

Appendix B

Overview of 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

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

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 (e.g. 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 of and adherence to Erosion and Sediment Control Plan.

Implementation Strategy				
Requirements		Project Stage		
		Pre Construction (Design and Planning)	Earthworks	Infrastructure and Subdivision 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 any 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:

- Disposal and handling of 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

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

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 contamination is identified through validation or stockpile testing.

The EMR is to be informed immediately upon encountering any unexpected contamination during 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

Requirements	Project Stage		
	Pre Construction (Design and Planning)	Earthworks	Infrastructure and Subdivision Works
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		x	x
--	--	----------	----------

Monitoring:
 The following waste streams will be monitored and reported on in order to maintain waste reduction and removal protocols:

- Waste Generation,
- Waste Reuse,
- Waste Recycling,
- 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)	Earthworks	Infrastructure and Subdivision 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 in accordance with the requirements of the Noxious Weeds Act, 1993.		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 breaches.
- 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)	Earthworks	Infrastructure and Subdivision 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 region's 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)	Earthworks	Infrastructure and Subdivision 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

Monitoring:

- Consideration given to items of heritage which may be affected by the works i.e. noise, dust, visual amenity

Corrective Action:

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.

Responsibility:

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)	Earthworks	Infrastructure and Subdivision 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 C

Forms and Registers

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

Environmental Monitoring and Inspection Checklist

Item	Satisfactory Yes/No/NA	Follow up Required Yes/No (Responsibility)	Comments
Water Quality Management and Erosion and Sediment Control			
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 (is there sediment/material on roads surrounding the site?)			
Shake-down area established and maintained			
Visual signs of water pollution			
Are stockpiles clear of drains, gutters and footpaths?			
Is surface water diverted from upstream areas to minimise the amount of water flowing through the site?			
Are wheels on trucks leaving the site inspected for soil and cleaned if necessary?			
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?			
Air Quality			
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?			
Noise Management			
Is construction equipment of appropriate size and capacity and inspected and maintained regularly?			
Have noise control measures been implemented around noisy activities?			
Is the Complaints register up to date?			
Waste Management			
Are bins and waste disposal recycling facilities available on site and clearly labelled?			
Are soils being re-used on site where feasible?			

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

