegetation Management Plan** is to be prepared by the Proponent to address the retention and protection of significant vegetation within the surplus lands during all stages of construction. In particular, the Plan is to reference:
- i. the management of land at the interface with the Endangered Ecological Communities and/or threatened species; and
  - ii. the Peppercorn trees, cultural plantings and other significant vegetation to be retained and incorporated into the open space and public domain within the surplus lands.

### B2 Residential Design Guidelines

- (1) The Residential Design Guidelines are to be amended to:
- a. reflect the revised Concept Plan boundary illustrated in the PPR.
  - b. include specific design guidelines to address the treatment of the residential precinct at the interface with the operational land including where the public domain, parks and residential lots abut the operational land.
  - c. include a minimum continuous landscape strip of 3 metres (within the nominated 6 metres setback) where medium density housing abuts the western boundary of the retained lands.
  - d. specify the minimum rear setback for dwelling houses on lots under 450sqm is 3.0 metres (and not 0.9m as indicated in the PPR).
  - e. incorporate specific design guidelines for the detached dwelling houses on lots over 450sqm in accordance with the requirements of the NSW Housing Code including a minimum rear setback of 3.0 metres.
  - f. incorporate an illustrative concept plan which nominates lot distribution across the site to demonstrate that housing choice will be provided.
  - g. specify the type and nature of ESD measures to be incorporated into new development.
  - h. incorporate new schematic drawings to illustrate the above and the following:
    - i. the stated maximum site coverage; and

- ii. privacy requirements for dwelling houses in accordance with Council's Development Control Plan.

The amended Residential Design Guidelines are to be submitted for the approval of the Director Strategic Assessments prior to the determination of the first application in relation to the subdivision or civil works for the residential precinct.

- (2) An Affordable Housing Strategy is to be prepared and submitted to the satisfaction of the Director Strategic Assessments prior to the determination of the first application in relation to the subdivision or civil works for the residential precinct.

### **B3 Public Domain Design Guidelines**

- (1) The **Public Design Guidelines** are to be prepared prior to the determination of the first application in relation to the subdivision or civil works for the residential precinct. The Guidelines are to include details in relation to:
  - a. boundary treatments (i.e. fencing & landscaping) details for the existing dwellings on Coopers Road. Such details are to be determined in consultation with the existing property owners and are to result in cohesive and integrated streetscape solution;
  - b. the treatment of all roads and access paths (vehicle, pedestrian and cycle);
  - c. the landscape detailing of all parks/open space including the use of water sensitive urban design. Such details are to the future Cooper Road Park which is to be designed to maximise the retention of Cumberland Plain Woodland;
  - d. signage, lighting and street furniture;
  - e. treatment of the residential precinct at the interface with the operational land including where the public domain and open space abuts the retained lands;
  - f. the incorporation of the Peppercorn trees, cultural plantings and other significant vegetation into the open space and public domain design within the surplus lands; and
  - g. the interpretation of the former historic railway line and the associated cultural plantings.

The Public Domain Design Guidelines are to be developed in consultation with Council.

A copy of the approved Public Domain Design Guideline is to be submitted to the Director Strategic Assessments prior to the determination of the first application in relation to the subdivision or civil works for the residential precinct.

### **B4 Business Park Design Guidelines**

- (1) The **Business Park Design Guidelines** are to be amended to incorporate the following landscape setback requirements:
  - a. **Site E:**
    - i. a minimum building setback of 6 metres to the northern boundary
    - ii. a minimum building setback of 10 metres to the southern boundary
  - b. **Site A:** a minimum building setback of 6 metres for the northern boundary

A minimum of 60% of the nominated landscaped setbacks areas are to incorporate deep soil planting.

### **B5 Heritage Requirements**

- (1) A **Heritage Interpretation Plan** for the Potts Hill Reservoirs site committed to by the Proponent shall be prepared to the satisfaction of the Director, Heritage Branch of the Department of Planning prior to the determination of the first application in relation to the subdivision or civil works for the residential precinct. The Plan shall interpret the site and its history within the new development. The Plan shall specifically outline the interpretation policy for the site including having reference to the former Migrants Camp, signage, street names, the original street pattern, the former railway alignment and cultural plantings.
- (2) The Proponent shall prepare a **Moveable Heritage Plan** for the Potts Hill Reservoirs site to the satisfaction of the Director, Heritage Office of the Department of Planning prior to the determination of the first application in relation to the subdivision or civil works for the residential precinct. The Plan shall

outline the policy for the retention and conservation of the moveable objects in existing sheds on the Potts Hill Reservoir site.

**B6 Construction Impacts**

- (1) The Proponent shall submit a **Construction Environmental Management Plan (CEMP)** for:
- (a) the residential precinct with the first application in relation to subdivision or civil works for the residential precinct; and
  - (b) the Bagdad Street site prior to the determination of the first application or the issue of a construction certificate whichever is the first.

The CEMP (as an overarching plan) is to address: construction noise, air quality, soil and erosion, salinity, contamination, construction traffic and measures to mitigate adverse construction impacts on the operational land. The Plan shall provide for continuous and safe access for pedestrians and cyclists during construction as appropriate, particularly at the interface of the site with existing public roads.

**B7 Shared Bicycle and Pedestrian Strategy**

- (1) Prior to the determination of the first application in relation to the subdivision or civil works for the residential precinct, the Proponent is to complete investigations into the opportunities to improve pedestrian access to Copper Street. Such investigations are to include consultation with Council.
- The outcomes of these investigations are to be incorporated into the Public Domain Design Guidelines, as appropriate.
- (2) Prior to the determination of the first application in relation to the Bagdad Street site, the Proponent is to complete investigations into the opportunities to improve pedestrian access. Such investigations are to include consultation with Council.
- (3) The proponent shall prepare a **Shared Bicycle / Pedestrian Strategy** for the Concept Plan site in consultation with Council, to be implemented by the completion of construction of the residential precinct. The Plan shall be prepared having regard to the Department's Best Practice Guidelines for Walking and Cycling and prior to the determination of the first application in relation to the subdivision or civil works for the residential precinct.

## PART C – FURTHER ASSESSMENT REQUIREMENTS

### C1 Residential Subdivision and Civil works

- (1) Prior to the registration of the any lots or the commencement of civil works, the Proponent shall prepare and submit a construction/development staging plan which clearly identifies the following:
  - a. A staging plan depicting the proposed sequence of development for the entire residential precinct; and
  - b. scope of each future development stage and the delivery of associated infrastructure in each stage.

### C2 Contamination

- (1) A **Remedial Action Plan** is to be submitted with the first application for subdivision and civil works for the Residential Precinct.
- (2) Upon completion of the remediation works on the site and prior to the registration of any lot or the commencement of civil works in the Residential Precinct, the Applicant shall submit a Site Audit Summary Report and a Site Audit Statement and Validation & Monitoring Report to the Director of Strategic Assessments. The Site Audit must be prepared in accordance with the *Contaminated Land Management Act 1997* and completed by an accredited site auditor. This site audit must verify that the land is suitable for the proposed land use/s pursuant to clause 18 of SEPP 55.
- (4) All future applications within the employment precinct shall demonstrate compliance with *Statement Environmental Planning Policy No. 55- Remediation of Land* including to demonstrate that the land proposed to be developed has been fully remediated.

### C3 South Sydney Freight Line

- (1) The potential impact on the residential precinct of the freight noise and acoustic barriers proposed as part of the South Sydney Freight Line construction is to be resolved prior to determination of any future application for the residential subdivision of the superlot relevant to this northern portion of the precinct.  
  
If determined appropriate, the Residential Design Guidelines are to be amended to address appropriate acoustic attenuation measures to be incorporated into the design of affected residential properties. The Residential Design Guidelines shall also include measures to reduce the visual impacts of the acoustic barriers.

### C4 Road design and construction

- (1) The internal road network is to be designed and constructed to the satisfaction of the relevant roads authority.
- (2) Further assessment of the following is required for all future project approvals as relevant:
  - i) Road design, including layout and associated specifications,
  - ii) pedestrian and cyclist access;
  - iii) traffic calming and pedestrian safety measures;
  - iv) Landscaping;
  - v) Street lighting;
  - vi) Signage; and
  - vii) Connectivity and integration with existing bus routes and networks.
- (3) Further assessment of the impact of operational traffic resulting from the proposal on Cooper Road and the need for further traffic calming or pedestrian safety measures is required once the detailed design of the residential precinct has been finalised. This assessment shall be undertaken in consultation with Council and shall be submitted with the relevant future project applications for development of the residential precinct.
- (4) Further assessment of the detailed design of the following roads and infrastructure committed to by the Proponent will be required with the relevant future application to the satisfaction of the Roads authority:
  - i) roundabouts at 2 entrances along Cooper Road;
  - ii) roundabout at the entrance to the residential precinct along Brunker Road;



- iii) the appropriate intersection at the junction of Brunner Road and the eastern employment land with the possible full or partial closure of Lambert Street;
- iv) the signalised intersection at the junction of Rookwood Rd and the eastern employment land (north of Boardman Street);
- v) the combined cycleway/pedestrian path on the northern side of Brunner Rd between Cooper Rd and Graf Avenue; and
- vi) the footpath on the eastern side of Cooper Road from Brunner Rd to the Freight line.

#### **C5 Carparking**

- (1) All future applications within the residential precinct and the Bagdad Street site are to comply with the carparking rates specified in Bankstown Development Control Plan 2005, Part D8- Parking.
- (2) All developments within the employment precinct are to justify the carparking rates proposed including to provide the following:
  - i) Employee numbers and usage patterns, with the assumption of some public transport use by employees;
  - ii) travel demand management measures with the goal of encouraging public and active transport use, with monitoring and scheduled reviews of success; and
  - iii) adequate and secure bicycle storage facilities and cyclist amenities as part of the development.

#### **C6 Utilities and stormwater**

- (1) Further assessment of the following is required for all future project approvals for the residential precinct and the Bagdad Street site:
  - i. Provision of utilities; and
  - ii. Stormwater drainage and storage.
- (2) All future applications for the both the residential and employment lands will be required to address stormwater management. The design of the stormwater system and any associated upgrade work (on and off site) are to be resolved to the satisfaction of Council including measures to capture and re-use stormwater on site.

#### **C7 Built form- ESD**

- (1) All future applications are demonstrate that ESD provisions have been incorporated into the development to reduce water and energy consumption including demonstrating compliance with the provisions in the Design Guidelines.

#### **C8 Section 94 Contributions**

- (1) Section 94 Contributions are to be resolved with the determination of each future application and are to be subject to the relevant Council Contribution Plan applicable at that time.

In determining the applicable developer contributions, the Council is to take into account the financial costs of works-in-kind, land dedications, and infrastructure and service provision committed to by the Proponent both on-site and off-site, as appropriate.

In the event that a dispute between the Proponent and the Council in relation to developer contributions can not be resolved, the Department will act to mediate the matter.

**SCHEDULE 1**  
**MAJOR PROJECT APPLICATION No. MP 08\_0069 MOD 1**  
**Consolidated Consent**

**PART A – PROJECT**

Proponent:	Landcom (Level 2, 330 Church Street, Parramatta NSW)
Application made to:	Minister for Planning
Major Project Number:	08_0069 MOD 1
On land comprising:	Pt Lot 2 DP 225818, Pt Lot 1 DP 610303 and Lot 2 DP 456502 Potts Hill Reservoirs Land, NSW
Local Government Area:	Bankstown City Council and Auburn City Council
Approval in summary for:	Subdivision, demolition of existing buildings, bulk earthworks, soil remediation and construction of site infrastructure, including internal roads, drainage works and utilities.
Capital Investment Value:	\$16,500,000
Type of development:	Project approval under Part 3A of the Act
Determination made on:	26 November 2008, Modified 16 January 2009
Determination:	Project approval is granted subject to the conditions in Schedule 2 below.
Date of commencement of approval:	This approval commences on the date of the Minister's approval.
Date approval will lapse:	5 years from the date of determination

**PART B – DEFINITIONS**

In this approval the following definitions apply:

<b>Act, the</b>	<i>NSW Environmental Planning and Assessment Act, 1979</i>
<b>Concept Plan</b>	<i>Concept Plan Application under Part 3A – Environmental Assessment Potts Hill Reservoirs Land</i> (including accompanying Appendices) prepared by Cite Urban Strategies on behalf of Landcom and Sydney Water Corporation and any subsequent amending documentation submitted to the Department prior to determination of the Concept Plan.
<b>Council</b>	Bankstown City Council
<b>Department, the</b>	Department of Planning
<b>Director-General, the</b>	Director-General of the Department of Planning (or delegate).
<b>Environmental Assessment (EA)</b>	<i>Environmental Assessment Report Project Application – Potts Hill Reservoirs Site Stage 1 Civil Infrastructure Works</i> (including accompanying Appendices) prepared by JBA Urban Planning Consultants Pty Ltd for Landcom and dated August 2008.
<b>Minister, the</b>	Minister for Planning.
<b>Preferred Project Report (PPR)</b>	Letter titled <i>Potts Hill Civil Infrastructure Works Project Application</i> and appended documents submitted by Landcom to the Department on 24 October 2008 (letter dated 22 October 2008).
<b>Proponent</b>	Landcom
<b>Statement of Commitments</b>	Revised Statement of Commitments submitted as part of the Preferred Project Report.

**SCHEDULE 2**  
**CONDITIONS OF APPROVAL MP 08\_0069 MOD 1**

**1 Development description**

Project approval is granted only to construction activities within the areas of the Potts Hill Reservoirs land identified as the Eastern Precinct, Brunker Road Site and Bagdad Street Site as described in the EA and amended in the PPR, and further amended in the Modification to MP 08\_0069 Application dated 23 December 2008, principally:

- a) Disconnection, relocation, augmentation and reconnection of utilities and services;
- b) Removal and proper disposal of hazardous materials and site remediation;
- c) Demolition of 21 existing built structures and any associated subterranean elements identified as being of low or no heritage significance;
- d) Removal of existing trees and vegetation/landscaping as necessary;
- e) Bulk excavation and earthworks;
- f) Construction of two roads within the Eastern Precinct and associated retaining walls;
- g) Provision of new stormwater management and drainage infrastructure; and
- h) Subdivision into nine lots.

**2 Development in accordance with plans and documentation**

The development shall be in accordance with the following plans and documentation, as provided in the EA and PPR, unless otherwise approved by the Director, Strategic Assessments, Department of Planning:

Drawing Number	Revision Number	Name of Plan	Date
7337-PA-01	Issue C	Title Sheet, Locality Plan and Drawing List	16 July 2008
7337-PA-02	Issue D	Site Layout	11 August 2008
7337-PA-03	Issue C	Road 2 Long Section and Typical Cross Section	16 July 2008
7337-PA-04	Issue C	Road 1 Long Section and Typical Cross Section	16 July 2008
7337-PA-05	Issue C	Bulk Earthworks Plan	16 July 2008
7337-PA-06	Issue C	Retaining Wall Plan*	16 July 2008
5128-T-01	Issue D	Wall Layout and Notes	30 September 2008
5128-T-02	Issue D	Wall Elevations Sheet No. 1	1 October 2008
5128-T-03	Issue D	Wall Elevations Sheet No. 2	1 October 2008
5128-T-04	Issue D	Wall Elevations Sheet No. 3	1 October 2008
5128-T-05	Issue D	Wall Elevations Sheet No. 4	1 October 2008
5128-T-07	Issue C	Typical Wall Sections	1 October 2008
7337-PA-07	Issue C	Site Cross Sections	16 July 2008
7337-PA-08	Issue C	Demolition Plan	16 July 2008
7337-PA-09	Issue C	Erosion and Sediment Control Plan	16 July 2008
7337-PA-10	Issue C	Erosion and Sediment Control Details	16 July 2008
7337-PA-11	Issue D	Construction Staging Plan	11 August 2008
LC01	Revision A	Landscape Planting	29 September 2008
LC02	Revision A	Landscape Details	29 September 2008

\* This plan is approved with the exception of the gabion retaining wall for the eastern slope of the Eastern Precinct – see Plans 5128-T and Condition of Approval 21.

### 3 Subdivision

Prior to the registration of any lots, a staging plan for subdivision shall be submitted indicating:

- staging plans depicting the proposed sequence of lot registration; and
- a final subdivision plan generally consistent with the following plans prepared by YSCO Geomatics Land Resource Consultants dated 26 September 2008, unless otherwise approved by the Director, Strategic Assessments, Department of Planning:

Drawing Number	Sheet Number	Name of Plan	Date
1008/14A	1 of 3	Proposed subdivision of part of Sydney Water Land at Rookwood Road and Brunner Road, Potts Hill, being Lot 2 DP 225818, Lot 1 DP 610303 and Lot DP 456502 in Bankstown and Auburn LGAs.	26 September 2008
1008/14A	2 of 3		26 September 2008
1008/14A	3 of 3		26 September 2008

### 4 Completion of services prior to lot registration

Lots 101, 102, 103 and 104 shall not be registered until the services and infrastructure for those lots as described in the EA and PPR are completed.

### 5 Road design

If the proposed access roads are to be public, then they shall be designed and constructed in accordance with the relevant standards of Bankstown Council and dedicated to Council, subject to the proponent obtaining the written agreement of Council prior to the dedication of the roads.

Should an agreement regarding the public dedication of the roads not be reached within three months from the date of this approval, or at such earlier time that negotiations have been exhausted, the proponent shall submit to the Department of Planning evidence of their attempts made to satisfy Council's concerns and the Director General shall determine the future designation of the roads.

If the roads are to be private, detailed designs and specifications for the roads are to be submitted to an accredited certifier prior to the issuing of a Construction Certificate. Appropriate easements under Section 88B or 88E of the Conveyancing Act, 1919 shall also be submitted with the final plan of subdivision demonstrating any necessary restrictive covenants, easements and/or rights of way required to provide access to the lots within the subdivision.

### 6 Inconsistency between plans and documentation

In the event of any inconsistency between conditions of this project approval and the plans and documentation referred to above, the conditions of this project approval prevail.

### 7 Construction standards for intersections

All intersections with roads external to the site shall be designed and constructed to comply with standards and specifications agreed with the NSW Roads and Traffic Authority or relevant roads authority.

### 8 Stormwater and drainage works design

Final design plans of the stormwater drainage systems and utilities shall be prepared by a qualified practicing Civil Engineer prior to the commencement of relevant works.

### 9 Site audit

In the Bagdad Street site, the Brunner Road site and zones 5, 6 and 7 of the Eastern Precinct, the proponent shall prepare a Site Audit Summary Report, Site Audit Statement and Validation Report, with the approval of an accredited site auditor, in accordance with the *Contaminated Land Management Act 1997*. These documents must verify that the land is suitable for the proposed uses. Each site may be managed separately from other sites in regard to this matter.

## 10 Environmental Management Plan

Prior to the commencement of relevant works, Environmental Management Plan(s) shall be prepared for demolition, excavation and construction activities by a suitably qualified person in accordance with relevant legislation and guidelines. The Plan(s) shall include mechanisms for monitoring and recording results of management measures, and be implemented prior to and throughout the period of construction, as relevant. Detailed plans may be prepared for individual stages of construction, sites or issues as appropriate.

The Plan(s) shall address, but not be limited to, the following matters where relevant:

- a) Contact details of site manager;
- b) Construction traffic, pedestrian management and parking of construction vehicles (including staff cars);
- c) Noise and vibration management;
- d) Management of impact on heritage items;
- e) Management of impact on native vegetation;
- f) Air quality (including hazardous materials);
- g) Erosion and sediment control;
- h) Waste management; and
- i) Stormwater management.

## 11 Construction hours

The hours of construction, including the delivery of materials to and from the site, shall be restricted as follows (except deliveries via Rookwood Road), unless approved by the Director, Strategic Assessments, Department of Planning:

- a) Between 7:00am and 6:00pm, Mondays to Fridays inclusive;
- b) Between 8:00am and 1:00pm, Saturdays; and
- c) No work on Sundays and public holidays.

The hours of construction for the Rookwood Road intersection shall be at the direction of the Roads and Traffic Authority.

## 12 Construction noise

The construction noise objective for the project is to manage noise from construction activities (as measured by a  $L_{Aeq}$  (15minute) descriptor) so it does not exceed the measured existing background  $L_{90}$  noise level by more than 10dB(A) during standard construction hours or more than 5dB(A) outside standard construction hours (noting that construction hours are to apply in accordance with Condition 8). Background noise levels are those identified in the report by Renzo Tonin & Associates titled *Landcom Potts Hill Precinct Development Construction Noise and Vibration Impact Assessment –Eastern Precinct* submitted for the Potts Hill Reservoirs Civil Works Stage 1 or otherwise identified in the Environmental Management Plan.

Any activities that have the potential for noise emissions that exceed the objective must be identified and managed in accordance with the Environmental Management Plan. The proponent must implement all reasonable noise mitigation and management measures with the aim of achieving the construction noise objective.

If the noise from a Construction activity is substantially tonal or impulsive in nature (as described in Chapter 4 of the *NSW Industrial Noise Policy*), 5dB(A) must be added to the measured Construction noise level when comparing the measured noise with the Construction noise objective.

## 13 Construction vibration

To ensure that works do not have vibratory impact on items of heritage significance within the Potts Hill Reservoirs site, the Environmental Management Plan(s) are to include management measures based on the noise and vibration assessment submitted as part of the PPR.

## 14 Notification of noisy works

If works are planned that will exceed the construction noise objective, all sensitive receivers are to be notified in writing at least 48 hours prior to the commencement of those works.

## **15 Dust control measures**

Adequate measures shall be taken to prevent dust from affecting the amenity of the surrounding area during construction. In particular, any dust resulting from contamination remediation procedures shall be prevented from leaving the site.

## **16 Disposal of seepage and stormwater**

Any seepage or rainwater collected on-site during construction shall be treated generally in accordance with the Erosion and Sediment Control Plan. Under no circumstances is any collected water or additional stormwater flow or drainage to be directed or discharged into any endangered ecological communities. Discharges are to be managed in accordance with the provisions of the NSW *Protection of the Environment Operations Act 1997*. This condition applies beyond the period of construction until further on-site development commences under other project approvals.

## **17 Approved plans to be on site**

A copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification shall be kept on the site at all times and shall be readily available for perusal by any officer of the Council or the Department.

## **18 Site notice**

A site notice(s) shall be prominently displayed at the boundaries of the site for the purposes of informing the public of project details including, but not limited to the details of the Proponent, Builder and Engineer. The notice(s) is to satisfy all but not be limited to, the following requirements:

- a) Minimum dimensions of the notice are to measure 841mm x 594mm (A1) with any text on the notice to be a minimum of 30 point type size;
- b) The notice is to be durable and weatherproof and is to be displayed throughout the works period;
- c) The approved hours of work, the name of the site/project manager, the responsible managing company (if any), its address and 24 hour contact phone number for any inquiries, including construction/noise complaint are to be displayed on the site notice; and
- d) The notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted.

## **19 Complaints Management System**

The Proponent must prepare and implement a construction Complaints Management System before construction commences and maintain the System for the duration of construction. The System shall include the following:

- a) a direct telephone number on which complaints and enquiries about the project may be registered;
- b) a postal address to which written complaints and enquires may be sent; and
- c) an email address to which electronic complaints and enquiries may be transmitted.

The telephone number, the postal address and the email address shall be included on the Site Notice prior to the commencement of construction. A record of complaints received and responses shall be maintained for the duration of construction.

## **20 Storage of hazardous or toxic material**

Any hazardous or toxic materials must be stored in accordance with Workcover Authority requirements and all tanks, drums and containers of toxic and hazardous materials shall be stored in a bunded area. The bund walls and floors shall be constructed of impervious materials and shall be of sufficient size to contain 110% of the volume of the largest tank plus the volume displaced by any additional tanks within the bunded area.

## **21 Stability of eastern slope**

If works for the purpose of stabilising the eastern slope of the Eastern Precinct have not commenced within 24 months of the date of this approval, the proponent is to regrade the slope or construct appropriate reinforcement, with landscaping, in accordance with the recommendations of the geotechnical report in Appendix G of Environmental Assessment.

**Appendix C**

# **Sub Plans**



### **Preliminary Air Quality and Dust Management Sub-Plan**

**Objectives:**

Minimise the impacts of airborne pollutants including dust and exhaust emissions in accordance with conditions of approval and where relevant, NSW guidelines and best practice.

**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 to air causing, or likely to cause, an environmental nuisance at or beyond the boundaries of the site. These include odour, dust, smoke and fumes.

#### **Implementation Strategy**

<b>Requirements</b>	<b>Project Stage</b>		
	<b>Pre Construction (Design and Planning)</b>	<b>Construction (Demolition)</b>	<b>Construction (Excavation/ Remediation Works)</b>
Contractors are required to undertake dust suppression with non-potable water and gravel is to be placed on areas where large numbers of vehicle movements occur (e.g. access points).		X	X
Adequate covering of all material being transported to or from site by trucks to minimise dust pollution generated.		X	X
Regular maintenance of plant and equipment should be conducted to ensure they are in proper working order, thus minimising exhaust emissions.		X	X
Site access and no-go zones should be established to minimise the works footprint and potential sources of dust.	X		
Where possible ground cover established on soil stockpiles and exposed surfaces to minimise the potential risk of aeolian transport.		X	X
Works should be undertaken in accordance with the Erosion and Sediment Control Plan		X	X
Ceasing of works during high wind conditions and/or implementation of additional dust suppression.		X	X
Demolition and excavation safeguards should be implemented in accordance with the Remediation Action Plan (where available).		X	X

**Monitoring:**

- Reference to Regional ambient air quality (data collected by others);
- Reference to Daily air quality index and National Pollutant Inventory data used for benchmarking (data collected by others);
- Monitoring of significant emissions source including the mode and duration of operation;
- Use of real time BoM data and forecasts to identify potential problematic climate conditions;
- Regular assessment of dust sources during the works.

**Corrective Action:**

If complaints are received from residents or local receptors (i.e. residents adjacent to the western precinct development area) the Contractor must immediately alleviate the problem and make provisions for additional mitigation measures to prevent further disturbances. All complaints to be recorded in the complaints register.

**Responsibility:**

Contractor's Project Manager, EMR

### Preliminary Soil and Water Management Sub-Plan

#### Objectives:

- Minimise the risk of soil erosion and loss from site during the proposed construction works in accordance with conditions of approval by implementing best practice techniques
- Minimise the impacts on receiving waters and environments.

#### Legislation/Policy/Guidelines:

- Protection of Environment Operations Act, 1997, Soil Conservation Act, 1938, NSW Managing Urban Stormwater - Soils and Construction Manual (2004) 'Blue Book'.

#### Performance Criteria:

Development and adherence to Erosion and Sediment Control Plan which should be prepared in association with the Remediation Action Plan (where available).

Implementation Strategy				
Requirements		Project Stage		
		Pre Construction (Design and Planning)	Construction (Demolition)	Construction (Excavation/ Remediation Works)
Preparation of Erosion and Sediment Control Plan (including drawings and accompanying notes detailing required erosion and sediment control measures).		X		
Undertake and document Erosion Hazard Assessment as part of ESCP preparation.		X		
Incorporate staging of works and timing restrictions to minimise soil loss at design stage.		X	X	X
Design Sediment Control Basins in accordance with soil type within the ESCP.		X		
Set batter limitations for works.			X	X
Erosion Controls	Define Access Limitations		X	X
	Define Staging of Works		X	X
	Define No Go Zones		X	X
	Define Stockpile location		X	X
	Develop contingency plan for major storm events	X		
	Define Water diversions (clean and dirty)		X	X
	Define Site office and parking		X	X
Sediment Controls	Sediment basins		X	X
	Sediment Fences		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
	Identify cleaning and replacement requirements for erosion and sediment control measures		X	X
Stabilisation	Establishment of ground cover ('c-factor') requirements		X	X
	Stabilisation of concentrated flows through the site		X	X
	Topsoil handling and replacement		X	X

**Preliminary Soil and Water Management Sub-Plan**

**Monitoring:**

Daily visual checks and weekly compliance checks should be conducted with additional compliance checks undertaken following rain events greater than 10mm to identify the following:

- 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 rehabilitation surfaces.

**Corrective Action:**

Following any non conformance measures should be taken immediately to remediate the impacted environment and prevent further disturbances.

**Responsibility:**

Contractor's Project Manager, EMR

### **Preliminary Contaminated Land Management Sub-Plan**

#### **Objectives:**

- Avoid and minimise the environmental and human health risks arising from the disturbance of contaminated land encountered during construction of the project in accordance with conditions of approval,
- Follow guidelines set out in the statutory requirements for managing contaminated land and the transport of contaminated goods,
- Comply with any requirements of the *Protection of the Environment Operations Act 1997*.

#### **Legislation/Policy/Guidelines:**

- *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:**

- Contamination on site shall be managed in accordance with the Remediation Action Plan (RAP) which is to be developed and shall be used as the overarching management document in conjunction with the CEMP.
- Disposal and handling of contaminated sediment in accordance with relevant guidelines,
- Adherence to Erosion and Sediment Control Plan and measures outlined in the CEMP;
- Absence of water quality deterioration in water bodies affected by works.

#### **Implementation Strategy**

<b>Requirements</b>	<b>Project Stage</b>		
	<b>Pre Construction (Design and Planning)</b>	<b>Construction (Demolition)</b>	<b>Construction (Excavation/ Remediation Works)</b>
All potentially affected spoil will be stockpiled in a bunded, impermeable area and covered to prevent potential erosion.		<b>x</b>	<b>x</b>
Any contaminated lands identified onsite to be managed in accordance with DECCW guidelines.		<b>x</b>	<b>x</b>
Runoff/water used on site should be contained by use of bunding and basins.		<b>x</b>	<b>x</b>
Validation sampling will be undertaken at frequent intervals to confirm contamination levels and management initiatives established in the associated geotechnical reports.		<b>x</b>	<b>x</b>
Stockpile sampling is to be undertaken at a frequency of one sample per 50m <sup>3</sup> . Additional samples should be collected for QA/QC purposes. All sampling shall be undertaken with current industry best practices.		<b>x</b>	<b>x</b>
Transportation and disposal of contaminated sediments should be conducted in accordance with industry best practices.		<b>x</b>	<b>x</b>
Any in-situ remediation of contaminated sediments on site shall be undertaken in accordance with the site specific Remediation Action Plan (to be prepared).		<b>x</b>	<b>x</b>

#### **Monitoring:**

Weekly inspections will be undertaken throughout the construction period by the EMR, Contractor's Project Manager and Contractor's Site Supervisor. This inspection will ensure that appropriate controls are being implemented and are effective. It will also ensure that where necessary additional monitoring is undertaken as a result of changes to activities/construction methods. Any issues identified during the weekly inspections will be recorded in a weekly report.

**Preliminary Contaminated Land Management Sub-Plan**

**Corrective Action:**

DECCW (EPA) should be notified immediately if gross contamination (chemical concentrations greater than what is outlined in environmental reports) is identified through validation or stockpile testing.

The EMR is to be informed immediately upon encountering any unexpected contamination during excavation work at any location. The EMR will be responsible for informing Landcom's Project Manager and the Contract Administrator as possible should contamination be suspected.

Where unexpected contamination is encountered, works in the area shall cease until contamination levels have been determined and appropriated management plans are in place.

**Responsibility:**

Contractor's Project Manager, EMR

### **Preliminary Waste Management and Reuse Sub-Plan**

#### **Objectives:**

To minimise waste creation and disposal, and maximise the potential for material reuse/recycling on site or externally in accordance with the conditions of approval.

#### **Legislation/Policy/Guidelines:**

- *Protection of the Environment Operations Act, 1997*
- *Protection of the Environment Operations (Waste) Regulations, 2008*
- *Waste Avoidance and Resource Recovery Act, 2001*

#### **Performance Criteria:**

Waste generated as a result of works activities is located in designated areas of site awaiting appropriate disposal or, where economically feasible, recycling.

#### **Implementation Strategy**

<b>Requirements</b>	<b>Project Stage</b>		
	<b>Pre Construction (Design and Planning)</b>	<b>Construction (Demolition)</b>	<b>Construction (Excavation/ Remediation Works)</b>
Where practical, use suppliers who have a working waste minimisation policy in place.	x	x	x
Assess quantities of materials required carefully to minimise surpluses and scrap.	x	x	x
Empty drums and containers stored within a bunded area and periodically removed by a licensed recycling or waste contractor.		x	x
Excess chemicals or liquid wastes to be reused or disposed of using a contractor or facility licensed to accept, process or dispose of such wastes.		x	x
Aggregate, concrete, asphalt, steel or timber required for the project will be ordered as required. Quantities will be calculated at the time the materials are needed to reduce the site storage and generation of waste. Any surplus that can be reused elsewhere on site will be used as soon as possible. All waste to be removed from site.		x	x
In general 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 will be mulched and reused in landscaped areas if considered practical.		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 will be taken to an approved facility that accepts green waste.		x	x
General refuse shall be collected and transported to an approved recycling or disposal site.		x	x
Activities will be carried out to minimise waste where possible, and any waste generated is disposed in a correct manner.		x	x
All work areas shall be maintained in a neat and tidy condition, litter bins to be used at all times and regular emptying shall prevent the accumulation of litter onsite.		x	x

**Preliminary Waste Management and Reuse Sub-Plan**

The contractor environmental induction process shall inform all site personnel about correct waste management procedures based on the principles of reduce, reuse and recycle and appropriate disposal		<b>x</b>	<b>x</b>
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**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,
- Waste Treatment and Disposal.

**Corrective Action:**

All incidences of non-compliance with the Waste Management Sub Plan will be promptly investigated to identify the primary source and corrective actions shall be established to ensure the non-compliance is not repeated.

**Responsibility:**

Contractor's Project Manager, EMR

### Preliminary Flora and Fauna Management Sub-Plan

#### Objectives:

- To minimise the impact of construction activities on vegetation that will be retained within the development area in accordance with the conditions of approval,
- To prevent the spread of weeds,
- To undertake rehabilitation of disturbed area to be consistent with and /or improved upon the surrounding environment.

#### Legislation/Policy/Guidelines:

- *National Parks and Wildlife Act, 1974* (NPW Act);
- *Threatened Species Conservation Act, 1995* and amendments (TSC Act);
- *NSW Fisheries Management Act, 1994* (FM Act);
- *Noxious Weeds Act, 1993* (NW Act); and
- *Environmental Protection and Biodiversity Conservation Act, 1999* (Commonwealth) (EPBC Act).

#### Performance Criteria:

- Compliance with relevant requirements of the Voluntary Conservation Agreement (VCA)
- No disturbance of vegetation outside the construction area,
- Minimal disturbance to fauna of the area;
- Site rehabilitation and sustained native vegetation establishment following the completion of works.

#### Implementation Strategy

Requirements	Project Stage		
	Pre Construction (Design and Planning)	Construction (Demolition)	Construction (Excavation/ Remediation Works)
All trees to be retained shall be protected during the works with protective fencing	x	x	x
To minimise native vegetation disturbance 'clearing limits' will be delineated prior to construction, and clearing limits will be identified by use of temporary fencing.	x	x	x
Stockpiles of any material should be located away from tree drip lines where possible to maintain the health of remaining vegetation		x	x
During vegetation clearing a certified wildlife handler should be present on site to assist in the safe removal of any wildlife refugees.		x	x
Any fauna species encountered on site should be relocated by a qualified wildlife carer from an organisation such as WIRES.		x	x
All personnel will take care not to cause injury to any wildlife.		x	x
Locally native species will be used in rehabilitation and landscaping works on site, and should include; flora species suitable as a food resource for locally threatened fauna species.		x	x
Any weeds found on the site, will not be mulched, but bagged and removed from the site.		x	x
Topsoil will be re-used on site wherever possible, maintaining local seed stock on site.		x	x
Use of fertilisers and pesticides should be limited where possible.		x	x



### **Preliminary Flora and Fauna Management Sub-Plan**

#### **Monitoring:**

- Inspections shall be undertaken prior to the commencement of the works to locate any fauna onsite
- Daily visual site inspection will be undertaken to ensure wildlife are not on site.
- Monitoring of vegetation health adjacent to the construction activity will be undertaken during and after construction.

**Corrective Action:** Management methods will be reviewed where found to be ineffective. Plant re establishment/replanting will be required where vegetation is not sufficiently stabilised.

#### **Responsibility:**

- All personnel on site are responsible for preventing injury to wildlife.
- Contractor's Project Manager / Environmental Management Representative are responsible for implementing flora and fauna mitigation measures for all activities and areas under their control.
- Foremen are also responsible for ensuring the Contractor complies with the provisions of this Preliminary Flora and Fauna Sub Plan and the Preliminary CEMP.
- The EMR is responsible for carrying out routine surveillance and monitoring programs and for ensuring the investigation of complaints, incidents or breeches.
- The Contractor's Project Manager / Contractor's Site Supervisor are responsible for compliance to the relevant regulations and the provisions of the Approval.

### Preliminary Indigenous Heritage Management Sub-Plan

#### Objectives:

To ensure that the Aboriginal cultural significance of the area is preserved throughout the construction and operational phases associated with the development in accordance with the conditions of approval.

#### Legislation/Policy/Guidelines:

- *National Parks and Wildlife Act, 1974;*
- *Environment Protection & Biodiversity Conservation Act 1999* (Commonwealth) & Regulations.

#### Performance Criteria:

- No unauthorised disturbance to Aboriginal heritage material.
- No breach of protocols set out in relation to Aboriginal Heritage.
- No breach of *National Parks and Wildlife Act, 1974* or other relevant State or Federal Legislation.
- No complaints received in relation to the management of Aboriginal heritage values.

#### Implementation Strategy

Requirements	Project Stage		
	Pre Construction (Design and Planning)	Construction (Demolition)	Construction (Excavation/ Remediation Works)
If suspected culturally significant material is found during construction, work within 10 m must stop immediately. Steps must be taken to prevent further disturbance, and the EMR notified of the find. Only after the "all clear" is given by the EMR in consultation with the NSW Police (for skeletal material) and the National Parks and Wildlife Service as appropriate, shall work recommence in the area.		x	x
Where culturally significant items have been identified on site, exclusion zones are to be established and clearly marked with tape, fencing or pegs.		x	x
If human remains are encountered on site work must stop immediately and the EMR notified immediately who will investigate and in turn, notify the Contractor's Project Manager who shall notify the Police, and the National Parks and Wildlife Service and the Contract Administrator.	x	x	x
General cultural awareness information shall be presented at the Project induction for all contractor personnel.		x	x

#### Monitoring:

- All Contractor – in consultation with the Principal Contractor's Site Supervisor, are required to monitor areas and activities under their control;
- Daily inspections of all Contractor areas shall be conducted by the Contractor's Foreman and weekly by the EMR.

#### Corrective Action:

In the event of non-compliance with this sub-plan the following corrective actions shall be taken:

- An investigation shall be undertaken to determine the cause of the problem; and
- Work processes and practices shall be modified as necessary;

#### Responsibility:

Contractor's Project Manager, EMR

### Preliminary Non-Indigenous Heritage Management Sub-Plan

**Objectives:** To ensure there are no detrimental effects to the regions cultural heritage values in accordance with the conditions of approval.

**Legislation/Policy/Guidelines:**

- *Heritage Act 1977;*
- *Heritage (Regulations)2005;*
- *Council LEP.*

**Performance Criteria:**

No disturbance to items of heritage significance.

#### Implementation Strategy

Requirements	Project Stage		
	Pre Construction (Design and Planning)	Construction (Demolition)	Construction (Excavation/ Remediation Works)
If a suspected non-indigenous heritage item is uncovered during activities, work in the vicinity will cease immediately and the EMR should be notified. The EMR will notify the NSW Heritage Office in accordance with Section 146 of the Heritage Act 1977. Contact must be made with a qualified historical archaeologist for assessment of the item or site. Representatives may visit the site so that the appropriate actions and management recommendations can be formulated and implemented.		x	x
Protective measures should be undertaken to minimise risk to items of National, State and Local Heritage significance. Where appropriate the construction contractor will implement protective screening and all construction staff should be made aware of the status of these items and the need to preserve them.		x	x
<b>Monitoring:</b> <ul style="list-style-type: none"> <li>• Consideration given to items of heritage which may be affected by the works i.e. noise, dust, visual amenity</li> </ul>			
<b>Corrective Action:</b> If complaints are received from residents or local receptors the Principal Contractor must immediately alleviate the problem and make provisions for additional mitigation measures to prevent further disturbances.			
<b>Responsibility:</b> Contractor's Project Manager, EMR			

### Preliminary Noise and Vibration Management Sub-Plan

#### Objectives:

To mitigate noise and vibration generated as a result of the construction activities to comply with the conditions of approval through implementing best practice techniques.

#### Legislation/Policy/Guidelines:

- *Protection of Environment Operation Act*, 1997,
- NSW Interim Construction Noise Guidelines (2009), Assessing Vibration: A Technical Guideline (2006).

#### Performance Criteria:

- Noise levels should not exceed the LAeq(15 mins) RBL+10dB(A) where sensitive receptors are identified;
- Construction generated vibrations minimised where possible, no complaints received or properties damaged at local receptors.

#### Implementation Strategy

Requirements	Project Stage		
	Pre construction (Design and Planning)	Construction (Demolition)	Construction (Excavation/ Remediation Works)
Noise generated from the demolition and construction activities shall not exceed the LAeq(15 mins) Rating Background Level +10dB(A) at the site of a sensitive receptor.		x	x
Equipment and vehicles used during the works shall be maintained to ensure that noise levels and vibrations generated as a result of operations will be as minimal as possible.		x	x
Construction activities will be undertaken in compliance with the prescribed work hours as follows: Weekdays 7am – 6pm Saturday 7am – 1pm Sunday and Public Holidays No construction		x	x
Identification of all potential sensitive receivers	x		
Determination of appropriate noise and vibration objectives for each of the identified sensitive receivers.	x		
Where works may cause damage to nearby buildings and structures, conduct a preconstruction dilapidation survey.	x		
A risk assessment must be undertaken before construction commences by geotechnical and construction engineering experts with appropriate registration on the National Professional Engineers Register. Property inspections need not be undertaken if a risk assessment indicates structures will not be affected.	x		

#### Monitoring:

- Existing land uses and ambient noise levels;
- Noise source level, mode of operation, duration of operation;
- Location of noise receptors in relation to construction works and the presence of noise
- softening measures (e.g. barriers in the form of buildings or variations in topography) between the source and receptor; and
- Sensitivity of the receiving environment.

#### Corrective Action:

If complaints are received from residents or local receptors the Contractor must immediately alleviate the problem and make provisions for additional mitigation measures to prevent further disturbances.

**Preliminary Noise and Vibration Management Sub-Plan**

**Responsibility:**

Contractor's Project Manager, EMR

## Appendix D

# Forms and Registers

- Environmental Monitoring and Inspection Checklist
- Complaints Summary register
- Complaints Log Sheet
- Training Register
- CEMP Amendment Register

### Environmental Monitoring and Inspection Checklist

Item	Satisfactory Yes/No/NA	Follow up Required Yes/No (Responsibility)	Comments
<b>Water Quality Management and Erosion and Sediment Control</b>			
Have open areas of excavation and disturbed soils been kept to a minimum?			
Are temporary sediment and erosion controls (eg silt fences) installed and maintained in an effective condition?			
Road status (sediment/material on road)			
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?			
Are suspected Acid Sulfate Soils being tested and treated (if required) as per ASS Management Plan?			
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?			
<b>Air Quality</b>			
Is plant and equipment In proper working order?			
Has dust been effectively controlled by watering or ceasing work if necessary?			
Have site access and no go zones been established to minimise the site footprint?			
<b>Noise Management</b>			
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?			
<b>Waste Management</b>			
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?			
<b>Heritage Management</b>			
Are Heritage items appropriately protection (e.g. fencing)			
If any indigenous or non-indigenous items have been found, has NPWS or the Heritage Council been notified?			
<b>Flora and Fauna Management</b>			
Are trees and vegetation to be retained on site adequately protected?			
Is Landscaping being carried out using native flora endemic to the region?			
<p>Inspected by:</p> <p>Signature:</p> <p>Date:</p>			

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



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