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Stormwater Management Plan
63 Redbank Creek Road, Adare, Queensland

Prepared for:
Wallangarra Pastoral Company

February, 2010

Document control

Document:	**VJ0112-1_SWMP_RKS1F.doc**	Gilbert & Sutherland P/L ABN 56 077 310 840
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Client Reference:		Also at Kawana and Robina
Synopsis:	This management plan establishes responsibilities and procedures for the management of stormwater during the construction and operational phases of the proposed development at 63 Redbank Creek Road, Adare, Queensland.	

Revision History

Revision #	Date	Edition By		Approved By	
1	02.02.10	K. Smith		C. Anderson	L. Varcoe

Distribution

	Revision Number									
Distribution	1	2	3	4	5	6	7	8	9	10
Wallangarra Pastoral Company c/- Urbis Pty Ltd	5									
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Summary

Urbis Pty Ltd, on behalf of Wallangarra Pastoral Company, commissioned Gilbert & Sutherland Pty Ltd (G&S) to prepare a Stormwater Assessment and Management Plan (SWMP) for a proposed residential development on Rebank Creek Road, Adare, Queensland.

The investigation for the Stormwater Assessment involved MUSIC computer modelling of the pollutant loads from the site. Results of the MUSIC modelling indicate that a treatment train consisting of the following measures would be suitable for stormwater treatment at the site;

- bioretention basins
- swales
- rainwater tanks
- vegetative filters.

This document constitutes the Stormwater Management Plan for the development and provides procedures to ensure that surface water quality during the construction, on-maintenance and operational phases of the works is in accordance with projections.

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1) Stormwater management plan

1.1 Objectives and implementation

1.1.1 Objectives

The principal objective of this SWMP is to provide mitigation measures to minimise the potential impacts on stormwater quality and related environmental impacts as a result of the development.

Additionally, the SWMP provides information on specific site management issues relating to potential environmental impacts from the development during the construction and operational phases.

The control measures detailed in this SWMP have been developed to minimise impacts on the environment and achieve the following objectives:

- appropriate stewardship of natural resources
- protection of downstream flora and fauna habitats
- confirmation of the success of impact control measures by the means of monitoring during the construction of the proposed development
- compliance with statutory requirements
- preservation of the existing groundwater conditions.

1.1.2 Implementation

The management plan requires the Proponent to mitigate the potential environmental impacts associated with the construction and operational phases of the proposed residential development.

It is intended that the SWMP will provide a set of performance criteria and guiding principles with which the engineering designs for the development will comply.

1.2 SWMP structure

This SWMP acknowledges the environmental impacts associated with the development and details strategies to mitigate them.

Each control strategy is based upon proven environmental management methods and is presented as a commitment.

The SWMP is based on a series of tables. The person responsible for the implementation of the measures detailed is written on the table itself. The tables then detail the issue, the performance criteria, the implementation strategy, monitoring, auditing, reporting, failure identification and the corrective action.

The detachable pages within each section detail the provisions of the SWMP. The format is presented below for reference purposes.

#Table 1

Person responsible	This is the person who has accepted the responsibility of implementing the SWMP provisions detailed on this page

Issue	The issue with which the table deals.
Operational policy	The operational policy or management objective that applies to the element.
Performance criteria	Performance criteria (outcomes) for each element of the operation.
Implementation strategy	The strategies or tasks (to nominated operational design standards) that will be implemented to achieve the performance criteria
Monitoring	The monitoring requirements which will measure actual performance (i.e. specified limits to pre-selected indicators of change).
Auditing	The auditing requirements, which will verify implementation of, agreed construction and operation phase environmental management strategies and compliance with agreed performance criteria.
Reporting	Content, timing and responsibility for reporting and auditing of monitoring results.
Identification of incident or failure	The circumstances under which the agreed performance criteria are unlikely to be met and environmental harm is likely to result.
Corrective action	The action to be implemented in case a performance requirement is not reached and the company(s) responsible for action.

Commitment #
A promise made by management.

An objective of the tabular format is to allow for change and allow the management plan to be a working document. If items need altering, changes may be made (after the appropriate consultation with the statutory authorities) to the individual tables.

1.3 General commitments

Commitment 1
The Proponents undertake to comply with the environmental implementation strategy as contained within the approved Stormwater Management Plan (SWMP).

Commitment 2
The Proponents undertake to fulfil all commitments made in this SWMP and to carry out their activities on the project site in accordance with relevant current statutory requirements and approved amendments.

1.4 Definitions

In this SWMP the terms have the following meanings:
SWMP means the approved Stormwater Management Plan and includes any amendments that may be approved from time to time.
Development means the proposed development at 63 Redbank Creek Road, Adare.
LVRC means Lockyer Valley Regional Council.

Proponent means the person undertaking the development of the land and includes the person nominated by the Proponent as having the responsibility for implementing the provisions of the SWMP.
EPA means Queensland Environment Protection Agency.

1.5 Contact details

The following persons are responsible for the implementation of the management measures described in the individual tables of the SWMP.

Contractor's Site Manager
The name and address of the Contractor and its representative will be notified to LVRC by the Consulting Engineer prior to the commencement of the project.

Consulting Engineer
Unless advised otherwise the Consulting Engineer is:

Company:	TBA
Address:	
Contact Details:	
Phone:	
Facsimile:	

Environmental Consultant
Unless advised otherwise the Environmental Consultant is:

Company	Gilbert & Sutherland Pty Ltd
Address:	Eastside
	5/232 Robina Town Centre Drive
	Robina Q4230
Contact Details:	Mr Neil Sutherland
Phone:	07 5578 9944
Facsimile:	07 5578 9945

2) Management of potential impacts –construction phase

The SWMP requires the Proponent to mitigate the potential environmental impacts associated with the construction works.

Erosion and sediment control measures must be installed in disturbed areas during the building construction phase in accordance with the requirements of Lockyer Valley Regional Council. These measures should be maintained until landscaping has been completed and becomes established.

Nutrient transport from the site during the construction phase should be minimised by implementation of appropriate control measures.

The following detachable pages detail the provisions of this SWMP for the construction phase.

2.1 Construction phase dust management

Person responsible	Contractor's Site Manager
Issue	Minimisation of dust movement off site.
Operational policy	To achieve acceptable air quality standards through the control of movement of dust off site from site works.
Performance criteria	The target level for complaints by nearby residents is no more than one in any seven day period. Ambient air quality should not deteriorate by more than 30% over a period of seven consecutive days. Dust deposition at any nearby residence should not exceed 100mg/m^2/day.
Implementation strategy	The minimisation of the movement of dust offsite will be achieved through the following onsite practices: • All dust creating activities to cease if wind speed exceeds 10m/sec. • Contractors' staff to be trained to implement dust minimisation measures.
Monitoring	Daily inspections will be carried out to verify that dust mitigation measures are being implemented. Dust monitoring will be conducted upon receipt of repeated complaints by residents. If dust monitoring is to take place, the following will occur: • Temporary dust deposition gauges will monitor the movement of dust offsite at the nearest residences adjacent to the proposed development site and within the predominant wind directions. • Monitoring will be undertaken in accordance with AS 3580.10.1(2003).
Auditing	Management to examine the complaints register weekly and review corrective action taken.
Reporting	The contractor to notify EPA of a possible environmental nuisance on receipt of 3 or more dust complaints in any 24 hour period. Complaints by residents are to be recorded in a Complaints Register and notified to LVRC.
Identification of incident or failure	Any dust-related complaints by residents will indicate a failure of the dust control measures.
Corrective action	Locate the source of the dust and implement the following measures: • Apply water sprays to vegetation • Cover or water exposed areas • If dust persists, cease the dust creating activities. All dust complaints to be addressed in consultation with council officers.

Commitment 3
Dust generated during the construction works will be managed to ensure that dust movement offsite is controlled.

2.2 Construction phase sediment and erosion controls

Person responsible	Contractor's Site Manager, Consulting Engineer
Issue	Sediment and Erosion Controls.
Operational policy	To prevent the displacement of sediment and soil across and offsite.
Performance criteria	Offsite discharges to comply with requirements for suspended sediments as detailed in Section 2.3 of the SWMP. No visual indication of erosion on areas under construction, including evidence of rilling (an indicator of sheet erosion).
Implementation strategy	• Erosion and sediment control devices shall be installed prior to commencement of work in accordance with the approved plans and to the reasonable satisfaction of LVRC. • Temporary erosion measures (eg. silt fences) are to be employed onsite during construction where reasonably deemed necessary by LVRC. Such measures should be in accordance with the recommendations in the *Best Practice Erosion & Sediment Control Guidelines,* International Erosion and Sediment Control Guidelines, November 2008. • Stockpiled soil should be stored/bunded in a manner to prevent soil being washed offsite (i.e. bunding where necessary.) • Outside the construction area existing surface water conditions should be maintained wherever possible.
Monitoring	Carry out visual inspections daily and after rainfall events (>25mm in 24hrs) to ensure that erosion measures are in place and operational to suit the activities taking place at the time.
Auditing	Visual inspections to be carried out monthly and after rainfall events to verify that control measures are in place and properly maintained.
Reporting	Reporting only required if insufficient sediment and erosion measures are identified.
Identification of incident or failure	Signs of erosion on site. Damaged or failed erosion control devices. Falling water quality as identified by the Contractor. Build-up of sediment.
Corrective action	Apply remedial measures to improve sediment and erosion measures, for example: silt fences, shake down areas.

Commitment 4
Best management practices will be implemented into work practices throughout the construction works to minimise erosion and sediment transport offsite.

2.3 Construction phase surface water monitoring

Person responsible	Contractor's Site Manager, Environmental Consultant

Issue	Surface water controls on site.
Operational policy	To maintain water quality conditions of runoff during construction phase.
Performance criteria	All controlled discharges of water from the site during the construction phase should comply with the following criteria:

Water Quality Parameter	Release Criteria	Criteria Type
pH	6.5 – 9.0	Range
Dissolved oxygen	>6.0mg/L	Minimum
Turbidity	<50NTU	Maximum
Suspended Solids	<50mg/L	Maximum

Implementation strategy	• Stormwater control should be achieved by directing as much runoff as practicable from disturbed areas to temporary control measures. 'Clean' runoff from undisturbed areas should be diverted around disturbed areas if possible. • All samples must be analysed at a NATA registered laboratory for the indicators listed in 'Monitoring' below.
Monitoring	Surface water monitoring to occur if water discharged offsite (i.e. rainfall event >25mm in 24 hours or during controlled discharge). Flow rates are to be estimated and recorded at the time of sampling. Samples collected for suspended solids analysis should be analysed at a NATA registered laboratory.
Auditing	The Consulting Engineer to audit water quality results to ensure all discharges comply with the performance criteria above.
Reporting	Result sheets to be compiled for monitoring results. All results to be kept on site for inspection by local and state government officers at all times.
Identification of incident or failure	• Degradation of surface water quality (i.e. Suspended Solids) at the monitoring points to below the levels specified in 'Performance Criteria' above prior to discharge. • Visible changes in water body conditions.
Corrective action	• If pH is detected outside the criteria range (6.5 to 9.0) then waters should be contained and the pH adjusted to within the range prior to release. • If total suspended solids exceed the water quality criteria for this parameter, then water must be contained on site for a period sufficient to allow suspended solids to settle out prior to release, or settling should be aided by dosing with flocculation agents at the rate recommended by the manufacturer (for example Gypsum at dose rate of 30kg/100m^3). • Immediate inspection and cleaning (if necessary) of erosion controls. • Additional erosion control devices should be installed if a need is detected to prevent future breaches of the suspended solids criteria. The placement of stockpiles and management of disturbed areas should be reviewed with regard to sediment and silt control.

Commitment 5
The Proponent will ensure that all waters discharged from the site meet the performance criteria set out above.

2.4 Construction phase contractor management

Person responsible	Consulting Engineer
Issue	Contractor management.
Operational policy	To ensure the proponent's duty of care is met by ensuring the Contractor is aware of his responsibilities under the terms of the SWMP and the EPA.
Performance criteria	Contractor is fully aware of their responsibilities under the terms of the SWMP.
Implementation strategy	Review of the SWMP and the construction phase contracts by the proponent. Periodic checks to be made by an independent Environmental Consultant. Training for construction staff in implementation of SWMP provisions.
Monitoring	Weekly site inspections to be carried out.
Auditing	Inspections will be carried out monthly during the construction phase by the Consulting Engineer.
Reporting	Full details to be available to the contractor together with suggested corrective actions if required.
Corrective action	To be detailed at the time.

Commitment 6
A proactive program of contractor management will be implemented.

3) Management of potential impacts – on maintenance phase

3.1 Intent

This part of the SWMP specifies those matters which must be complied with by the Proponent during the 'on-maintenance period', being the period after construction but before Lockyer Valley Regional Council assumes responsibility for the works. The Proponents' obligations in this Section of the SWMP conclude at the end of the maintenance period as agreed upon with Council.

It also details how the development design will contribute to stormwater treatment and water quality maintenance during the operational phase (or life) of the development.

3.2 On maintenance phase sediment and erosion controls

Person responsible	Proponent
Issue	Sediment and erosion controls.
Operational policy	To prevent the displacement of sediment and soil across and off site.
Performance criteria	There should be no evidence of erosion on site or movement of sediment offsite during or following rainfall events.
Implementation strategy	Temporary erosion and sediment control devices shall be maintained in an operational state during the maintenance period until the disturbed areas have been revegetated or otherwise stabilised.
Monitoring	Temporary erosion control measures are to be inspected monthly and after rainfall events. Permanent control measures including swales and vegetated filters are to be inspected monthly and after rainfall events.
Auditing	Quarterly inspections to be carried out by an independent Consultant.
Reporting	Reporting only required in the event of failure of the sediment and erosion control measures.
Identification of incident or failure	• Signs of erosion on site • Build up of sediment • Falling water quality
Corrective action	Repair temporary sediment and erosion control measures. Check permanent measures for build up of sediment and clean out as necessary.

Commitment 7
Erosion and sediment control devices will be maintained during the on-maintenance period until the risk of soil erosion and sediment transport is considered negligible.

3.3 On maintenance phase surface water quality monitoring

Person responsible	Proponent
Issue	Surface water monitoring
Operational policy	To ensure that any water discharged from the permanent treatment measures is compliant with the specified water quality objectives.
Performance criteria	The median of all discharges from the permanent treatment measures (local bioretention basins) must comply with the following water quality objectives.
Implementation strategy	Routine surface water quality monitoring to be undertaken.
Monitoring	• Surface water quality monitoring to be conducted at the inlet and outlet of each local treatment device/train for the parameters outlined above. • Water quality monitoring to be conducted following the first monthly rainfall event of greater than 25mm in a 24 hour period. • Sample recovery and in-situ analysis will be performed in accordance with the *Australian Guidelines for Water Quality Monitoring and Reporting – Summary, October 2000* (Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand). • When required, laboratory testing will be performed by an independent laboratory holding current NATA accreditation.
Auditing	Management to carry out quarterly inspections to verify that water quality monitoring is to being undertaken and any recommendations for maintenance implemented
Reporting	Monthly reports to be submitted to LVRC.
Identification of incident or failure	• Exceedence of the water quality objectives. • Failure to implement the recommendations given to improve water quality.
Corrective action	• Improve/maintain permanent and temporary erosion and sediment controls. • Install additional control methods. • Implement recommendations given in water quality reports.

Water Quality Parameter	Water Quality Objective
pH	6.5 to 9.0
Dissolved oxygen	>6.0mg/L
Total phosphorous	<1.0mg/L
Total nitrogen	<0.75mg/L
Suspended solids	<50mg/L
Litter and gross pollutants	No anthropogenic (man-made) material >5mm in any dimension
Oil and grease	No visible films or odour

Commitment 8
The Proponent will ensure routine monitoring is carried out to ensure water quality is in accordance with the water quality objectives.

3.4 On maintenance phase maintenance of bioretention basins

Person responsible	Proponent
Issue	Maintenance of bioretention basins.
Operational policy	To maintain the water quality control structures (bioretention basins) to ensure adequate performance during the maintenance period.
Performance criteria	Bioretention basins must be maintained and operational.
Implementation strategy	• Ensure inlets and outlets are not blocked. • Ensure that trash and/or sediment accumulation does not impair operation inlet pits or vegetation. • Ensure erosion of batters is minimised. • Remove sediment that is impeding flow direction or smothering the vegetation and reprofile to original design specifications. • Ensure vegetation is maintained at effective operating level. •
Monitoring	Monthly rainfall event based inspections (>25mm in 24 hours) of bioretention basins during the first 6 months of the maintenance period. Frequency can be reduced after this time upon agreement by LVRC. Water quality monitoring to be conducted in accordance with Table 3.3. Any recurring problems with the control structures to be rectified during the maintenance period including re-profiling or re-vegetating to original specifications if required.
Auditing	Management to carry out quarterly inspections to verify that the control measures are properly maintained.
Reporting of monitoring results	• Record inspection details. • Inspection records to be compiled and submitted to LVRC at the cessation of the on maintenance period. • Results to be made available for inspection by local or regional regulatory bodies upon request.
Identification of incident or failure	• Blockage of stormwater system. • Re-entrainment of trapped sediments. • Deterioration of water quality within or downstream of control structure. • Death of vegetation.
Corrective action	Clean or maintain stormwater control structure as appropriate. Take necessary steps to address the problem to prevent a recurrence.

Commitment 9
Bioretention basins will be adequately maintained during the maintenance period to ensure continued performance.

3.5 On maintenance phase maintenance of swales

Person responsible	Proponent
Issue	Maintenance of swales.
Operational policy	To maintain the water quality control structures (swales) to ensure adequate performance during the maintenance period.
Performance criteria	Swales must be maintained and operational.
Implementation strategy	• Ensure inlets and outlets are not blocked and are structurally stable. • All waste to be disposed of at Council approved waste facilities. • Ensure that sediment accumulation does not impair operation of the swales (particularly during establishment of vegetation). • Ensure that landscaping is growing healthily. • Ensure no scouring or rill erosion. • Ensure no rubbish or litter accumulation. • Remove any weeds. • Ensure swale field inlet pits are structurally sound and free of blockages and debris. • Regular watering/irrigation of vegetation until plants are established and actively growing. • Mowing of grass if required.
Monitoring	Monthly rainfall event based inspections (>25mm in 24 hours) of swales during the first 6 months of the maintenance period. Frequency can be reduced after this time upon agreement by LVRC. Water quality monitoring to be conducted in accordance with Table 3.3. Any recurring problems with the control structures to be rectified during the maintenance period including re-profiling or re-vegetating to original specifications if required.
Auditing	Management to carry out quarterly inspections to verify that the control measures are properly maintained.
Reporting of monitoring results	• Record inspection details. • Inspection records to be compiled and submitted to LVRC at the cessation of the on maintenance period. • Results to be made available for inspection by local or regional regulatory bodies upon request.
Identification of incident or failure	• Blockage of stormwater system. • Re-entrainment of trapped sediments. • Deterioration of water quality within or downstream of control structure. • Death of vegetation.
Corrective action	Clean or maintain stormwater control structure as appropriate. Take necessary steps to address the problem to prevent a recurrence.

Commitment 10
Swales will be adequately maintained during the maintenance period to ensure continued performance.

3.6 On maintenance phase maintenance of vegetated filters

Person responsible	Proponent

Issue	Maintenance of vegetated filters
Operational policy	To maintain the water quality control structures (vegetated filters) to ensure adequate performance during the maintenance period.
Performance criteria	Vegetated filters must be maintained and operational.
Implementation strategy	• Ensure inlets and outlets are not blocked and are structurally stable. • All waste removed during maintenance works to be disposed of at council approved waste facilities. • Ensure that sediment accumulation does not impair operation of the vegetative filters. • Ensure no scouring or rill erosion. • Ensure no rubbish or litter accumulation. • Remove any weeds. • Replacement of dead vegetation.
Monitoring	Monthly rainfall event based inspections (>25mm in 24 hours) of vegetated filters during the first 6 months of the maintenance period. Frequency can be reduced after this time upon agreement by LVRC. Water quality monitoring to be conducted in accordance with Table 3.3. Any recurring problems with the control structures to be rectified during the maintenance period including re-profiling or re-vegetating to original specifications if required.
Auditing	Management to carry out quarterly inspections to verify that the control measures are properly maintained.
Reporting of monitoring results	• Record inspection details. • Inspection records to be compiled and submitted to LVRC at the cessation of the on maintenance period. • Results to be made available for inspection by local or regional regulatory bodies upon request.
Identification of incident or failure	• Blockage of stormwater system. • Re-entrainment of trapped sediments. • Deterioration of water quality within or downstream of control structure. • Death of vegetation.
Corrective action	Clean or maintain stormwater control structure as appropriate. Take necessary steps to address the problem to prevent a recurrence.

Commitment 11
Vegetated filters will be adequately maintained during the maintenance period to ensure continued performance.

4) Management of potential impacts – operational phase

4.1 Intent

This part of the SWMP specifies those matters that must be complied with by Lockyer Valley Regional Council after it assumes responsibility for the completed works.

4.2 Implementation

Permanent water quality control devices are to be monitored and maintained as detailed in the following tables.

4.3 Operational phase maintenance of local bioretention basins

Person responsible	Lockyer Valley Regional Council

Issue	Operation and maintenance of the treatment local bioretention basins.
Operational policy	To maintain the water quality control structures to ensure adequate performance during the operational period.
Performance criteria	Local bioretention basins must be maintained and operational.
Implementation strategy	• Ensure inlets and outlets are not blocked. • Ensure that trash and/or sediment accumulation does not impair operation inlet pits or vegetation. • Ensure erosion of batters is minimised. • Remove sediment that is impeding flow direction or smothering the vegetation and reprofile to original design specifications. • Ensure vegetation is maintained at effective operating level.
Monitoring	Quarterly rainfall event based (>25mm in 24 hours) inspections of local bioretention basins to ensure they are functioning as designed.
Auditing	LVRC to carry out quarterly inspections to verify that monitoring has been carried out and that action has been implemented as required to correct any shortcomings.
Reporting of monitoring results	NA
Identification of incident or failure	• Apparent deterioration of water quality. • Complaints from residents about odours or increased mosquito numbers. • Death of vegetation.
Corrective action	Clean or maintain stormwater control structure as appropriate.

4.4 Operational phase maintenance of individual lot bioretention basins

Person Responsible	Individual lot owner

Issue	Operation and maintenance of the individual lot bioretention basins.
Operational policy	To maintain the water quality control structures to ensure adequate performance during the operational period.
Performance criteria	The individual lot bioretention basins are maintained and operational.
Implementation strategy	• Ensure inlets and outlets are not blocked. • Ensure that trash and/or sediment accumulation does not impair operation inlet pits or vegetation. • Ensure erosion of batters is minimised. • Remove sediment that is impeding flow direction or smothering the vegetation and reprofile to original design specifications. • Ensure vegetation is maintained at effective operating level.
Monitoring	Quarterly rainfall event based (>25mm in 24 hours) inspections of individual lot bioretention basins to ensure they are functioning as designed.
Auditing	NA
Reporting of monitoring results	NA
Identification of incident or failure	• Apparent deterioration of water quality. • Complaints from residents about odours or increased mosquito numbers. • Death of vegetation.
Corrective action	Clean or maintain stormwater control structure as appropriate.

4.5 Operational phase maintenance of swales

Person responsible	Lockyer Valley Regional Council

Issue	Operation and maintenance of the treatment swales.
Operational policy	To maintain the water quality control structures to ensure adequate performance during the operational period.
Performance criteria	Swales must be maintained and operational.
Implementation strategy	• Ensure inlets and outlets are not blocked. • Ensure that sediment accumulation does not impair operation of the swales (particularly during establishment of vegetation). • Ensure that landscaping is growing healthily. • Ensure no scouring or rill erosion. • Ensure no rubbish or litter accumulation. • Removal of any weeds. • Ensure swale field inlet pits are structurally sound and free of blockages and debris. • Regular watering/irrigation of vegetation until plants are established and actively growing. • Mowing of grass if required.
Monitoring	Quarterly rainfall event based (>25mm in 24 hours) inspections of swales to ensure they are functioning as designed.
Auditing	LVRC to carry out quarterly inspections to verify that monitoring has been carried out and that action has been implemented as required to correct any shortcomings.
Reporting of monitoring results	NA
Identification of incident or failure	• Apparent deterioration of water quality. • Complaints from residents about odours or increased mosquito numbers. • Death of vegetation.
Corrective action	Clean or maintain stormwater control structure as appropriate.

4.6 Operational phase maintenance of vegetated filters

Person responsible	Lockyer Valley Regional Council

Issue	Maintenance of vegetated filters
Operational policy	To maintain the water quality control structures (vegetated filters) to ensure adequate performance during the operations.
Performance criteria	Vegetated filters must be maintained and operational.
Implementation strategy	• Ensure inlets and outlets are not blocked and are structurally stable. • All waste removed during maintenance works to be disposed of at council approved waste facilities. • Ensure that sediment accumulation does not impair operation of the vegetative filters. • Ensure no scouring or rill erosion. • Ensure no rubbish or litter accumulation. • Remove any weeds. • Replacement of dead vegetation.
Monitoring	Quarterly rainfall event based (>25mm in 24 hours) inspections of swales to ensure they are functioning as designed.
Auditing	LVRC to carry out quarterly inspections to verify that monitoring has been carried out and that action has been implemented as required to correct any shortcomings.
Reporting of monitoring results	NA
Identification of incident or failure	• Blockage of stormwater system. • Re-entrainment of trapped sediments. • Deterioration of water quality within or downstream of control structure. • Death of vegetation.
Corrective action	Clean or maintain stormwater control structure as appropriate. Take necessary steps to address the problem to prevent a recurrence.

4.7 Operational phase maintenance of rainwater tank

Person Responsible	Tank owner

Issue	Operation and maintenance of the rainwater tank.
Operational policy	To maintain the rainwater tank and ensure adequate performance during the operational period.
Performance criteria	The rainwater tanks are maintained and operational.
Implementation strategy	• Ensure inlets and outlets are not blocked or do not impair operation. • Verify that inlet screens are insect proof.
Monitoring	Inspect control structures quarterly and following major rainfall events.
Auditing	NA
Reporting of monitoring results	NA
Identification of incident or failure	Complaints about odours or increased mosquito numbers.
Corrective action	Clean or maintain rainwater tank as appropriate.

5) Administration of the SWMP

5.1 Amendment of the SWMP

The proponent may make application to LVRC to amend the provisions of this SWMP. The application shall:

a. be in writing
b. specify the provisions of the SWMP to which the application relates
c. state how the proposed amendment(s) achieve the objectives of the provisions to which the amendment(s) relate.

LVRC shall approve the amendment(s) where LVRC is satisfied acting reasonably that the proposed amendment(s) achieve the objective of the provisions to which the amendment(s) relates.

5.2 Incident management

The Proponent and any person appointed by the Proponent as having responsibility for a control strategy set out in this SWMP have clearly defined responsibilities under the *Environment Protection Act 1994* to report any incidents likely to cause material or serious environmental harm.

+GILBERT SUTHERLAND

5 October 2012

Urbis
Level 7, 123 Albert Street
Brisbane Q4000

Attention: Claire Pattearson

Dear Claire,

Re: Stormwater management infrastructure for the proposed development at 63 Redbank Creek Road, Adare ("Wallangarra")

Further to your request, this letter provides further information in respect of stormwater management infrastructure for the proposed development at 63 Redbank Creek Road, Adare, ("Wallangarra").

Background

Gilbert and Sutherland (G&S) prepared the stormwater assessment, titled '*Conceptual Stormwater Assessment, Proposed Development, Redbank Creek Road, Adare, Queensland, February 2010*' (the 'G&S CSW Report'). This report was provided to Lockyer Valley Regional Council (LVRC) as part of the proponent's Information Response for its Reconfiguration of a Lot application.

LVRC subsequently refused the application on grounds that included a refusal by the Department of Environment and Resource Management (DERM), which cited concerns regarding impacts on the environmentally significant portions of the site. The proponent appealed against the refusal to the Planning and Environment Court (Brisbane).

As part of the appeal process, the Court ordered that the Wallangarra Pastoral Company Pty Limited (the Appellant) notify the Co-Respondent (Chief Executive Administering the *Vegetation Management Act 1999*, formerly the Chief Executive, Department of Environment and Resource Management) of any changes or corrections proposed to the draft amended concurrence agency response. Urbis, on behalf of the Appellant, requested that G&S review the Referral Agency Response (Vegetation) Plan (RARP

Draft, Queensland Government, Map Ref. 9342, File Ref. 2006/012107, dated 22 August 2012, presented in Attachment 1) and provide further information by way of clarification in respect of the locality and area required for the stormwater management infrastructure identified in the G&S CSW Report.

Stormwater management system

G&S proposed a conceptual stormwater management treatment train approach comprising of rainwater tanks, vegetated filters, swales and bioretention devices serving seven (7) drainage catchments (as depicted in Drawing No. VJ0112.1.4 in the G&S CSW Report and included in Attachment 1 of this report). Individual allotments in Catchment 6 were to have 'leaky tank' rainfall harvesting systems and vegetated non-conveyance bioretention devices to treat runoff. Given that the report was conceptual in nature, indicative details were provided in respect of the location(s) of the bioretention devices. The indicative basin locations were within the core or buffer conservation areas, however all infrastructure conveying stormwater runoff to them was proposed to be located within the developable areas. The proposed approach involved discharge from the bioretention devices being effected via an underdrain for low flows and a rock lined weir for high flows. No further infrastructure was proposed downstream of the bioretention devices.

The areas indicated for each of the basins in Drawing No. VJ0112.1.4 represented the extended detention and filter area of the bioretention basins only. Although the areas of the polygons denoting each basin in Drawing No. VJ0112.1.4 were indicative only, we understand that the approval authorities adopted them at face value in the compilation of the RARP Draft, hence correction of the resultant situation was necessary.

In preparing the required response to the RARP Draft, G&S has worked closely with the Appellant's Counsel (DibbsBarker Lawyers), Urbis and other members of the project team to ensure that the areas reserved for the proposed stormwater management infrastructure are adequate, whilst still maintaining clearly demarcated conservation areas (which, in turn, are based on the Ecological Constraints Plan prepared by Yurrah Pty Ltd (Drawing VM.03, January 2010).

Stormwater quantity modelling

The original stormwater analysis (reported in the G&S CSW Report) was conceptual in nature. Given that the provisions for infrastructure in the final RARP (Vegetation) would, for all intents, be 'permanent', additional stormwater modelling was undertaken by G&S to provide greater delineation of the areas required for the stormwater detention basins proposed for the development. Accordingly, the assessment was undertaken using the XP-Storm Hydrologic/hydraulic modelling software package in preference to the previously-employed stormwater modelling software (being the Watershed Bounded Network Model (WBNM)). This is because XP-STORM is a non-linear urban and rural runoff-routing application, which can be appropriately used to simulate runoff hydrographs at defined points within a catchment and route those catchments along a defined flowpath.

The catchments for each analysis were demarcated as indicated in Figure SK01 (Attachment 1) and are summarised below:

1. Western catchment - (A1/A2/A3/1/2/3/4)
2. North-Eastern Catchment (5a/5b/5c/5d/5e)
3. South-Eastern Catchment (4a/4b)
4. Lot-by-lot basis, to reflect the potential detention within a "leaky rainwater tank" system, to represent the very northern and southern catchments discharging directly across its corresponding site boundary.

A hydrologic assessment of the site was undertaken to estimate peak flows within the natural drainage network across the site to identify any potential stormwater effects under a range of rainfall events. The hydrologic assessment also produced inflow hydrographs for input into the hydraulic component of XP-Storm, to help define the drainage network of each watercourse.

Three scenarios were modelled for each catchment (W/NE/SE), as follows;

- Existing (pre-developed condition)
- Developed (without mitigation, ie. No detention system proposed)
- Attenuated (including the proposed detention system required).

Through an iterative process, a detention volume for each catchment was obtained with an arbitrary outlet configuration. Drainage and safety constraints as stipulated in the Queensland Urban Drainage Manual (QUDM) informed the conceptual design process.

In summary, the hydrologic/hydraulic modelling estimated a required detention volume for each catchment outlet. This volume of detention equated to an area of approximately 2,800m^2 for both catchments 4 & 5 (4a – 4b & 5a – 5e). Modelling indicated that no detention storage was required for the western drainage catchments (A1 – 4) due to the nature of the developed catchment and timing of hydrograph. The final revised plans have made provision for an area of 3,000 m^2 for detention basins 4 (south-eastern catchments) and 5 (north-eastern catchments).

Stormwater quality modelling

The requirements for the treatment of stormwater, as previously determined by G&S and reported in the G&S CSW Report, have not changed. Bioretention basins have been specified in the infrastructure plan (Drawing No. PP02 – Rev A in Attachment 1) for sites 1, 2, 3, 4, 5 and 7 (split into two adjacent bioretenton basins). It should be noted that basins 4 and 5 serve a dual function of improvement of low flow water quality and storage detention of high volume runoff. In addition to the bioretention basins, a swale has been proposed on the southern edge of the internal service road along the north-western boundary of the property.

Noting that the G&S CSW Report was conceptual in nature and that the total area required for each of the graphically represented bioretention basin locations was not specified in the locational drawings, the information presented was then assimilated at face value into the RARP Draft. The review of the RARP Draft identified the importance of correcting this. Accordingly, the total areas required for the bioretention basins (including provisions for side slopes and wall crest widths) have now been determined and are included in the revised Infrastructure plan (Drawing No. PP02 – Rev A in Attachment 1). The areas now indicated for each accommodate the filter area and all of the embankment civil works.

G&S recognises that, for all intents, the final RARP (Vegetation) should be considered 'permanent'. Accordingly, it must be reiterated that the areas indicated for the stormwater management infrastructure have not been informed by detailed survey and/or civil engineering design. We therefore note that the areas demarcated for these services in the final RARP (Vegetation) may constitute a non-negotiable boundary, within which the detailed civil engineering design will have to formulate an acceptable solution.

Conclusions

G&S confirms that the infrastructure plans prepared by Urbis, in response to the required review of the RARP Draft, reflect (within the constraints of not having detailed survey or design data) the construction area requirements for the bioretention and stormwater basins required for the management of stormwater in the proposed development.

Please do not hesitate to contact this office if you require any further details or clarification.

Yours sincerely,

Richard Savage
Principal Water/Wastewater Engineer
BEngCiv GDipEng

pp Chris Anderson
Director/Principal Environmental Engineer& Scientist
BEngEnv BScLan&Wat Man MEIANZ MIEAust

Authors Richard Savage
Our Reference 10598 SW RS1F.docx
Your Reference -
By ☐ Courier ☑ Email ☐ Facsimile ☐ Post
Enclosures 1 (Reference drawings – stormwater drainage catchments)

Attachment 1 – Reference drawings

SCALE 1:5000 @ A3 paper size

0 50 100 200 300 400 500 m

Projection: UTM (MGA Zone 56) **Datum: GDA94**

Note: Derived Reference Points are provided to assist in the location of the Referral Agency Response boundaries. Responsibility for locating these boundaries lies solely with the landholder and delegated contractor(s).

The property boundaries shown on this plan are APPROXIMATE ONLY. They are NOT an accurate representation of the legal boundaries.

Note: This plan must be read in conjunction with Referral Agency Response 2006/012107

LEGEND

- Derived Reference Points for GPS
- Subject Lot(s)
- Area A1 & A2 - specific conditions apply - see Referral Agency Response 2006/012107 for details
- Area B1, B2, B3, B4, & B5 - specific conditions apply - see Referral Agency Response 2006/012107 for details
- Area C1, C2, C3, C4 & C5 - specific conditions apply - see Referral Agency Response 2006/012107 for details
- Area D1 & D2 - specific conditions apply - see Referral Agency Response 2006/012107 for details

Referral Agency Response (Vegetation) Plan

Plan of all Areas A, B, C & D in Lot 95 on CA311434 and Lot 96 on SP225226

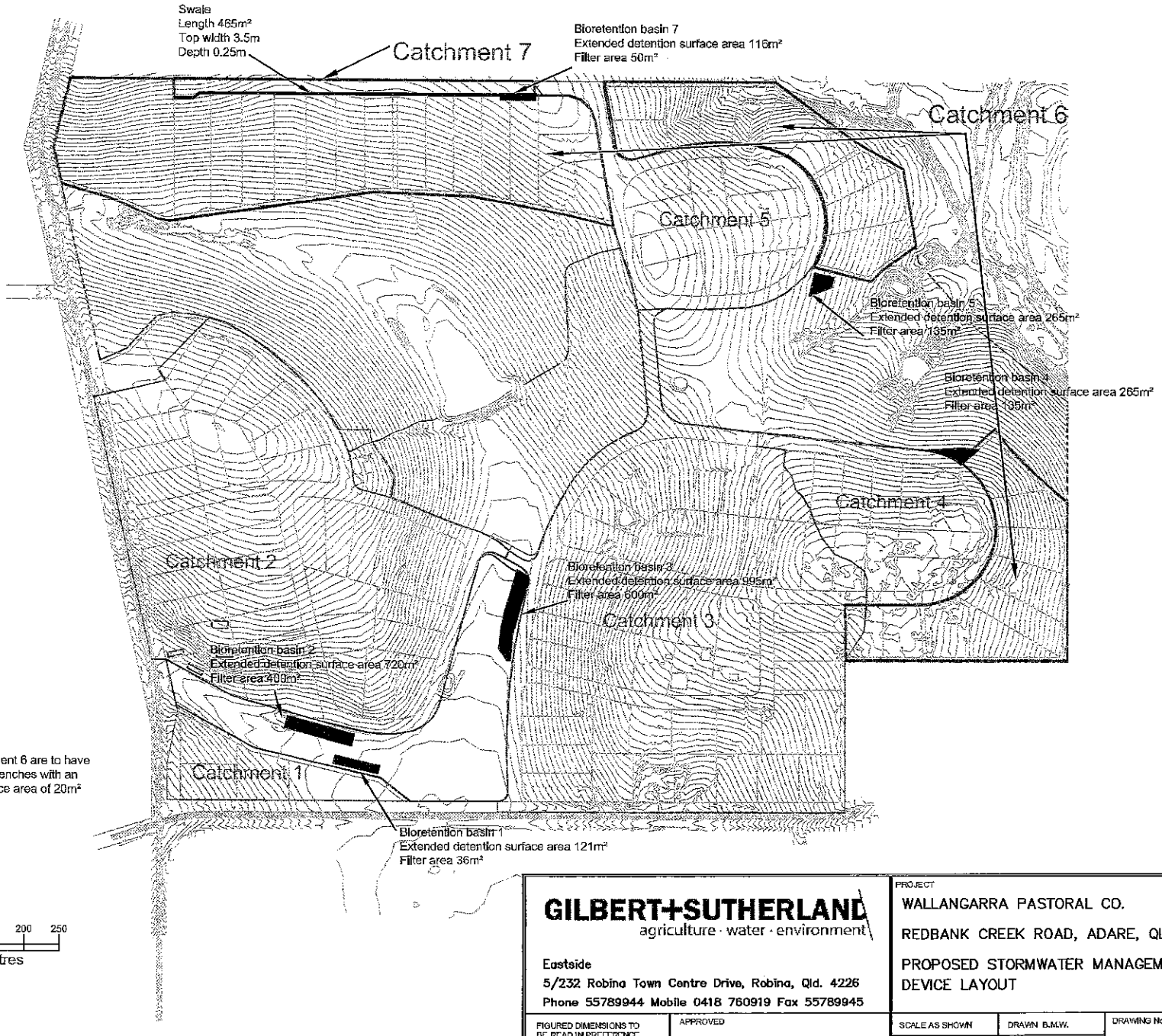
Trackjob No. IC1106IPS0007

N

Queensland Government

CENTRE: GYMPIE LOCALITY OF ADARE	REGION: SOUTH EAST LOCAL GOVT: LOCKYER VALLEY
Map Reference: 9342	Compiled from: DCDB, PVMP & VMO Notes
File Reference: 2006/012107	Prepared by: LMO Date: 22 August 2012

RARP DRAFT
Sheet 1 of 2



NOTE:
Allotments within Catchment 6 are to have individual bioretention trenches with an extended detention surface area of 20m² and filter area 8m²

Base plan provided by Urbis and Yurrah

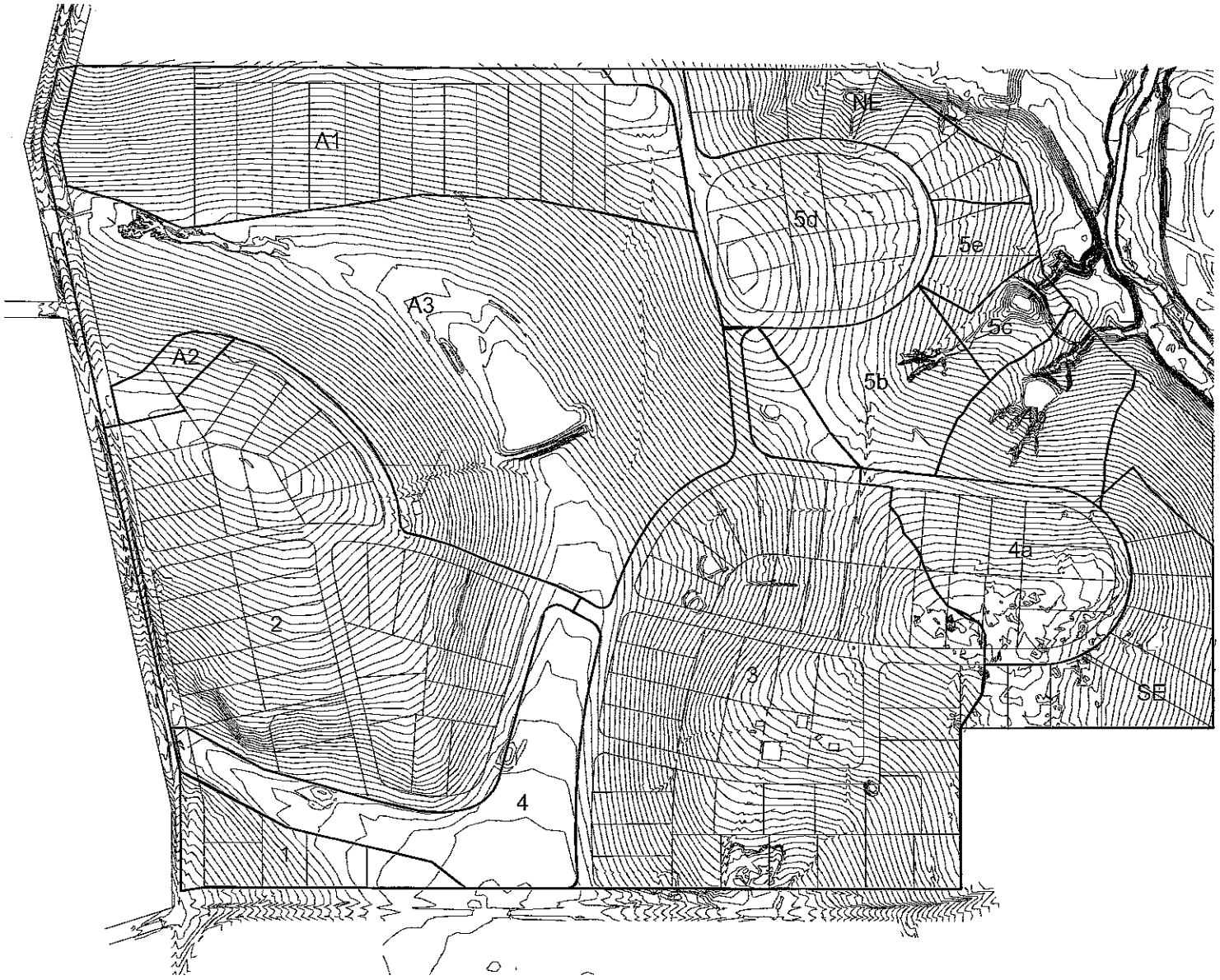
GILBERT+SUTHERLAND
agriculture · water · environment

Eastside
5/232 Robina Town Centre Drive, Robina, Qld. 4226
Phone 55789944 Mobile 0418 760919 Fax 55789945

PROJECT
WALLANGARRA PASTORAL CO.
REDBANK CREEK ROAD, ADARE, QLD
PROPOSED STORMWATER MANAGEMENT DEVICE LAYOUT

FIGURED DIMENSIONS TO BE READ IN PREFERENCE TO SCALING.	APPROVED	SCALE AS SHOWN	DRAWN B.M.W.
		DATE 28/01/10	CHECKED

DRAWING No. VJ0112.1.4



ORIENTATION
NORTH

SCALE
50 100 150 200 250

LEGEND
Post-development catchment delineation

SOURCES

PROJECT
PROPOSED DEVELOPMENT at 63 REDBANK CREEK ROAD, ADARE

CLIENT
WALLANGARRA PASTORAL COMPANY PTY LIMITED

DRAWING
POST-DEVELOPMENT CATCHMENT DELINEATION PLAN

SCALE	DATE	DRAWN	CHECKED	PROJECT NO	DRAWING NO
1:5 000@A3	04/10/2012	BWS	RHS	10598	SK01

ROBINA
PO Box 4115, Robina QLD 4230
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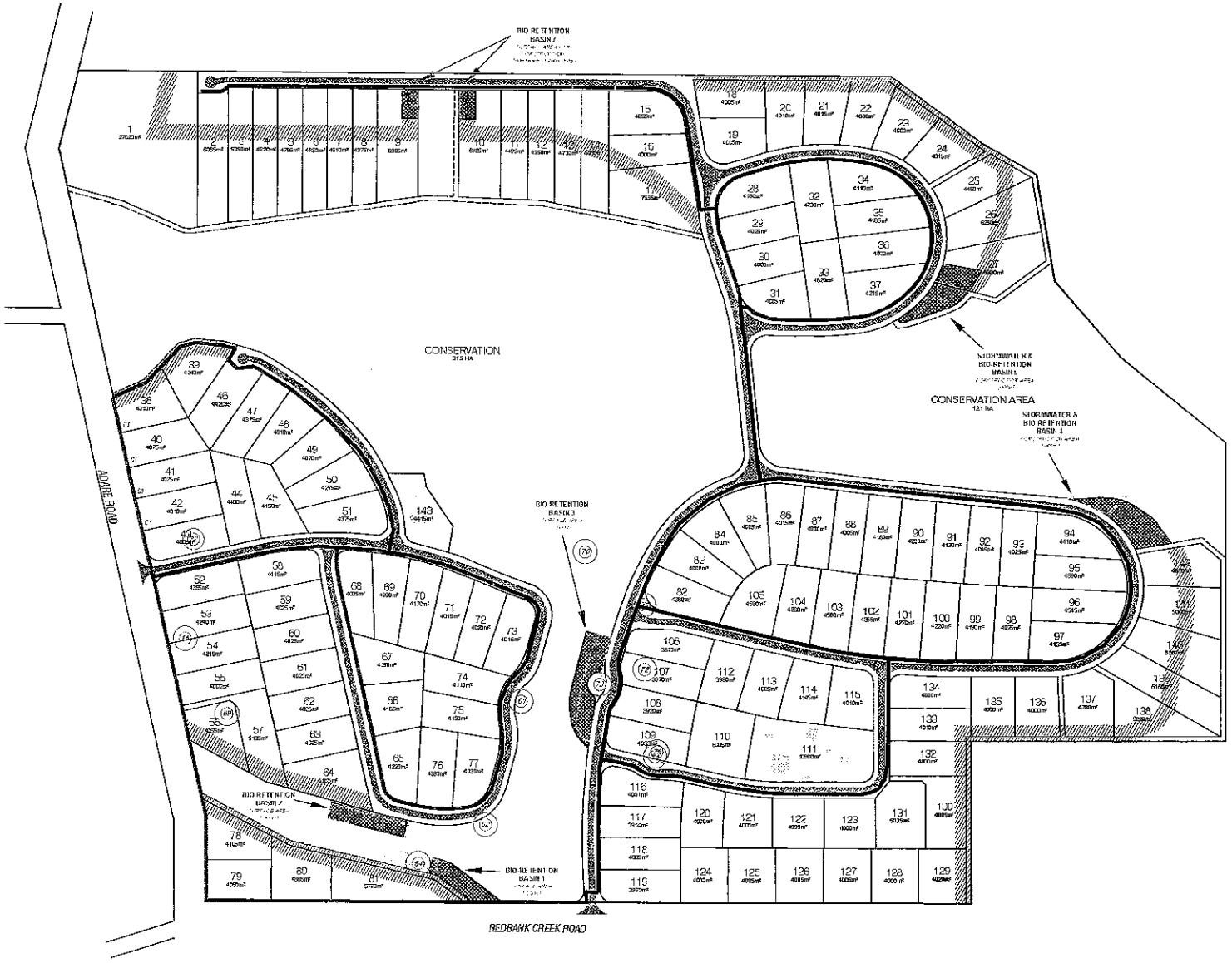
Brisbane Sydney Melbourne and regions
GILBERT SUTHERLAND
Agriculture. Water. Environment.



LEGEND

- BIO-RETENTION BASINS *(DETAILS WILL BE CONFIRMED IN SUBSEQUENT MODELING AND DESIGN. PLAN GEOMETRY WILL BE OPTIMIZED TO MINIMIZE IMPACT TO CONSERVATION AREAS IN THE DETAILED DESIGN STAGE)*
- PREVIOUS DETENTION BASIN LOCATIONS *(2010 LODGEMENT)*
- ASSET PROTECTION ZONES *(RADIATION ZONE 20m)*
- EXISTING TREE WITH TREE PROTECTION ZONE *(FURTHER DETAILED SURVEY REQUIRED)*
- PROPOSED WATER RETICULATION *(APPROX. 5m WIDE CORRIDOR)* *(OTHER SERVICES SUCH AS ELECTRICAL, TELECOMMUNICATION AND GAS WILL BE LOCATED ALONG THIS ALIGNMENT)*

urbis
Brisbane
Level 7, 123 Albert Street
Brisbane QLD 4000
t 07 3007 3800
Urbis Pty Ltd ABN 50 105 256 228

WALLANGARRA

PROPOSED INFRASTRUCTURE PLAN WITH PREVIOUS DETENTION BASIN DETAIL

Scale 1:5,000 @ A3

0 50 100 250m

PROJECT NO: BA2156
DATE: 03.10.12
DRAWING NO: PP02
REV: A

+GILBERT SUTHERLAND

6 November 2013

Wallangarra Pastoral Company
c/- Dibbs Barker
GPO Box 67
Brisbane QLD 4001

Attention: Danyelle Kelson – Special Counsel

Dear Danyelle,

Re: Water supply assessment - 63 Redbank Creek Road, Adare, Queensland

Further to our conversations and advice provided email form, we have contacted Queensland Urban Utilities (QUU) in respect of water supply modelling and design outcomes associated with the proposed development of 63 Redbank Creek Road, Adare, Queensland.

The key objective of the work was to explore the possibility of modified water supply system requirements to those defined in *"Water Supply Assessment, Proposed Subdivision of Lot 86 CA311434 & Lot 96 SP225226 Parish of Clarendon County of Cavendish, Adare, Queensland"* (G&S, 2011) which was prepared based on the information and requirements conveyed to G+S by QUU at that time, including required levels of service applied to urban residential supply. The consequent significant financial cost of the defined water supply works to meet those requirements was such, that further advice and information was sought from QUU in order to seek an alternative, site-specific supply system appropriate for the size, location and type of proposed development. As per our accepted scope of works, to date we have undertaken:

1. Review of design with particular focus on the level of detail in model set-up and assumptions as they potentially affect water supply hydraulic outcomes for the site;

2. Discussions with QUU personnel responsible for (i) base model set-up (i.e. wider area model) and (ii) oversight of modelling group and forward

planning; and

3. Definition of level of conservatism (if any) in model set-up and potential for more detailed/site-specific outcomes from improved data/assumptions.

This letter report now provides a brief summary that outlines:

- Key outcomes of our discussions with QUU;
- Potential for technical improvement in model set-up/assumptions with respect to the subject site; and
- Outcomes re: (i) conclusions re: potential for reduced capital works with modified design, (ii) recommended scope of additional assessment/design, (iii) recommended engagement with QUU and Council

Discussions/advice

Our review of the existing system model and subsequent communication with QUU personnel indicated two possible options comprising:

1. servicing the proposed development from another water supply zone, and
2. changing the standards of service and providing the area with a trickle feed supply arrangement.

Both options were considered to have merit and were referred to QUU Water Services Planning Section for further assessment. Following this assessment QUU Water Services Planning Section advised that:

1. they are not supportive of the first option that looks at servicing the proposed development from the Gatton Cochrane Street elevated reservoir, and
2. they have no objection with the proposed development being provided with a trickle feed supply service on the provisio that Lockyer Valley Regional Council (LVRC) have no objections.

With regards to the second option, a trickle feed arrangement would reduce the infrastructure works required both externally and internally. A trickle feed arrangement, or constant flow system, consists of a service connection to an on-site (i.e. per lot) storage tank, which is then supplied to the building via a pump and pressure system.

QUU have advised that the trickle feed water supply network should be capable of providing properties with a minimum 10 metre pressure at 8 litres per minute. QUU have also recommended that a backflow prevention device be installed between the service connection and on-site storage tank form internal plumbing conditions for building works so as to reduce the risk of contamination to QUU's supply system.

A trickle-feed system would require individual property owners to provide onsite storage and a pump. The property owner would also incur ongoing operation costs as a result.

It should be noted that because of the site elevations it would not be possible to supply the entire development without the provision of a booster pump station. It is likely that there will not be a need to provide a reservoir but rather a diesel backup generator , however this will need to be confirmed in final internal reticulation system design.

QUU have advised that LVRC agree in principle with the proposed trickle-feed arrangements.

Fire fighting requirements

Under a trickle feed arrangement the water supply network is not designed for fire fighting and property owners are encouraged to provide their own private fire fighting needs onsite. It is understood that a new LVRC Planning Scheme is under development and as such specific details of fire fighting requirements would need to be defined in consultation with LVRC, however the following is provided as advice based on current Gatton planning scheme requirements:

- Connected to a reticulated water supply delivering 10L/s and 200kPa minimum standards, or
- On-site storage of at least 22,500L solely for fire fighting, noting that this is based on no access to reticulated supply

Advice from Brett Bain of Bushland Protection Systems Pty Ltd, states that:

> *"Acceptable solution A2.2 requires that where there is not reticulated water, each lot must have a water storage of 22,500 litres solely for fire fighting use (which I consider quite excessive). The SPP 1/03 only requires 5,000 litres, which is the norm used throughout most of the state".*

Ultimately, the final requirements for each lot will need to be determined in consultation with LVRC.

Final Outcomes

Key outcomes comprise:

- Discussions with QUU have indicated that water supply to the proposed development could be undertaken by a trickle-feed arrangement, with agreement to the concept in principle also indicated by LVRC.
- Review of the QUU model set-up indicated no significant potential for technical improvement in model set-up/assumptions with respect to site.
- No change to the proposed development layout is required under a trickle-feed system, with therefore no impact on previously agreed conditions.

- On-site storage would be provided on each lot with fire-fighting provisions included. Final required fire fighting provisions will need to be agreed with LVRC with a reasonable requirement of 5000L per lot recommended.

As such, it is recommended that formal agreement be sought from QUU and LVRC for the provision of water supply with the following attributes (with detailed design to confirm specific infrastructure requirements):

- Trickle-feed system with on-site booster-pump (as required defined by final design) to supply elevated Lots;
- Supply to each Lot at a minimum 10 metre pressure and 8 litres per minute;
- On-site storage and pump to be provided by individual property owners;
- Fire fighting storage of 5,000 L per Lot.

We trust this is acceptable. Please do not hesitate to contact this office if you require any further details or elaboration.

Yours sincerely,

Owen Droop
Consultant Principal Water Resource Engineer
BE(Civ)(Hons) BNatRes RPEQ MIEAust

Chris Anderson
Director/Principal Environmental Engineer & Scientist
BEngEnv BScLan&Wat Man MEIANZ MIEAust

Author Owen Droop
Our Reference 11157 WSA COD2F.docx
Your Reference
By ☐ Courier ☑ Email ☐ Facsimile ☐ Post
Enclosures Nil

Schedule 3 - Concurrence, Advice and Third Party Responses

- Department of Natural Resources and Mines Amended Concurrence Agency Response dated 08.01.14
- Department of Transport and Main Roads Amended Concurrence Agency Response 14.02.13
- Queensland Urban Utilities Decision Stage Comments 13.01.14

Queensland Government

Notice

Amended Concurrence Agency Response

This notice is issued by the Department of Natural Resources and Mines pursuant to the Integrated Planning Act 1997 ("the Act").

Chief Executive Officer
Lockyer Valley Regional Council
PO Box 82
GATTON QLD 4343

Attention: Tracy Ryan

cc. Urbis
GPO Box 3205
BRISBANE QLD 4001

Attention: Kris Krpan

DNRM references: 2006/012107, IC1106IPS0007
Assessment Manager Ref: DA4678
Applicant Ref: L\4704-2

1. **Application details**

Assessment Manager reference:	DA4678
Date properly referred:	2 March 2010
Development approval for:	development permit for reconfiguring a lot
Aspect of development:	Reconfiguring a lot – Clearing vegetation (Integrated Planning Regulation 1998 – Schedule 2, table 2, item 4)
Development description:	Reconfiguring a lot – 2 lots into 145 lots.
Property/Location description:	Lot 95 on CA311434 and Lot 96 on SP225226 (63 Redbank Creek Road, Adare)

2. The Chief Executive, Department of Natural Resources and Mines (DNRM) amended concurrence agency response for the concurrence agency referral jurisdiction for the aspect of development involved with the application the subject of this Notice is to tell the assessment manager as follows.

2.1 Reconfiguring a lot – Clearing vegetation
(Integrated Planning Regulation 1998 – Schedule 2, table 2, item 4)

- Conditions must attach to any development approval, and those conditions are attached to this Notice.

Department of Natural Resources and Mines
www.dnrm.qld.gov.au ABN 59 020 847 551

Queensland Government

3. **General advice to assessment manager**

Pursuant to sections 3.3.15 and 3.5.17 of the Act, a copy of a decision notice or negotiated decision notice issued by the assessment manager must be forwarded to DNRM as a referral agency for the relevant application at LMB 383, Gympie, 4570 Qld.

The state's Native Title Work Procedures provide that responsibility for assessment of native title issues for an IDAS application rests with the assessment manager. Therefore, DNRM as a referral agency for the relevant application has not provided notification to native title parties.

Delegate

Andrew Collins
Senior Natural Resource Management Officer
Natural Resource Assessment
South Region

8 January 2014

Enquiries:
Andrew Collins
Department of Natural Resources and Mines
LMB 383
Gympie Qld 4570

Phone: (07)5480 5348
Fax: (07)5480 5301
Email: Andrew.collins@dnrm.qld.gov.au

Attachment - Amended Concurrence Agency Response (Vegetation Management)

DNRM Permit [1] number: Elvas # 2006/012107

Assessment manager reference:	DA4678
Assessment manager:	Lockyer Valley Regional Council
Date application received:	20 June 2008
Permit type:	Amended Concurrence Agency Response
Date of decision:	8 January 2014
Decision:	Conditions included in the Notice must attach to any development approval given by the Assessment Manager.
Relevant laws and policies:	*Integrated Planning Act 1997; Vegetation Management Act 1999; DERM Concurrence Agency Policy for Reconfiguring a Lot (RaL) – 23 August 2007.* Regional Vegetation Management Code for Southeast Queensland Bioregion 20 November 2006.
Jurisdiction:	*Integrated Planning Regulation 1998* - Schedule 2, table 2, item 4.

Development Description

Property/Location		Development
Lots 95 CA311434 & 96 SP225226	63 Redbank Creek Road, Adare.	Reconfiguring a Lot

Reasons for inclusion of conditions

In accordance with section 3.3.17 of the *Integrated Planning Act 1997,* the reasons for inclusion of conditions in this concurrence agency response are as follows.

The properties support areas of mapped remnant vegetation shown on the certified Regional Ecosystem Map. The clearing of vegetation within these areas is regulated by DNRM under the authority of the *Vegetation Management Act 1999.*

The regional ecosystem map identifies that approximately 75.816ha of least concern regional ecosystem 12.9-10.2 occurs within the application area. The application proposes to clear approximately 38.274ha.

DNRM has assessed the application against the *Concurrence Agency Policy for Reconfiguring a Lot (RaL) 23 August 2007*(RaL Policy) and Part P of the *Regional Vegetation Management Code for Southeast Queensland Bioregion – version 2, 6 November 2009* (RVM Code).

[1] Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Natural Resources and Mines.

Appropriate conditions are necessary to ensure that:

- Clearing as a result of the development only occurs where there is no suitable alternative site.

- Areas of remnant vegetation are retained to maintain ecosystem functioning, remain in the landscape despite threatening processes and maintain connectivity to adjacent properties.

- Clearing does not occur or impact on watercourses within and adjacent to the application area.

DNRM has directed the assessment manager to include conditions in any development approval given for the application to ensure that any development approval remains consistent with the RaL Policy.

Delegate

Andrew Collins
Senior Natural Resource Management Officer
Delegate, Chief Executive administering the *Vegetation Management Act 1999*

Department of Natural Resources and Mines

8 January 2014

CONDITIONS

Vegetation Protection Covenants

1. The applicant must register in the land registry, simultaneously with the registration of survey plans for each stage of the reconfiguration of the lot:

   a) Properly completed plans of survey:

   (i) Delineating areas in accordance with the areas identified as 'Conservation Block Covenants' in attachment 4, Wallangarra Covenant Plan, project no: BA2156 Drawing no: PP05 Rev: D, by Urbis Pty Ltd dated 11.11.13; and

   (ii)To the standards required by the Registrar of Titles for registration of covenant instruments over parts of a lot; and

   (iii)That the Department of Natural Resources and Mines agrees is in accordance with Condition 1(a)(i); and

   b) Properly completed covenant instruments:

   (i) In the form and including such terms as set out in Attachment 2, Statutory Covenant, attached to this response.

2. The State of Queensland will not bear any of the costs associated with the lodging and registration of the covenant instruments including:

   a) the preparation of any documents;

b) the preparation of survey plans suitable for registration;

c) legal fees; and

d) any lodgement fees.

3. The applicant must comply with the terms of the registered covenant.

Vegetation Clearing

4. Clearing of native vegetation must not occur on the land identified as Area A (A1, A2) on the Amended Referral Agency Response (Vegetation) Plan RARP2006/012107/2 except:
   a. In accordance with the terms of the registered covenant required by Condition 1.
   b. By fire under the *Fire and Rescue Service Act 1990* to reduce hazardous fuel loads or an activity under the *Fire and Rescue Service Act 1990,* section 53, 68 or 69.
   c. Necessary to remove or reduce the imminent risk that the vegetation poses to serious personal injury or damage to property.
   d. Necessary to establish and maintain:
      i. Bushfire Trails up to 6 metres in width identified on the Wallangarra Covenant Plan, project no: BA2156 Drawing no: PP05 Rev: D, by Urbis Pty Ltd dated 11.11.13; and
      ii. Infrastructure associated with the General Use Zones identified on the Wallangarra Covenant Plan, project no: BA2156 Drawing no: PP05 Rev: D, by Urbis Pty Ltd dated 11.11.13.
5. Native vegetation clearing outside of Area A (A1, A2) on the Amended Referral Agency Response (Vegetation) Plan RARP2006/012107/2 must be undertaken as sequential clearing and under the guidance of a koala spotter.
6. The applicant shall notify the Senior Natural Resource Management Officer, Department of Natural Resources and Mines, Gympie Office at least 5 business days prior to the commencement of any clearing of native vegetation to give effect to the reconfiguring a lot development on the subject site and advise the date clearing is to commence and the koala spotter to be used.

Sequential clearing is the clearing of vegetation that:
a. is carried out in a way that ensures koalas on the area being cleared have enough time to move out of the clearing site without human intervention and, for sites with an area of more than three hectares, involves:
   i. carrying out the clearing in stages; and
   ii. ensuring not more than the following is cleared in any one stage:—
      1. for a clearing site with an area of six hectares or less—50 per cent of the site's area
      2. for a clearing site with an area of more than six hectares—three hectares or 3 per cent of the site's area, whichever is the greater; and
   iii. ensuring that between each stage and the next there is at least one period of 12 hours that starts at 6.00pm on a day and ends at 6.00am on the following day, during which no trees are cleared on the site.
b. is carried out in a way that ensures, while the clearing is being carried out, appropriate habitat links are maintained within the clearing site and between the site and its adjacent areas, to allow koalas living on the site to move out of the site; and
c. ensures that no tree in which a koala is present, or a tree with a crown overlapping a tree in which a koala is present, is cleared until the tree is vacated by the koala.

Koala spotter means a person who has demonstrated experience in locating koalas in koala habitats or conducting fauna surveys.

Location of infrastructure

7. Infrastructure must not be located on the land identified as Area A (A1, A2) on the attached Amended Referral Agency Response (Vegetation) Plan RARP2006/012107/2 except for:
   a. Necessary Bushfire Trails up to 6 metres in width identified on the Wallangarra Covenant Plan, project no: BA2156 Drawing no: PP05 Rev: D, by Urbis Pty Ltd dated 11.11.13; and
   b. Necessary Infrastructure associated with the General Use Zones identified on the Wallangarra Covenant Plan, project no: BA2156 Drawing no: PP05 Rev: D, by Urbis Pty Ltd dated 11.11.13.
8. Infrastructure other than existing buildings and associated infrastructure, roads, driveways, firebreaks, fences, bio-retention basins and underground services, must not be located on the land identified as Area B (B1, B2, B3, B4, B5) on the attached Amended Referral Agency Response (Vegetation) Plan RARP2006/012107/2.

Rehabilitation of vegetation

9. Prior to the commencement of operational works (including clearing of vegetation), the applicant must establish a voluntary declaration under the *Vegetation Management Act 1999* to protect vegetation and rehabilitate habitat over Area A (A1, A2) on the attached Amended Referral Agency Response (Vegetation) Plan RARP2006/012107/2.
10. The voluntary declaration must include a vegetation management plan using the attached vegetation management plan template addressing:
    a) Property and ownership details
    b) Registered interests
    c) Description of management area
    d) Management objectives and outcomes
    e) Identification of current threats and potential risks to achieving management outcomes
    f) Management area actions and requirements including a detailed management actions schedule
    g) Monitoring and Reporting to the department.

    The management plan must include revegetation including:

    a) A minimum of understorey (shrub) and midstorey (in its mature form grows no more than 15 metres in height) species are to be planted at least 1 to each 5 metre x 5 metre area.
    b) A minimum of canopy species are to be planted at least 1 to each 25 metre x 25 metre area in locations where canopy trees do not currently achieve this spacing.
    c) Planted canopy, understorey and midstorey species must be the same canopy, understorey and midstorey species found in Regional Ecosystem 12.9-10.2. The revegetation plants must be derived from local seed stock if available.

d) Maintenance of all completed revegetation is to be undertaken by the applicant over a period of two (2) years, commencing from the date revegetation is completed. Maintenance actions are to address the following:

i. Replacement of dead or diseased plantings;

ii. Regular watering; and

iii. Removal and management of noxious plant and environmental weed species.

Koala Management Plan

11. Prior to the commencement of operational works (including clearing of vegetation), the applicant must develop and implement a Koala Management Plan that ensures that koalas and koala habitat is protected and enhanced throughout the site.

12. The Koala Management Plan must be submitted to the Senior Natural Resource Management Officer, Department of Natural Resources and Mines, Gympie Office for approval prior to the commencement of any clearing of native vegetation on the land identified as Area B (B1, B2, B3, B4, B5) and Area C (C1, C2, C3, C4, C5) on the Amended Referral Agency Response (Vegetation) Plan RARP2006/012107/2.

13. The Koala Management Plan must include:

Fencing

a) Any proposed lot boundary fence erected on the subject site must be koala friendly to allow for koala movement across the site.

Dogs

b) Domestic dog breeds greater than 10 kilograms are prohibited on the subject site.

c) Proposed access roads must include the following koala friendly road design elements to ensure that the impacts of increased traffic are mitigated.

d) Signage depicting a koala and a maximum speed limit not exceeding 40km/hr should be erected at the entrance to the site to inform visitors that koalas may be present on the site.

Traffic

e) Traffic calming devices including fauna crossing signage and slow points are to be incorporated into road design, particularly where roads are located in Area D (D1, D2) on the Amended Referral Agency Response (Vegetation) Plan RARP2006/012107/2.

Lighting

f) Artificial lighting on the subject site must be operated to ensure it is directed away from adjacent native vegetation and minimises impacts to koalas and other wildlife inhabiting or moving through the adjacent vegetation.

Education

g) The applicant must develop and circulate educational material to residents within the development to raise awareness of the areas koala habitat values. Information should include topics such as:

- Koala sensitive dog ownership;

- Importance of retaining koala food trees and other native vegetation;
- Encourage the planting of appropriate koala food trees;
- Koala friendly backyards – including koala friendly fencing and ropes in pools;
- Keep outdoor lighting to a minimum after 6pm at night and before 6am the next morning near occupied trees, or trees known to be utilised by neighbourhood koalas; and
- Drive slowly and watch for koalas on local roads.

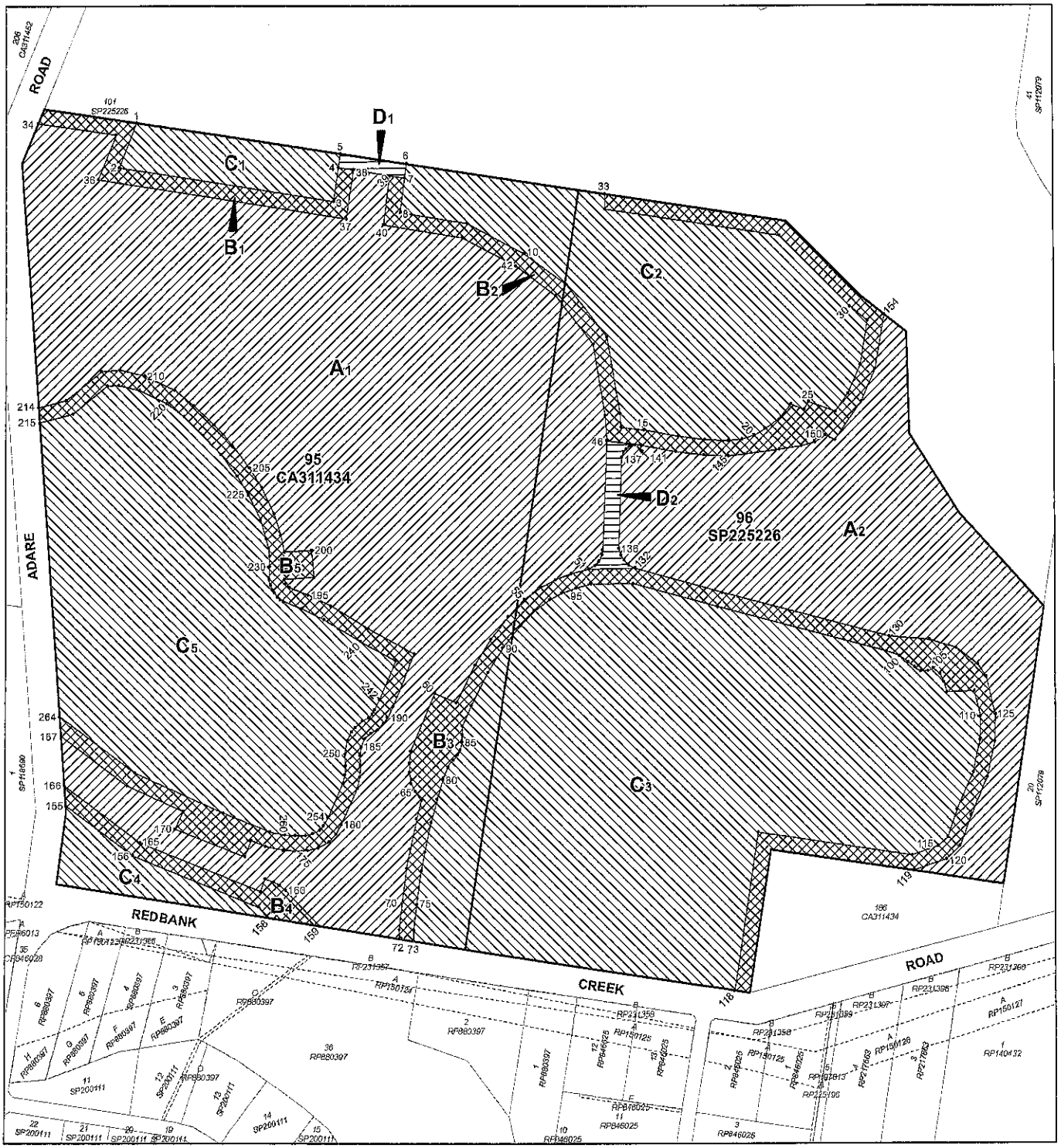
END OF CONDITIONS

Attachment 1. Amended Referral Agency Response (Vegetation) Plan RARP2006/012107/2

Attachment 2. Statutory Covenant

Attachment 3. Vegetation Management Plan template.

Attachment 4. Wallangarra Covenant Plan, Project No: BA2156, Drawing No: PP05, Rev: D, by Urbis Pty Ltd, dated 11.11.13.



SCALE 1:5000 @ A3 paper size

0 50 100 200 300 400 500 m

Projection: UTM (MGA Zone 56) **Datum: GDA94**

Note: Derived Reference Points are provided to assist in the location of the Amended Referral Agency Response boundaries. Responsibility for locating these boundaries lies solely with the landholder and delegated contractor(s).

The property boundaries shown on this plan are APPROXIMATE ONLY. They are NOT an accurate representation of the legal boundaries.

Note: This plan must be read in conjunction with Amended Referral Agency Response 2006/012107

LEGEND

- Derived Reference Points for GPS
- Subject Lot(s)
- Area A1 & A2 - specific conditions apply - see Amended Referral Agency Response 2006/012107 for details
- Area B1, B2, B3, B4, & B5 - specific conditions apply - see Amended Referral Agency Response 2006/012107 for details
- Area C1, C2, C3, C4 & C5 - specific conditions apply - see Amended Referral Agency Response 2006/012107 for details
- Area D1 & D2 - specific conditions apply - see Amended Referral Agency Response 2006/012107 for details

Amended Referral Agency Response (Vegetation) Plan

Plan of all Areas A, B, C & D in Lot 95 on CA311434 and Lot 96 on SP225226

Trackjob No. IC1106IPS0007

N

Queensland Government

CENTRE: GYMPIE LOCALITY OF ADARE	REGION: SOUTH EAST LOCAL GOVT: LOCKYER VALLEY
Map Reference: 9342	Compiled from: DCDB, PVMP & VMO Notes
File Reference: 2006/012107	Prepared by: LMO Date: 20 September 2013

Amended RARP 2006/012107/2
Sheet 1 of 2

REFERRAL AGENCY RESPONSE (Vegetation) PLAN

Derived Reference Points
Projection UTM (MGA94 Zone 56) Datum - GDA94
All GPS points continue sequentially when labels are not shown

Point	Easting	Northing	Parcel
1	429519	6955135	C1
2	429496	6955076	C1
3	429781	6955031	C1
4	429788	6955077	C1
5	429791	6955094	C1
6	429879	6955081	C2
7	429876	6955062	C2
8	429870	6955017	C2
9	429961	6955003	C2
10	430037	6954963	C2
11	430092	6954922	C2
12	430146	6954853	C2
13	430164	6954752	C2
14	430165	6954733	C2
15	430195	6954730	C2
16	430241	6954721	C2
17	430277	6954717	C2
18	430308	6954715	C2
19	430327	6954717	C2
20	430344	6954723	C2
21	430358	6954731	C2
22	430379	6954747	C2
23	430392	6954763	C2
24	430410	6954756	C2
25	430416	6954766	C2
26	430452	6954753	C2
27	430469	6954777	C2
28	430486	6954815	C2
29	430496	6954873	C2
30	430472	6954892	C2
31	430377	6954986	C2
32	430144	6955021	C2
33	430144	6955042	C2
34	429388	6955134	A1
35	429492	6955119	A1
36	429468	6955060	A1
37	429798	6955009	A1
38	429807	6955073	A1
39	429856	6955065	A1
40	429848	6955001	A1
41	429954	6954984	A1
42	430026	6954946	A1
43	430078	6954908	A1
44	430128	6954844	A1
45	430144	6954749	A1
46	430146	6954715	A1
47	430140	6954671	A1
48	430140	6954564	A1
49	430136	6954558	A1
50	430130	6954551	A1
51	430122	6954546	A1
52	430099	6954540	A1
53	430078	6954531	A1
54	430059	6954522	A1
55	430037	6954506	A1
56	430015	6954483	A1
57	429992	6954453	A1
58	429970	6954419	A1
59	429946	6954389	A1
60	429917	6954381	A1
61	429885	6954304	A1
62	429884	6954289	A1
63	429883	6954276	A1
64	429886	6954261	A1
65	429891	6954251	A1
66	429900	6954239	A1
67	429893	6954215	A1
68	429885	6954174	A1
69	429880	6954149	A1
70	429874	6954103	A1
71	429870	6954068	A1
72	429870	6954056	A1
73	429890	6954053	C3
74	429890	6954066	C3
75	429893	6954101	C3
76	429899	6954146	C3
77	429904	6954170	C3
78	429912	6954210	C3
79	429921	6954241	C3
80	429928	6954266	C3
81	429936	6954283	C3
82	429942	6954293	C3
83	429947	6954299	C3
84	429951	6954306	C3
85	429954	6954316	C3
86	429954	6954327	C3
87	429954	6954338	C3
88	429966	6954365	C3
89	429988	6954409	C3
90	430008	6954441	C3
91	430030	6954470	C3
92	430050	6954490	C3
93	430070	6954505	C3
94	430086	6954513	C3
95	430105	6954521	C3
96	430125	6954526	C3
97	430181	6954527	C3
98	430294	6954495	C3
99	430519	6954436	C3
100	430536	6954430	C3
101	430548	6954422	C3
102	430557	6954414	C3
103	430565	6954410	C3
104	430574	6954409	C3
105	430582	6954413	C3
106	430590	6954406	C3
107	430596	6954395	C3
108	430600	6954382	C3
109	430636	6954383	C3
110	430644	6954350	C3
111	430644	6954318	C3
112	430634	6954275	C3
113	430613	6954226	C3
114	430600	6954189	C3
115	430588	6954178	C3
116	430553	6954165	C3
117	430348	6954196	C3
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119	430555	6954145	A2
120	430598	6954160	A2
121	430617	6954178	A2
122	430631	6954218	A2
123	430654	6954269	A2
124	430664	6954316	A2
125	430664	6954352	A2
126	430652	6954403	A2
127	430641	6954419	A2
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130	430523	6954456	A2
131	430299	6954515	A2
132	430183	6954547	A2
133	430175	6954551	A2
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138	430168	6954701	A2
139	430171	6954704	A2
140	430176	6954708	A2
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142	430192	6954710	A2
143	430238	6954701	A2
144	430275	6954697	A2
145	430309	6954695	A2
146	430331	6954698	A2
147	430377	6954704	A2
148	430406	6954709	A2
149	430425	6954713	A2
150	430438	6954722	A2
151	430452	6954718	A2
152	430487	6954768	A2
153	430505	6954809	A2
154	430517	6954882	A2
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156	429515	6954165	C4
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164	429685	6954118	A1
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180	429793	6954207	A1
181	429814	6954255	A1
182	429817	6954270	A1
183	429818	6954285	A1
184	429817	6954299	A1
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197	429719	6954528	A1
198	429716	6954532	A1
199	429756	6954535	A1
200	429753	6954571	A1
201	429716	6954568	A1
202	429711	6954591	A1
203	429703	6954619	A1
204	429686	6954653	A1
205	429670	6954680	A1
206	429647	6954710	A1
207	429623	6954736	A1
208	429595	6954762	A1
209	429571	6954782	A1
210	429530	6954801	A1
211	429497	6954809	A1
212	429473	6954807	A1
213	429426	6954769	A1
214	429389	6954759	A1
215	429391	6954740	C5
216	429435	6954751	C5
217	429480	6954788	C5
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219	429523	6954783	C5
220	429560	6954765	C5
221	429582	6954747	C5
222	429608	6954722	C5
223	429632	6954697	C5
224	429653	6954668	C5
225	429669	6954644	C5
226	429684	6954612	C5
227	429692	6954585	C5
228	429695	6954573	C5
229	429697	6954563	C5
230	429697	6954549	C5
231	429698	6954532	C5
232	429698	6954524	C5
233	429700	6954519	C5
234	429703	6954514	C5
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236	429711	6954505	C5
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239	429769	6954479	C5
240	429817	6954450	C5
241	429864	6954424	C5
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244	429833	6954354	C5
245	429828	6954349	C5
246	429820	6954344	C5
247	429810	6954336	C5
248	429805	6954330	C5
249	429800	6954319	C5
250	429797	6954300	C5
251	429798	6954285	C5
252	429797	6954273	C5
253	429795	6954262	C5
254	429775	6954216	C5
255	429769	6954206	C5
256	429764	6954200	C5
257	429754	6954195	C5
258	429745	6954192	C5
259	429731	6954192	C5
260	429718	6954193	C5
261	429698	6954197	C5
262	429635	6954222	C5
263	429518	6954276	C5
264	429418	6954350	C5

Note: Plan at A3 paper size.

Note: Derived Reference Points are provided to assist in the location of the Amended Referral Agency Response boundaries. Responsibility for locating these boundaries lies solely with the landholder and delegated contractor(s).

Note: This plan must be read in conjunction with Amended Referral Agency Response 2006/012107

Amended RARP 2006/012107/2
Sheet 2 of 2

QUEENSLAND LAND REGISTRY
Land Title Act 1994 and Land Act 1994

COVENANT

FORM 31 Version 3

Dealing Number

Lodger (Name, address & phone number)

Lodger Code

OFFICE USE ONLY

Privacy Statement
Collection of this information is authorised by the Land Title Act 1994 and the Land Act 1994 and is used to maintain the publicly searchable registers in the land registry. For more information about privacy in NR&W see http://www.nrw.qld.gov.au/about/privacy/index.html.

1. Covenantor

2. Description of Covenant / Lot on Plan **County** **Parish** **Title Reference**

3. Covenantee

THE STATE OF QUEENSLAND (Represented by Department of Natural Resources and Mines)

4. Description of Covenant (include reference to relevant section of legislation)

Pursuant to Section 97A (3)(b)(i) of the Land Title Act 1994 and the terms of the attached schedule A to preserve the vegetation in the Covenant Area.

5. Execution

The Covenantor being the registered owner of the lot described in item 2 covenants with the Covenantee in respect of the covenant described in item 4 and the attached schedule A.

Witnessing officer must be aware of his/her obligations under section 162 of the Land Title Act 1994

..... signature

..... full name

..... qualification

Witnessing Officer

(Witnessing officer must be in accordance with Schedule 1 of Land Title Act 1994 eg Legal Practitioner, JP, C Dec)

/ / **Execution Date**

..... **Covenantor's Signature**

..... signature

..... full name

..... qualification

Witnessing Officer

(Witnessing officer must be in accordance with Schedule 1 of Land Title Act 1994 eg Legal Practitioner, JP, C Dec)

/ / **Execution Date**

..... **Covenantee's Signature**

Title Reference

This Is Schedule A referred to in Covenant dated **<insert date>**

1. **Interpretation**

Unless the context otherwise requires or the contrary intention appears, the following terms shall have the meanings respectively assigned to them –

"Clear/ing" – as defined in the Vegetation Management Act 1999 and as amended from time to time

"Council" means Lockyer Valley Regional Council together with its assigns and successors and includes all persons authorised by the Council

"Covenant Area" means that area referred to in Item 2 of the Form 31.

"Covenantee" means the State of Queensland (represented by Department of Natural Resources and Mines) including any delegated or authorised officer

"Covenantor" means the person or persons named in item 1 of the Form 31 and their and each of their successors in title, transferees and assigns.

"Covenantor's obligations" means the obligations set out in clause 3 (Covenantor's Obligations)

"Development approval" – means the approval given by the Lockyer Valley Regional Council reference number DA678.

"Fence" means a structure of posts and boards, palings, rails, galvanised iron, metal, or wire, or a wall, ditch, or embankment, or a combination of any of these, enclosing or bounding land, and includes any foundation, foundation wall, or support reasonably necessary for the support and maintenance of the fence, but does not include a wall which is part of a house or other building.

"Infrastructure" – includes roads and excavation for civil works and other fixtures

"Stock" – includes all domesticated animals, such as: horses, cattle, goats, sheep, pigs and chickens.

"Structure/s" – includes any building, shed, pergola, gazebo, wall, fence, pillar, post and pool

"the Land" – means the lots specified in item 2 of the Form 31 and any land created in lieu the lots mentioned in item 2 of the Form 31 by registration of any other plan and howsoever described

"Vegetation" - as defined in the *Vegetation Management Act 1999* and as amended from time to time

2. **Description of Covenant**

This Covenant is for the purpose of preserving the vegetation in the Covenant Area.

3. **Covenantor's Obligations**

The Covenantor covenants, and agrees with the Covenantee, that:

3.1 Except as provided in clause 3.4, clearing of vegetation is not authorised in the Covenant Area.

3.2 Infrastructure and structures, including fences are not permitted in the Covenant Area.

3.3 Stock are not permitted in the Covenant Area.

3.4 Clearing of vegetation in the Covenant Area is allowed:

(a) by fire under the *Fire and Rescue Service Act 1990* to reduce hazardous fuel loads or an activity under the *Fire and Rescue Service Act 1990,* section 53, 68 or 69; or

(b) where it is necessary to remove or reduce the imminent risk that the vegetation poses to serious personal injury or damage to property; or

(c) to give effect to any subsequent development approvals for operational works that is the clearing of native vegetation.

3.5 Subject to the conditions of the development approval, nothing prevents the Covenantor from using the Covenant Area, provided such use is consistent with the obligations imposed by this covenant.

4. Rights of Access

The Covenantor covenants, and agrees with the Covenantee, that:

4.1 The Covenantee or the Council may inspect the vegetation within the Covenant Area at any reasonable time after the giving of notice.

4.2 Representatives of the Queensland Fire and Rescue Service (or any successor to that body), may at any reasonable time after giving notice enter, re-enter and traverse the covenant area each year to assess the bushfire hazard risk of the Covenant Area.

5. Release and Indemnity

5.1 The Covenantor irrevocably releases the Covenantee from, and waives, any claim, right, remedy, action, cause of action, loss, damage, expense or liability which the Covenantor may have against the Covenantee in respect of this Covenant or its performance or breach.

5.2 The Covenantor indemnifies and holds the Covenantee harmless from and against any claim, right, remedy, action, cause of action, loss, damage, expense or liability incurred, suffered or asserted by any person in connection with the performance of this Covenant by the Covenantor or its breach by the Covenantor or connected with any negligence or other legal wrong of the Covenantor.

6. No Obligations on Covenantee

6.1 The rights given to the Covenantee by this covenant are permissive only and nothing in this Covenant imposes any duty of any kind on the Covenantee to anyone or obliges the Covenantee to perform any act or to incur any expense for any of the purposes set out in this Covenant.

7. No Effect on Rates and Charges

7.1 Nothing in this Covenant of itself affects any obligations of the Covenantor to pay all taxes, rates, charges and levies lawfully imposed in respect of the Land.

8. Registration

8.1 The Covenantor agrees to do everything necessary at the Covenantor's expense to ensure that this Covenant is registered against the title to the Covenant Area.

9. Waiver

9.1 Any alleged waiver of any breach of this Covenant is effective only if it is an express waiver in writing of the breach. A waiver of a breach of this Covenant does not operate as a waiver of any other breach of this Covenant.

10. Severance

10.1 If any part of this Covenant is held to be invalid, illegal or unenforceable by a court having the jurisdiction to do so, that part is to be considered to have been severed from the rest of this Covenant and the rest of this Covenant remains in force unaffected by that holding or by the severance of that part.

11. Enurement

11.1 This Covenant binds the parties to it and their respective successors, heirs, executors and administrators.

Vegetation Management Plan

Lot X Plan X, Street Address

Background

This vegetation management plan template may be used for:

- a Voluntary Declaration (VDec) made pursuant to the *Vegetation Management Act 1999* (VMA); or
- a Vegetation Management Offset (Offset) area under the VMA.

A VDec or Offset must be accompanied by a vegetation management plan that details how the area will be managed to conserve its high nature conservation value or to prevent land degradation.

If an offset area is required as a condition of a development approval, a VDec, statutory covenant under the *Land Act 1994, Land Title Act 1994* or *Sustainable Planning Act 2009 (SPA)*, or other legally binding mechanism, approved by the Department of Environment and Resource Management (DERM), may be used as a legally binding mechanism to secure the vegetation offset.

A VDec, statutory covenant or other approved mechanism may contain conditions relating to the clearing or management of native vegetation subject to the VDec or statutory covenant.

This vegetation management plan is binding on current and future owners and occupiers under the terms of the VDec or statutory covenant.

This vegetation management plan should be completed in conjunction with other VDec or Policy documents for vegetation offsets.

Except where a contrary intention appears, words and expressions used in this vegetation management plan have the same meaning as those defined in the VMA or the *Sustainable Planning Act 2009* (SPA).

DERM strongly recommends that independent legal advice is obtained prior to entering into a VDec or a vegetation offset.

Further information on VDecs and vegetation offsets is available from DERM's website at www.derm.qld.gov.au.

How to complete

If completing electronically, please delete the descriptive information in this document as necessary. If further clarification or assistance is required to complete this template, or you would like a hard copy version, please contact DERM on 131304.

Section 1 The management area

1.1 Property and ownership details

Name of Registered Owner(s) / Licensee/s or Trustee/s	
Postal Address	
Phone Fax Email address	
Real Property Description	
Property Name	
Total Area of Property (ha)	
Management area subject to vegetation management plan (ha)	
Local Government Area	
eLVAS case number	
Tenure Type*	

*For proposals on State land (non-freehold) tenures, the views of the State Land Asset Management unit of DERM must be sought to ensure the proposed declaration / offset is consistent with the purpose of the tenure. For example, on agricultural and grazing leases, the proposal would need to allow a level of agriculture or grazing to occur over the area to be consistent with the tenure, in accordance with the *Land Act 1994*.

1.2 Registered Interests

Parcel (lot and plan)	**Type of Registered Interest***	**Registered interest holder's name and contact details**

Registered interests are mortgages, leases, subleases, covenants, profit á prendres, easements and building management statements that have been registered on title under the *Land Act 1994* or the *Land Title Act 1994*.

1.3 Purpose of vegetation management plan

More than one box may apply. For example, the vegetation management plan may required to offset clearing associated with a development approval that is being legally secured through a Voluntary Declaration.

☐ To offset clearing associated with a development approval under VMA / SPA, and in accordance with the Policy for Vegetation Management Offsets

☐ Voluntary declaration of an area as high nature conservation if the chief executive administering the VMA considers—

(a) implementation of the management plan for the area will help to conserve its high nature conservation value; and

(b) the area is 1 or more of the following—

- (i) a wildlife refugium;
- (ii) a centre of endemism;
- (iii) an area containing a vegetation clump or corridor that contributes to the maintenance of biodiversity;
- (iv) an area that makes a significant contribution to the conservation of biodiversity;
- (v) an area that contributes to the conservation value of a wetland, lake or spring stated in the notice mentioned in section 19F(1) for the declaration;
- (vi) another area that contributes to the conservation of the environment.

☐ Voluntary declaration of an area vulnerable to land degradation if the chief executive considers—

(a) implementation of the management plan for the area will help to prevent or minimise land degradation in the area; and

(b) the area is subject to 1 or more of the following—

- (i) soil erosion;
- (ii) rising water tables;
- (iii) the expression of salinity, whether inside or outside the area;
- (iv) mass movement by gravity of soil or rock;
- (v) stream bank instability;
- (vi) a process that results in declining water quality.

☐ Participating in carbon emissions sequestration / offsetting opportunities under a VDec

Section 2 Description of management area

The description of the management area should include, but is not limited to, the following:

- The land tenure
- Registered owners
- A map showing both the management area in relation to property boundaries and the location of photo-monitoring points.*
- The location and size (hectares) of the management area
- A brief description of the landzone / geology
- Soils
- The pre-clearing regional ecosystem type
- Existing vegetation, including species, relative densities, heights, whether native or non-native
- Estimated average age of vegetation
- Key fauna species occurring on the site [if known]
- Any unique environmental values or special values of the site – for a guide determining these values, refer to 'Unique environmental values' within the Offsets Policy.
- Whether there a Property Map of Assessable Vegetation (PMAV) currently over all or part of the property

*DERM will require information sufficient for the purpose of producing a category A PMAV. The preferred format is a digital map that clearly identifies the proposed area using Global Positioning System (GPS) points. An accurate map allows DERM to process the request more efficiently without having to ask for further information.

Applicants are encouraged to provide digital mapping data, suitable for use in a Geographic Information System (GIS). Provision of this information will help with the timely processing of the request.

Where mapping information is provided in a digital format it should meet the following specifications:

- the data must be projected using the Map Grid of Australia 1994;
- file formats for line-work, polygons and points (vector data sets) must be –
    - ESRI shapefile or coverage;
    - Mapinfo; or
    - CAD DXF.

- File formats for graphics (e.g. aerial photographs, satellite imagery, other raster data sets like DEM's) must be –
    - Tiff or GeoTiff;
    - Jpg or GeoJpg;
    - Erdas Imagine IMG format (no BMP); or
    - Arc grid.

Alternatively, GPS coordinates projected using the Map Grid of Australia 1994 can be provided as an active excel file document.

Further information on preferred mapping options is provided in the Guide to applying for a property map of assessable vegetation available from www.derm.qld.gov.au or by contacting DERM.

Section 3 Other relevant information (applies only to vegetation offsets)

1. The Regional Ecosystem/s (RE) and / or Essential Habitat/s (EH) for which the offset area is required.

2. The RE/s, EH/s and other ecological values being provided on the offset area.

Section 4 Management objective

Clearly describe the management objective for the area, or the purpose of the vegetation management plan (see example below).

MANAGEMENT INTENT - EXAMPLE
Manage, restore and protect from clearing an area of vegetation that has been accepted by DERM as a vegetation offset or VDec. This area will be managed to achieve remnant status for X regional ecosystems, wetlands or waterways, and essential habitat for X specie/s or threshold ecosystems.

Section 5 Management outcomes

Clearly identify the specific management outcomes required to achieve the management intent for the area.

Outcomes need to be identified and measurable so they can be monitored and achieved (see example below).

Note that the level of detail required will depend on the purpose of the proposal. For example, a detailed vegetation management plan will be required when offsetting clearing associated with a development approval, while a less detailed vegetation management plan will be required for a voluntary declaration under the VMA not being used for the purposes of a vegetation offset.

This section also needs to identify if, and when the vegetation management plan will end, for example, for a vegetation offset, when the vegetation achieves remnant status and can be mapped on the regional ecosystem maps certified by DERM and a functioning regional ecosystem – refer to Criteria 10 of the Policy for Vegetation Management Offsets, and when an offset ceases to have effect. For a voluntary declaration, the vegetation management plan may continue in perpetuity, or as otherwise agreed.

MANAGEMENT OUTCOMES - EXAMPLE:

1) *The Area will be managed, restored and protected until it becomes a mature version of the regional ecosystem (RE) and where that RE is a:*
   a. ***Wetland -*** *wetland values associated with the RE are maintained or enhanced and protected through restoration and management. For example, RE 2.3.2 (freshwater and brackish wetlands) will be managed to restore or enhance the presence of salt tolerant grasses, sedges, and freshwater aquatics, and other vegetation characteristics typical of a mature version of this RE, including a sparse vegetation structure; and/or*
   b. ***Watercourses*** *– watercourse values associated with the RE are maintained or enhanced and protected through restoration and management. The area will be managed to enhance the presence of characteristic vegetation communities; and/or*
   c. ***Essential Habitat –*** *essential habitat factors for particular species are managed and restored to ensure that the required ecological values are maintained or enhanced (i.e. providing specific habitat) and demonstrate that impacts on species are mitigated. These essential habitat factors are:*
      i. *For example, essential habitat factors for the Wallum Froglet include acidic, soft waters of Melaleuca swamps, sedgeland, wet and dry heathland and wallum/woodland areas in sandy coastal lowlands, with sandy and sandy-alluvial substrates.*
2) *The area attains remnant status, and is mapped as a RE on a certified RE map. This is expected to occur within x years.*

Section 6 Identification of current threats and potential risks to achieving management outcomes

In this section any current threats and potential risks to achieving the management intent and outcomes are identified. Corresponding actions to prevent, mitigate, or minimise these risks and/or threats are detailed in section 7.

Note that when identifying a current threat or potential risk below, a commitment is made to comply with all mandatory management activities associated with that threat or risk.

Tick relevant boxes to identify any risks/threats that would inhibit management outcomes from being achieved. Boxes already ticked are those threats and/or risks considered by DERM as applying to all management areas, and must be addressed with any proposal. Boxes which are not ticked are risks or threats which may or may not occur in the management area.

☑ Weeds Please identify (e.g. Camphor Laurel, Chinese Celtis)	☑ Vegetation management Please identify (e.g. clearing of vegetation)	☑ Land degradation Please identify (e.g. gully erosion)
☑ Fire Please identify (e.g. wildfire)	☑ Development Please identify (e.g. material change of use (rezoning), reconfiguring a lot (subdivision))	☐ Pest animals Please identify (e.g. goats, pigs, deer)
☐ Grazing Please identify (e.g. cattle, sheep)	☐ Restoration / revegetation Please identify (e.g. poor restoration)	☐ Drought Please identify (e.g. lack of permanent water)
☐ Disturbance / damage Please identify (e.g. activities affecting nests/burrows, or modification of banks of waterways/wetlands)	☐ Unauthorised access or use Please identify (unauthorised entry to management area)	☐ Other identified threats and/or potential risks

Section 7 Management area actions and requirements

This section must detail the actions to minimise the risks identified in Section 6 and remedial action that will be undertaken if any of the risks occur. Details of the entity/ies responsible for undertaking the management action including skills or expertise of enitity/ies should be included.

Other activities necessary to address the identified threats or risks should be added below as customised conditions.

All identified management actions must be included in the **Management Actions Schedule – Annexure A**.

Tick relevant boxes to identify the management activities required for each threat or risk identified in section 6 of the management plan. Boxes already ticked are management activities required in all management areas, and must be undertaken with any proposal. Boxes which are not ticked are activities which may or may not be required to achieve the management outcomes.

7.1 Weeds

☑ 7.1.1 Minimise the introduction, establishment and spread of non-native weeds through regular surveillance and removal.

☑ 7.1.2 Control and eradicate non-native weeds in accordance with management activities schedule.

☐ 7.1.3 Any clearing of native vegetation to control non-native weeds is limited to what is necessary to ensure the restoration / regeneration of the regional ecosystem.

☑ 7.1.4 Clearing native vegetation for access to control non native weeds under condition 6.1.3 must be limited to 3 metres wide.

☑ 7.1.5 Any clearing of native vegetation to control non native weeds must be conducted in a way that prevents soils erosion, and maintains banks stability if clearing is associated with a watercourse.

☐ 7.1.6 [Insert customised conditions where applicable]

Note: Clearing of native plants (such as the Umbrella tree, Cadagi, Wattle) which in some areas are identified as weed species, may require a permit from DERM.

7.2 Vegetation management

If vegetation clearing is proposed in the management area, it must be identified within this section. The area subject to clearing must be supported by sufficient information on why and when the clearing will occur. The area should be reflected in mapping attached to the vegetation management plan. All vegetation clearing, including that for essential management, must be detailed in this vegetation management plan.

☑ 7.2.1 Vegetation clearing may occur for essential management as defined in the Sustainable Planning Regulation 2009, Schedule 26 'Dictionary'.

☐ 7.2.2 [Insert customised conditions where applicable]. For example, to the extent necessary for management activities, including the construction of fences, vehicular tracks or watering facilities.

Note: inclusion of intent to clear in a vegetation management plan is not an approval to clear under the VMA or SPA.

7.3 Land Degradation

☑ 7.3.1 Minimise adverse impacts associated with land uses and land management activities conducted within the management area (e.g. soil disturbance on steep slopes, disturbance of acid sulfate soils).

☑ 7.3.2 Prevent or minimise soil erosion or any deterioration of the soil's physical, biological or chemical properties resulting from land uses and land management activities.

☐ 7.3.3 [Insert customised conditions where applicable]. For example:

- Manage areas of past, present or potential instability by (identify where and how this will occur).
- Take steps to ensure the essential habitat factors - including mandatory habitat factors - are maintained, and that impacts on species are mitigated.
- Maintain the ecological integrity of any wetlands and/or watercourses [circle relevant] within the management area by (identify how this will occur).

Note: Locations where specific management actions are required (e.g. preventing gully erosion) should be identified on mapping accompanying this vegetation management plan.

7.4 Fire

☑ 7.4.1 Implement a fire management strategy for the management area based on topography, vegetation type, structure, age, and size, including maintaining firebreaks relative to the management area, if appropriate.

☐ 7.4.2 Monitor and maintain fire management in the area following guidelines outlined in Fire and Biodiversity Monitoring Manual published by South East Queensland Fire and Biodiversity Consortium (2002).

☐ 7.4.3 [Insert customised conditions where applicable]

Note: A fire management strategy, including the spatial location of fire breaks and fire management lines, should accompany this vegetation management plan. The fire management strategy should clearly identify where fire management is for the purposes of managing the risk of fire to life and property.

7.5 Development

☑ 7.5.1 A 'material change of use' or 'reconfiguring a lot' development application or a lease must not be made over the management area without written consent from DERM (Vegetation Management).

Note: The Chief Executive of DERM will not provide consent if the application or lease is inconsistent with achieving the outcomes of this vegetation management plan.

☐ 7.5.2 [Insert customised conditions where applicable].

7.6 Pest animals [if identified as a threat/risk in section 6 – Delete if not applicable]

☑ 7.6.1 Control pest animals within the management area.

☐ 7.6.2 Erect appropriate fencing where necessary to protect the area from [insert identified pest animal] in accordance with approved pest animal guidelines.

☐ 7.6.3 [Insert customised conditions where applicable]. For example:

- Pest animal [x] will be controlled within the management area by [insert details of customised management activity].

7.7 Grazing [if identified as a threat/risk in section 6 – Delete in not applicable]

Grazing has been demonstrated to be detrimental to some ecosystems. Therefore, grazing of livestock may not be automatically supported within the management area. At the same time, managed grazing can provide beneficial outcomes for land management, such as weeds.

Evidence may need to be provided to demonstrate that grazing will not impact on the ecosystem. Additional information may include stocking density, stock rotations, exclusion fencing and monitoring to ensure adverse impacts on vegetation do not occur. If grazing of domestic livestock is proposed, action/s similar to the following must be carried out.

☐ 7.7.1 If grazing of domestic livestock will occur within the management area, it is managed to ensure remnant status of vegetation is achieved within [insert timeframe].

☐ 7.7.2 The area is fenced using 3 to 4 strand plain wire fencing (fauna friendly) to exclude the grazing of domestic livestock.

☐ 7.7.3 No grazing by domestic livestock will occur within the area.

☐ 7.7.4 Grazing by domestic livestock is limited to [insert months] in any calendar year at [insert stocking rate].

☐ 7.7.5 Access to watercourses and wetlands by domestic livestock is prevented / restricted through fencing.

☐ 7.7.6 [Insert customised conditions where applicable].

7.8 Restoration / Revegetation [if identified as a threat/risk in section 6 – delete if not applicable]

The correct floristic species, aligning with the pre-clear regional ecosystem/s description, should be used in the restoration / revegetation of the management area.

Note: The level of detail required will depend on the purpose of the plan. For example, a vegetation offset may require conducting transect studies of species occurrence in adjacent or other identified areas of the pre-clear regional ecosystem/s to determine abundance of ground, mid storey and canopy species to ensure that restoration / revegetation achieves the equivalent species composition. Planting schedules and vegetation structure should be determined from transects from the pre-clear regional ecosystem/s.

☐ 7.8.1 A restoration/revegetation plan is attached.

☐ 7.8.2 [Insert customised conditions where applicable]

Where planting will occur, restoration / revegetation seed stock should be sourced from the site or adjacent areas with the same regional ecosystem/s equivalent to the management area.

7.9 Drought [if identified as a threat/risk in section 6 – delete if not applicable]

☑ 7.11.1 Where restoration / revegetation fail due to drought, steps must be taken to mitigate the impacts (e.g. replanting).

☐ 7.11.2 [Insert customised conditions where applicable]. For example:

- Water is available for plantings until the area is established (estimated to be X years);
- Planting is undertaken following rain periods.

7.10 Disturbance/Damage [if identified as a threat/risk in section 6 – delete if not applicable]

☑ 7.10.1 Activities in the management area do not damage, destroy, mark move, dig up or otherwise interfere with active nests, burrows, roots, caves or other structures used by native animals.

☑ 7.10.2 The bed and banks of wetlands and waterways are not modified unless associated with any required permits and a DERM approved management plan.

☐ 7.10.3 [Insert customised conditions where applicable]

7.11 Unauthorised access or use [if identified as a threat/risk in section 6 – delete if not applicable]

☑ 7.11.1 Any damage caused by unauthorised entry or use of the management area is mitigated to rectify the situation.

☐ 7.11.2 Construct suitable fencing around the management area to prevent entry of any persons, other than those directly related to the vegetation management plan.

☐ 7.11.3 [Insert customised conditions where applicable]. For example:

- Erect appropriate signs, notifying of the management / restoration / vegetation of the area, with entry prohibited by public for any purpose.

Section 8 Monitoring

Ongoing monitoring is required to ensure the vegetation management plan achieves the outcomes identified. Monitoring activities must link back to the outcomes defined in Section 5, and be a measurement of how the area is progressing in achieving these outcomes, and managing the potential threats and risks to achieving them.

The frequency of monitoring and nature of monitoring activities will depend on the management activities required for the area and the purpose of the plan. For example, monitoring requirements may be more stringent where the vegetation management plan is associated with a vegetation offset than if the proposal is associated with a conservation incentives program(s).

Place a tick in one or both of the boxes below to indicate which monitoring activities will be undertaken in the management area.

☐ [Insert x yearly] photo monitoring at defined GPS points, with:
  - photo monitoring overlapping in a north, south, east and west direction; and

- photos clearly marked with the date, location and direction.

☐ [Insert x yearly] transects to assess the effectiveness of revegetation and/or to assess non-remnant / remnant status, including canopy cover and average vegetation height.

Monitoring activities will vary from site to site, depending on the particular characteristics of the management area. If the management area:

- Includes a wetland or watercourse, regular water quality testing may be required to monitor the condition of the watercourse or wetland. Water quality testing should reflect the condition of the wetland or watercourse, as well as the condition of riparian vegetation. Water quality testing should be conducted in accordance with Waterwatch Monitoring Australia guidelines.

- Involves restoring an area of essential habitat, monitoring must be relevant to the essential habitat factors and the specie/s associated with the essential habitat.

- Will contain grazing, then monitoring must be undertaken to assess the impacts of grazing on achieving the management outcomes.

Section 9 Reporting

Reports to DERM detailing the progress against the proposed management outcomes will be required until the outcomes are achieved. Where relevant, reports are required to be received by DERM by 30 June of each [insert agreed reporting frequency].

The regularity of reporting, and reporting format adopted will depend on the management intent and outcomes. Please select an appropriate reporting frequency below, or alternatively insert a customised reporting guideline.

☐ Regrowth vegetation with minimal risks – every 2 years.

☐ Regrowth vegetation with high risks - annual reporting.

☐ Long term revegetation/restoration - annual reporting for first 5 years, then two-yearly reporting for remainder [insert years i.e. 20 years].

☐ [insert customised reporting time period].

The report should contain, as a minimum:

☑ Name and contact details of landholder. If someone other than the landholder is undertaking management activities (i.e. a contractor) their details must also be provided, including skills and expertise of the responsible entity/ies.

☑ eLVAS case number.

- [x] Lot on Plan property description and postal address.
- [x] Photo monitoring if required.
- [x] If transects required, revegetation/restoration data collected from transects, outlining species present, average canopy cover and height of vegetation. All data should be correctly labelled with date, location, GPS points for end points of transect and any other observations.
- [x] Annexure A - Management Activities Schedule with the progress section completed.
- [ ] Other monitoring requirements to address management outcomes.
- [x] An overview of the progress of the management area in achieving the management outcomes and how any risks or threats have impacted on the area.
- [x] An indication of any risks or potential threats that have become apparent to the management area since the development of the vegetation management plan, and activities to be undertaken to manage these threats and/or risks.
- [x] Where the proponent is proposing that the management outcomes have been achieved and the report is being submitted as the final report, the proponent must provide evidence that all management outcomes have been achieved in full.

Note: There may be other reporting requirements if the proposal is for carbon offsetting purposes.

Section 10 State Forest Products [if applicable – delete if not applicable]

On areas where the State has rights to forest products (leasehold land), the State will maintain the rights to forest products in any management area. In some cases, the State may elect to forego utilisation of those rights and, upon agreement, this can be included in the approved vegetation management plan for the area.

- [x] Where the State has rights to forest products, the State will maintain the rights to forest products, and the management of the area will not interfere with the State exercising those rights.

Section 11 Supporting documentation required for this vegetation management plan

1. Maps of the management area
2. Management Actions Schedule-Annexure A, completed with proposals to achieve each of the identified management outcomes.

3. Regional ecosystem/s species list/s, and essential habitat
4. Restoration / revegetation management plan [if relevant]
5. Fire management strategy [if relevant]
6. Other

Section 12 Consent/Agreement

SIGNED by the (enter name of the delegate of the Chief Executive Officer, Department of Environment and Resource Management and the relevant delegation) to indicate approval of the vegetation management plan.

Name:.....

Position:.....

Signature:.....

Date.....

SIGNED by [name of owner/s] being the current owner/s of the abovementioned property to indicate that the terms of this vegetation management plan including responsibilities under the management plan, have been read, understood and accepted.

The landowner agrees that any non-compliance with the requirements of this vegetation management plan shall constitute a breach of the terms and conditions of the legally binding mechanism entered into.

(Tick whichever is applicable)

☐ I have obtained independent legal advice on my obligations under this plan.

OR

☐ I have not obtained independent legal advice, though I have been advised by DERM that I should do so, and I accept the risks of not seeking such independent legal advice and sign this vegetation management plan on that basis.

Name:.....

Signature:.....

Name:.....

Signature:.....

Date.....

Annexure A – Management Actions Schedule

The following management actions will be undertaken in the timeframes recorded. These actions are to be consistent with identified risks and potential threats in section 6. More management actions should be added if required.

Year ending 30 June 20xx

Management activity	How the activity will be carried out	Where the activity will be carried out	When the activity will be carried out	Who will be carrying out the activity	Progress	Comments
1. Control non-native weeds (example)	Spot Spraying	In areas identified as [insert area, i.e a] on attached aerial photography.	Twice yearly in accordance with recognised guidelines.	The weed treatment will be carried out by [insert landowner/ contractor].	Weed treatment has occurred on the following dates [insert]. Photos indicate that the treatment is managing the weeds identified as a risk.	
2. Pest Animal						

Year ending 30 June 20xx

Management activity	How the activity will be carried out	Where the activity will be carried out	When the activity will be carried out	Who will be carrying out the activity	Progress	Comments

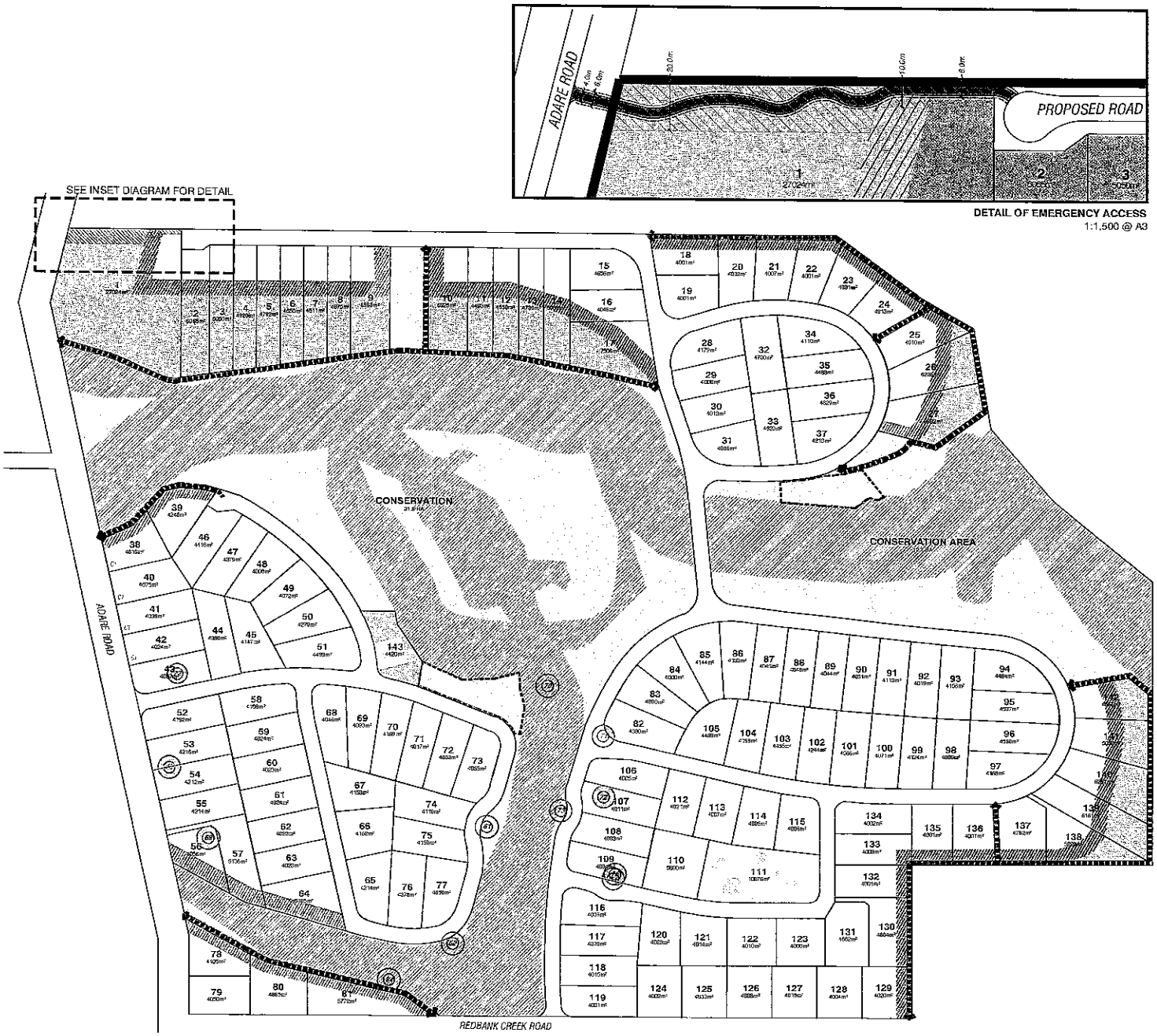
Year ending 30 June 20xx

Management activity	How the activity will be carried out	Where the activity will be carried out	When the activity will be carried out	Who will be carrying out the activity	Progress	Comments

Year ending 30 June 20xx

Management activity	How the activity will be carried out	Where the activity will be carried out	When the activity will be carried out	Who will be carrying out the activity	Progress	Comments

Year ending 30 June 20xx



DETAIL OF EMERGENCY ACCESS
1:1,500 @ A3

LEGEND

Protected vegetation and conservation areas on the site are comprised of a mix of private and publicly owned land as follows:

PRIVATE LAND

COVENANT AREAS ON PRIVATE LAND

Covenants to be adopted within these areas will ensure the protection of existing ecological values and features.

Conservation Block Covenants to protect areas which are considered important for maintaining ecosystem function. Metes and bounds of covenant areas are to be determined generally in accordance with this plan and recorded as covenant areas on the relevant survey plan. Vegetation Protection Covenants shall be entered into with the State of Queensland on the terms nominated by the Department of Natural Resources and Mines as appropriate in the circumstances.

Significant Habitat Tree Covenants to protect individual hollow-bearing trees which have been identified as having notable or significant habitat values. Individual trees identified on this plan will be protected by covenant areas the metes and bounds of which shall be based on Tree Protection Zones (TPZs) established in accordance with AS4970-2009- Protection of trees on development sites determined at time of survey and recorded as covenant areas on the relevant survey plan. Significant Habitat Tree covenants shall be entered into with the Council on terms agreed between the parties prior to the sealing of the plan of survey.

C1 Lots which subject to site specific survey and vegetation assessment may be subject to covenants to preserve vegetation and habitat values and preserve connectivity to the remnant vegetation present on the opposite side of Adare Road.

Asset Protection Zones (20m radiation zone for fire protection) to be established and managed in accordance with the Bushfire Risk Assessment and Mitigation Plan prepared by Bushland Protections Systems Pty Ltd.

Fire trail and emergency access on private land

Emergency Vehicle Access Easement in favour of the State of Queensland represented by the Department of Community Safety on that Department's standard terms and conditions.

Existing buildings to be retained on site

PUBLIC LAND

Public open space areas will be dedicated progressively to Council in stages and will be subject to an Open Space Management Plan prepared at the operational works stage. The Open Space Management Plan will provide an overarching management tool for Council to follow when managing the public open space areas on the site.

Core Conservation Areas contain land that maintains high ecological values and features. It is intended that these areas will remain largely in their natural state. Maintenance by Council will include periodic removal of fuel loads for bushfire mitigation, the management of the understorey to encourage further growth and ensure adequate habitat is provided and some supplementary or habitat planting to augment and enhance ecological values.

Buffer Conservation Areas are intended to support the Core Conservation Areas and include areas identified as General Use Zones.

General Use Zones are located within the Buffer Conservation Areas are intended to operate as a public park facility for the local residential community. General Use Zones may contain community facilities such as a gazebo, picnic tables or seating areas for passive recreation. On-going maintenance such as mowing, emptying of bins and periodic repair and maintenance of infrastructure will be required. General Use Zones are generally indicated on this plan but their exact location and function will be defined in future stages of the development.

Bushfire Trails are 6 metre wide trails located on public land established and maintained in accordance with the Bushfire Risk Assessment and Mitigation Plan prepared by Bushland Protections Systems Pty Ltd.

urbis
Brisbane
Level 7, 123 Albert Street
Brisbane QLD 4000
t 07 3007 3800
Urbis Pty Ltd ABN 50 105 256 228

WALLANGARRA

COVENANT PLAN

Scale 1:5,000 @ A3
0 50 100 250m

PROJECT NO: BA2166
DATE: 11.11.13
DRAWING NO: PP05
REV: D

Queensland
Government

Our ref TMR13-005392
Your ref DA4678-1
Enquiries Helen Kerr

Department of
Transport and Main Roads

14 February 2013

The Chief Executive Officer
Lockyer Valley Regional Council
PO Box 82
Gatton QLD 4343

Attention: Assessment Manager

Dear Sir/Madam

AMENDED CONCURRENCE AGENCY RESPONSE

Proposed Development:	Development Permit for Reconfiguration (2 into 145 lots plus Park)
Real Property Description:	Lot 95 CA311434, 96 on SP225226
Street Address:	63 Redbank Creek Road, Adare QLD 4343
Assessment Manager ref.:	DA4678-1
Local Government Area:	Lockyer Valley Regional Council

The Department of Transport and Main Roads (the department) refers to your correspondence received on 21 January 2013, requesting the department to amend its concurrence agency response for the above application in accordance with section 290(1)(b)(i) of the *Sustainable Planning Act 2009* (SPA).

Your request has been investigated and in this instance the department advises it will amend its response. The particulars of the change/s are as follows:

- Amendment to Condition 1 (a) modifying the Future Bus Route by removing the western extension along the northern cul-de-sac and the inclusion of a bus route through Stage 6
- deletion of Condition 2 (b) thereby removing the requirement to have a bus route connect to Adare Road.

The department must be provided with a copy of the assessment manager's decision notice regarding the application within five (5) business days after the day the decision is made in accordance with section 334 of the SPA.

Program Delivery and Operations
Metropolitan Region
313 Adelaide Street Brisbane Queensland 4000
PO Box 70 Spring Hill Queensland 4004

Telephone +61 7 3066 5864
Facsimile +61 7 3137 8363
Website www.tmr.qld.gov.au
Email helen.z.kerr@tmr.qld.gov.au
ABN: 29139 407 690

A copy of the amended concurrence agency response has been provided to the applicant for their information in accordance with section 290(4)(b) of the SPA.

If you have any queries or wish to seek clarification about any of the details in this response, please contact Helen Kerr, Principal Planner (Corridor and Land Management) on 07 3066 5864.

Yours sincerely

Stephen Smaha
Principal Advisor (Development Control)

Enclosures:

- Department of Transport and Main Roads Concurrence Agency Conditions and Statement of Reasons – Amended
- Email from applicant requesting to amend conditions
- Potential Bus Route

C/c GTA Consultants
Level 3, Gregory Terrace
Bowen Hills QLD 4006

Queensland
Government

Department of
Transport and Main Roads

Our ref.: TMR13-005392
Your ref.:

C/c GTA Consultants
Level 3, Gregory Terrace
Bowen Hills QLD 4006

Attention: Richard Ward

Please find attached correspondence for your information and action as required. Should you wish to discuss this correspondence, please contact Helen Kerr, Principal Planner (Corridor and Land Management) on 07 3066 5864.

Yours sincerely

Stephen Smaha
Principal Advisor (Development Control)

14 February 2013

Enclosures:

- Department of Transport and Main Roads Concurrence Agency Conditions and Statement of Reasons – Amended
- Email from applicant requesting to amend conditions
- Potential Bus Route

Department of Transport and Main Roads
Concurrence Agency Conditions and Statement of Reasons - Amended

Proposed Development: Development Permit for Reconfiguration (2 into 145 lots plus Park)

Real Property Description: Lot 95 CA311434, 96 on SP225226
Street Address: 63 Redbank Creek Road, Adare QLD 4343
Our ref.: TMR13-005392
Assessment Manager ref.: DA4678-1
Local Government Area: Lockyer Valley Regional Council

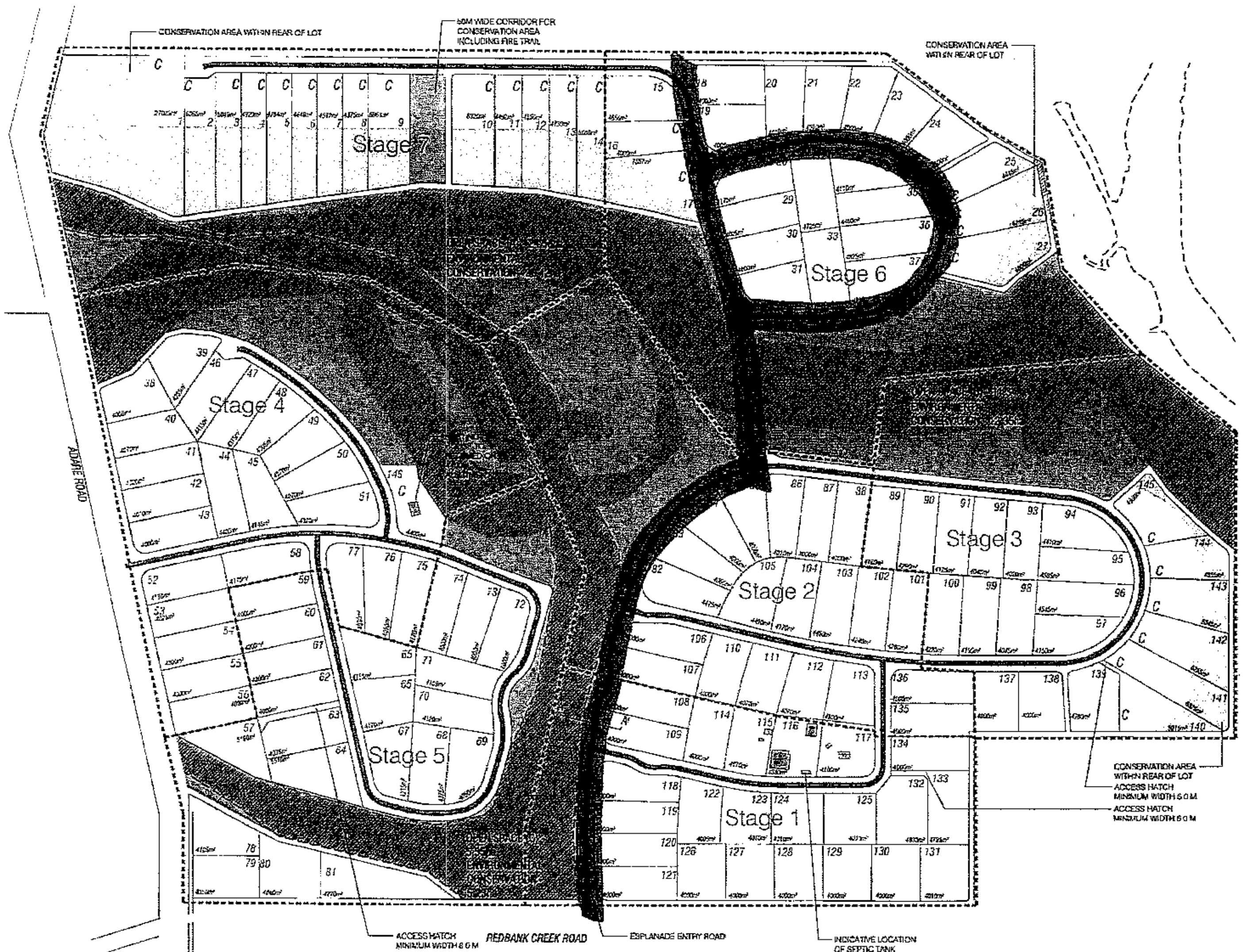
No.	Conditions of Development	Condition Timing	Jurisdiction and Reasons
Development Permit for Reconfiguration (2 into 145 lots plus Park)			
1	A paved pedestrian path with a minimum of 1.2m to be provided within the fire trail behind lots 1-17 (and lots 37-38) in accordance with Design Criteria for Pedestrian Paths in Austroads Part 6A.	Prior to commencement of use and to be maintained	Land Use and Transport Coordination under the Transport Planning and Coordination Act 1994 (TPCA). The way the object of s8A of the TPCA is to be achieved includes ensuring development supports active transport and active transport infrastructure is provided, as far as practicable, to support active transport.
2	(a) The road/s identified as 'potential future bus route' shown on "Proposed Plan", drawn by Urbis on 15/12/10, drawing number 01 and modified by TMR on 14/2/13 , and any associated traffic management devices along the route, must be designed and	(a) & (b) Prior to submitting the Plan of Survey to the local government for approval	Land Use and Transport Coordination under the Transport Planning and Coordination Act 1994 (TPCA).

No.	Conditions of Development	Condition Timing	Jurisdiction and Reasons
	constructed to allow a bus to service the route marked in pink in accordance with the development standards outlined in the Schedule – Code for IDAS, Part 2 – development Standards of the Transport Planning and Coordination Regulation 2005. AND (b) The applicant must provide RPEQ certification to the Department of Transport and Main Roads that the roads identified as a 'potential future bus route' have been designed and constructed in accordance with part (a) of this condition.		The way the object of s.8A of the TPCA is to be achieved includes ensuring as far as practicable that public passenger transport offers an attractive alternative to private transport. It also seeks to promote urban development that maximises the use of public passenger transport. The identified roads are to be designed and constructed to support and facilitate the use of public passenger transport. The roadway design must not impede the safe and efficient movement of buses on the identified route/s. Comments or additional information: The Transport Planning and Coordination Regulation 2005 is available at: www.legislation.qld.gov.au

Stephen Smaha
Principal Advisor (Development Control)

14 February 2013

Advice for public passenger transport and railways
Mandatory Part (MP) 4.4 of the *Queensland Development Code (QDC)* commenced on 1 September 2010 and applies to building work for the construction or renovation of a residential building in a designated *transport noise corridor*. MP4.4 seeks to ensure that the habitable rooms of Class 1, 2, 3 and 4 buildings located in a *transport noise corridor* are designed and constructed to reduce transport noise. *Transport noise corridor* means land designated under Chapter 8B of the *Building Act 1975* as a *transport noise corridor*. Information about *transport noise corridors* is available at state and local government offices. A free online search tool can be used to find out whether a property is located in a designated *transport noise corridor*. This tool is available at the Department of Local Government and Planning website (http://www.dlgp.qld.gov.au/building/transport-noise-corridor-search-tool.html) and allows searches on a registered lot number and/or property address to determine whether and how the QDC applies to the land.
The Department of Transport and Main Roads' technical standards and publications can be accessed at http://www.tmr.qld.gov.au/Business-industry/Technical-standards-publications.aspx
The *Transport Planning and Coordination Regulation 2005* is available at: www.legislation.qld.gov.au
TransLink's TransLink Public Transport Infrastructure Manual 2007 is available at: http://translink.com.au/about-translink/what-we-do/public-transport-planning/public-transport-infrastructure-manual



SITE AREA ....121.9 HA
Q100 FLOOD LINE
PUBLIC OPEN SPACE AREA ABOVE Q100............31.7 HA
DEVELOPABLE AREA ABOVE Q100 AND CORE CONSERVATION AREA..............................31.7 HA

PUBLIC OPEN SPACE/ CONSERVATION
(Comprising core conservation & buffer conservation)

BUFFER CONSERVATION AREA
AREAS TO BE RETAINED WITHIN PUBLIC OPEN SPACE
CORE CONSERVATION
WITHIN PUBLIC OPEN SPACE

CONSERVATION LOTS/ PRIVATE CONSERVATION AREA
(NON DEVELOPABLE AREA)

BUFFER CONSERVATION AREA
AREAS TO BE RETAINED
EXISTING BUILDINGS TO BE RETAINED
(REFER TO 'SETBACK PLAN' FOR FOR SETBACK DIMENSIONS TO SIDE AND REAR PROPERTY BOUNDARIES)
INDICATIVE BIORETENTION BASIN LOCATIONS
STAGING LINE

DEVELOPMENT STATISTICS

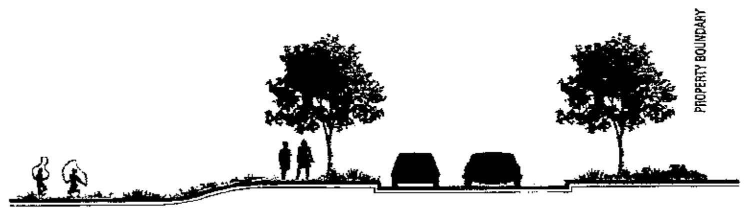
TOTAL NUMBERS OF LOTS 146
C CONSERVATION LOTS (MIN 4000M²) 26
(BUILDING LOCATION ENVELOPE MIN 1000M², 6M FRONT AND 1.5M SIDE SETBACK)
RURAL RESIDENTIAL LOTS (MIN 4000M²) 121
(BUILDING LOCATION ENVELOPE MIN 1000M², 6M FRONT AND 1.5M SIDE SETBACK)
EXISTING RESIDENTIAL PROPERTY..........................1
(LOCATED WITHIN DESIGNATED OPEN SPACE AREA A)

STAGING PLAN (NUMBER OF LOTS PER STAGE)

STAGE 1.......................................23
STAGE 2.......................................20
STAGE 3.......................................20
STAGE 4.......................................24
STAGE 5.......................................21
STAGE 6.......................................23
STAGE 7.......................................14

ACCESS HANDLE OF HATCHET LOTS

LOT NUMBER 57..............................MIN 8.0 M
LOT NUMBER 133............................MIN 6.0 M
LOT NUMBER 140............................MIN 5.0 M



SECTION A-A'
1:100

POTENTIAL BUS ROUTE
Modified by TMR on 14/2/13 [signature]

PROJECT: 63 REDBANK CREEK ROAD
TITLE: Proposal Plan
DATE: 15-12-2010
CLIENT: WALLANGARRA PASTROL COMPANY
LOCATION: ADARE
PROJECT NO: BA2156
DRAWING NO: 01
SCALE: 1:2500 @A1, 1:5000 @A3

urbis

QUEENSLAND UrbanUtilities

Memo

DECISION STAGE COMMENTS

Memo

To: Lockyer Valley Regional Council	
CC: Kate Watson	
From: Daniel O'Brien	Date: 13 January 2014
T: 073432 2070	Pages: 1
Re: Decision Stage comments(section 318 of the Sustainable Planning Act 2009)	

DECISION STAGE COMMENTS

Development: Wallangarra

Address: Redbank Creek Road, Adare

Lot and Plan: Lot 86 CA31134 & Lot 96 SP22526

QUU Reference: 119/80/979/189/13

Upon review of the above Development Application, Queensland Urban Utilities **recommends** that the following conditions be included in Councils' Conditions of Approval:

Water

1. The Applicant shall construct water supply infrastructure works generally in accordance with the water reticulation layout plan as detailed on the marked up drawing by Queensland Urban Utilities - refer Attachment A.

2. The Applicant shall connect the internal water supply infrastructure works required in Condition 1 above to the existing 225mm water main in Redbank Creek Road.

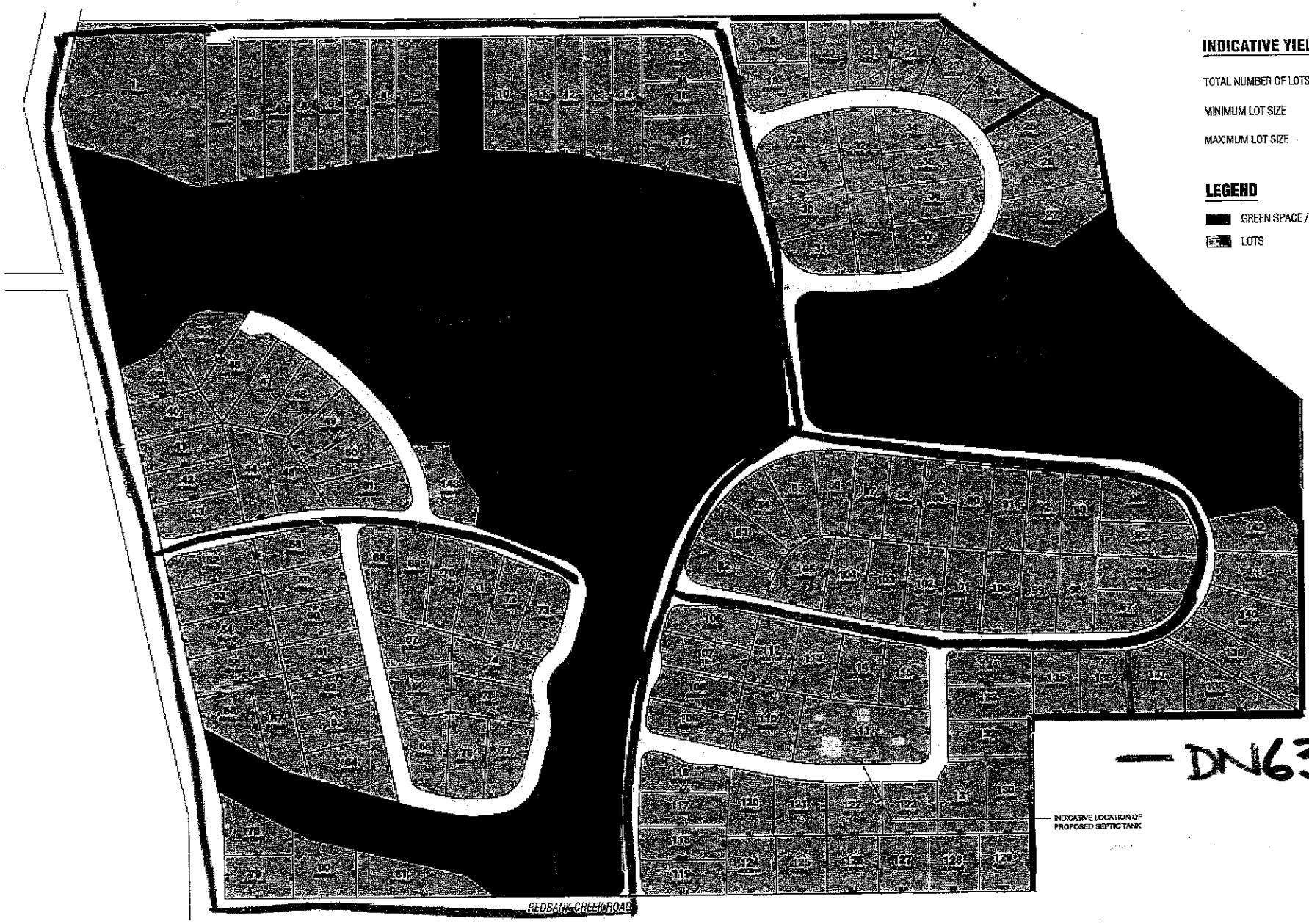
3. The Applicant shall comply with the following requirements where water mains are to be constructed within private property –

   (a) the water main shall be on an alignment 2 metres from a side property boundary; and
   (b) a 4 metre wide water supply easement shall be granted to QUU located centrally over the subject water main.

4. The applicant shall provide sufficient valves in conjunction with the abovementioned water supply works to ensure security of water supply for the proposed development.

5. Water supply infrastructure shall be designed and constructed in accordance with the Queensland Urban Utilities technical standards and guidelines consistent with a trickle-feed supply.

6. All works on live water mains must be carried out by QUU at the applicant's expense.



INDICATIVE YIELD

TOTAL NUMBER OF LOTS	143
MINIMUM LOT SIZE	4,000m²
MAXIMUM LOT SIZE	27,024m²

LEGEND

- GREEN SPACE / CONSERVATION
- LOTS

DN63

urbis
Brisbane
Level 7, 123 Albert Street
Brisbane QLD 4000
t 07 3007 3800
Urbis Pty Ltd ABN 50 105 256 228

WALLANGARRA

SUBDIVISION PLAN

Scale: 1:4,000 @ A3

0 10 50 100 200m

PROJECT NO: BA2156
DATE: 07.02.13
DRAWING NO: PP01
REV: E