



Lockyer Valley Regional Council
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Application ID: RL2022/0017.01
 Enquiries: Scott Hambleton
 Contact: 5462 0618

3 August 2022

T R Rauchle
 C/- BPlanned & Surveyed Pty Ltd
 PO Box 486
 CARINA QLD 4152

Dear Mr Rauchle

Minor Change to an Existing Approval *Planning Act 2016*

I refer to your request on 2 June 2022 to make a minor change to an existing approval issued on 29 April 2022. On 1 August 2022, Council decided your requested changes.

Details of the decision are as follows:

APPLICATION DETAILS

Application No:	RL2022/0017.01
Street Address:	63 Redbank Creek Road, ADARE QLD 4343
Real Property Description:	Lot 95 CA 311434 and Lot 96 SP 225226
Planning Scheme:	<i>Gatton Shire Planning Scheme 2007</i>

DECISION DETAILS

The following type of approval had been issued:

Minor Change to Approval for Reconfiguring a Lot (RL2022/0017 & ROL0573 & RL2020/0002)

In relation to the request to make a change to the existing approval, Council decided to:

- A. Provide an Amended Infrastructure Charges Notice for Stage 1.
- B. Approve a change to conditions 1, 2, 28, 30, 34, 35, 40, 42, 61 and 93.
- C. Amend Approved Plans and Documents.

INFRASTRUCTURE

Where conditions relate to the provision of infrastructure, these are non-trunk infrastructure conditions unless specifically nominated as a “**necessary infrastructure condition**” for the provision of trunk infrastructure as defined under Chapter 4 of the *Planning Act 2016*.



CONSOLIDATED ASSESSMENT MANAGER CONDITIONS**General**

1. The site shall be developed generally in accordance with the approved plans and documents and the plans and drawings included in Schedule 1.
2. The development shall be staged over seven (7) stages generally as outlined on the approved Staging Plan referenced in the Approved Plans and Documents table, the plans and drawings included in Schedule 1, and in accordance with the following:
 - (a) the development may, but need not, proceed in the numerical order of the stages shown on Staging Plan;
 - (b) each of the stages may be developed separately or in conjunction with another stage; and
 - (c) the use of each stage may commence upon the completion of the development works in that stage in accordance with all necessary operational works permits and other approvals.
3. For each stage, all conditions relevant for that stage must be complied with or bonds must be lodged prior to the plan of survey being sealed by Council.
4. The relevant period for the development approval is 6 years from the date the approval takes effect.

Works - General

5. No on-site works shall commence for any stage of the development until approval for operational works for the associated stage has been obtained from Council.
6. Prior to undertaking any construction works or clearing on the site, Operational Works documentation in the form of detailed plans, drawings and calculations must be lodged with Council for review for compliance with the Approval Conditions and Council's general requirements.

Submission of Operational Works documentation will include:

 - Plans showing full construction details, layout dimensions and finished surface levels.
 - All drawings must be checked, approved and signed by a current RPEQ with their registration number.
 - Three full sets of the drawings will be submitted in A3 size.
 - Calculations supporting stormwater management proposals are to be included.
 - A copy of the detailed plans and drawings must be provided to the relevant authorities to ensure practical designs for power and telecommunications facilities are possible.
7. For non-standard designs prepared by a private consultant and submitted as part of an application for operational works, a Design Checking Fee (approval of engineering drawings) based on Council's estimated cost of the works shall be payable. The fee is to be paid prior to design approval being given. Refer to Lockyer Valley Regional Council current Fees and Charges for calculation.

8. Where works associated with this development are to be carried out, the constructing body shall be appointed by the developer as Principal Contractor under the Workplace Health and Safety Act 1995 and all subordinate legislation, and shall comply with all requirements of the same. Completing and returning Form 34 to the Council shall provide evidence of such appointment.
9. Should any works associated with the development be carried out by agencies other than Council, an Inspection Fee based on Council's estimated cost of the works shall be payable calculated in accordance with the Lockyer Valley Regional Council's Fees and Charges current at the date notice of the works is given to Council. The Inspection Fee will be valid for six months after notice of works is given to Council.
10. With regards to the construction of Council Infrastructure:
 - A "Certificate of Design" must be submitted by an RPEQ, certifying that the design is in accordance with all relevant engineering standards, Council's requirements and standards, relevant development conditions of approval, and sound engineering practice with appropriate fees payable.
 - All works must be supervised by an RPEQ competent in civil works.
 - A pre-start meeting will be held with the Contractor, the supervising RPEQ Engineer and Council prior to construction commencing.
 - Council will inspect the works at critical points during the construction with appropriate fees payable.
 - On completion of all work, Council will inspect the work prior to acceptance 'On maintenance' for twelve (12) months with a maintenance security deposit payable.
 - The Developer will be responsible for the repair of any defects during the maintenance period.
11. All works must be undertaken by a nominated Principal Contractor experienced in the construction of Council Infrastructure. Council reserves the right to request evidence of the Principal Contractor's competency. Should it be deemed by the Director Engineering Services that the contractor does not have the necessary competency or has previously constructed substandard works for Council, Council reserves the right to reject the nominated contractor, alternatively, Council may require an extended Maintenance Period.
12. Council Infrastructure must be accepted "On Maintenance" prior to commencement of use. A maintenance bond equal to 10% of the construction cost (minimum of \$1,000.00) must be retained by Council for a minimum period of twelve months, or until such time as the works are accepted "Off Maintenance" by Council.
13. Prior to plan sealing the developer shall provide a letter to Council which evidences compliance or negotiated variation, with each condition of the Reconfiguration of a Lot and Operational Works approvals, e.g. nominates date and receipt number for fees and contribution payments, RPEQ supervision certificates, "as constructed" data and confirms compliance with individual design and construction conditions.
14. On completion of all infrastructure works and prior to Application for Sealing of the Plan, the Developer is to provide Council with 'as constructed' drawings of infrastructure in digital format compatible with AutoCAD DWG/DXF files. The levels and positions of all infrastructure

shall be referenced to GDA 94 (Zone 56) and AHD.

15. On completion of the works a certificate must be submitted to Council by a RPEQ certifying that the works have been constructed in accordance with Council's construction standards and in compliance with the approved plans and specification. It is expected that the RPEQ will undertake the necessary inspections to make this certification.
16. All vegetation cleared on the site will be removed and correctly disposed of or mulched on site and reused for tree planting.
17. Cleared areas on newly created lots and any balance area must be seeded to achieve 80% grass coverage at off-maintenance at each stage.
18. Adequate permanent survey marks shall be installed in accordance with the requirements of the Department of Natural Resources and Mines (DNRM). The developer shall submit a certificate signed by a licensed surveyor, stating that after the completion of all works associated with the development, permanent survey marks are in their correct position, in accordance with the plan of survey.
19. Any costs from repairs due to damage caused to Council assets as a result of proposed works undertaken shall be met by the developer. Where pedestrian and vehicular traffic safety is exposed to hazards created from damage, the damage shall be repaired immediately upon associated works being completed.

Excavation and Filling

20. Earthworks must be carried out in accordance with AS 3798-1996 "Guidelines on Earthworks for commercial and residential developments".
21. All batters resulting from earthworks (cut and fill) associated with the development must:
 - (a) be located within the subject land; and
 - (b) have a maximum slope, including table drain batters, shall be 1V:4H, unless otherwise approved. Such approval will only be considered due to site constraints.
22. Any constructed dams on the subject property that will be located within a residential allotment shall be drained and filled. The fill is to be Level 1 standard "controlled fill" in accordance with AS 3798 - "Guidelines on earthworks for commercial and residential developments".
23. A geotechnical assessment report is to be provided prior to sealing the plans for any stage showing that the filled areas are controlled fill and have a site classification under AS2870 "Residential Slabs and Footings-Construction" that is equal to or less reactive than the existing soil classification on the lot/s.

Sediment and Erosion Control

24. The Developer will with the Operational Works Application, submit engineering drawings for establishing, maintaining and inspecting erosion and sediment management devices. The

drawings shall show staging of works, where practical in order to limit the risk of the whole site being disturbed at the one time. This will include details of progressive revegetation of disturbed areas.

25. The developer shall be responsible for the installation and maintenance of silt management facilities from the time of commencement of construction until the stage has been released off maintenance by Council. All silt management facilities including diversion drains, sediment basins and energy dissipation structures as necessary are to be designed, constructed and maintained in accordance with 'Best Practice Erosion and Sediment Control' published by International Erosion Control Association Australasia.
26. The Developer will inspect all erosion and sediment control management devices after all significant rain events and where necessary these devices will be modified, repaired or improved to prevent any erosion or sediment discharge from the Development in future rain events.
27. The developer is responsible for the removal of any silt/sediment that enters the road reserve during the construction phase of the development.

Ecology

28. Public and private open space is to be developed and managed generally in accordance with approved Covenant Plan referenced in the Approved Plans and Documents table and the plans and drawings included in Schedule 1.
29. The requirements of the Department of Natural Resources and Mines as outlined in their Amended Concurrence Agency response to Council dated 8 January 2014 in relation to this proposal shall be complied with (refer Schedule 2).
30. Before sealing the plan of survey for Stages 1, 2 and 4 the developer will enter into an environmental covenant with the Council pursuant to section 97A of the Land Title Act 1994 to ensure the protection and management of the Significant Habitat Trees located on or affecting privately owned lots within that stage of the development, as identified on the approved Covenant Plan referenced in the Approved Plans and Documents table and the plans and drawings included in Schedule 1.
31. Prior to or concurrently with the initial operational works application for the development, the developer must submit covenant terms for approval by the Council. The covenant terms shall as a minimum detail the responsibilities, liabilities, measures, remedies and intents necessary to protect the Significant Habitat Trees and will prohibit within the covenant area all earthworks, infrastructure, buildings or structures and any land practices that may cause permanent or significant damage to the vegetation in terms of its health or longevity, unless otherwise approved.
32. The covenant areas for the Significant Habitat Trees will be determined at the time of survey to establish Tree Protection Zones in accordance with AS4970- 2009 – Protection of trees on development sites.

33. The environmental covenants must be lodged for registration on the titles of the affected lots at the time the survey plan creating the lots is lodged for registration in the Land Titles Office.

Parkland and Public Open Space Management

34. Parkland is to be progressively dedicated to Council with each stage of the development generally as indicated on the approved Staging Plan referenced in the Approved Plans and Documents table, and the plans and drawings included in Schedule 1.
35. For any stage of the development involving the dedication of parkland, ~~excluding Stage 1A,~~ the developer shall prepare a Public Open Space Management Plan, to be submitted for Council approval prior to or concurrently with the operational works application which:
- (a) details the segmentation and staged handover of open space in accordance with areas of approved allotments and road constructions;
 - (b) is prepared in accordance with relevant Council documentation, guidelines and policies;
 - (c) is prepared in accordance with the conclusions derived from the technical studies carried out for the site;
 - (d) lists components of specific management plans (hydraulic, bushfire, ecological etc.) prepared for the site which relate to the dedication and protection of the public open space areas;
 - (e) defines and sets out parameters for minimum standards for the quality of public open space areas;
 - (f) responds to specific Council Development Codes which influence the protection and use of proposed open space areas;
 - (g) as a minimum, includes details of embellishments, planting and species schedules, materials proposed, car parking design, pedestrian and cycle paths that provide connectivity through the site;
 - (h) provides for the removal of weeds within the public open space network and the progressive rehabilitation of affected areas;
 - (i) provides for the use of locally indigenous trees for plantings in streetscapes or other open spaces affected by the development or requiring active rehabilitation; and
 - (j) will delineate the 1:10 year flood level affecting areas of proposed public open space as confirmed by a registered surveyor.
36. The developer shall comply with the requirements of the approved Public Open Space Management Plan.
37. All edging on public land including road reserves, footpaths, parks etc. shall be constructed of material with suitable longevity properties both in and above ground level. Treated or untreated hardwood or softwood is not to be used.
38. The unconstrained parkland must be above the 1:10 year flood level. The provision of drainage reserve below the 1 in 10 year level will not count as unconstrained parkland. The developer is to show any constrained land clearly within the Public Open Space Management Plan.

Bushfire

39. The estate is to be developed and managed in accordance with the recommendations of the Bushfire Risk Assessment and Mitigation Plan prepared by Bushland Protection Systems Pty Ltd (dated 11.11.13)(refer to Schedule 2).
40. Bushfire trails and asset protection zones are to be established generally as indicated on the approved Covenant Plan referenced in the Approved Plans and Documents table and the plans and drawings included in Schedule 1 and maintained in accordance with the Bushfire Risk Assessment and Mitigation Plan prepared by Bushland Protection Systems Pty Ltd (dated 11.11.13).
41. The developer must provide a fire trail within proposed Lot 1. The fire trail must be developed generally in accordance with the Lot 1 Fire Trail Plan, Yurrah Drawing No. VM.06, Job No.1109044-7 dated 12.07.13. A lockable gate must be installed at the entrance to the fire trail on Adare Road.
42. The developer shall grant an Easement in favour of the State of Queensland represented by the Department of Community Safety on that Department's standard terms and conditions (Land Titles Office Document 712851620) to permit access for emergency vehicles and a safe evacuation route along the bushfire trail within proposed Lot 1, as indicated on the approved Covenant Plan referenced in the Approved Plans and Documents table and the plans and drawings included in Schedule 1.

Water Supply

43. Water reticulation drawings shall be submitted for approval prior to works occurring.
44. Each allotment shall be connected to reticulated water supply infrastructure.
45. Water supply is to be generally in accordance with the report by Gilbert and Sutherland of 6 November 2013 and the requirements of Queensland Urban Utilities outlined in their advice to Council of 13 January 2014, QUU Reference 119/80/979/189/13 (refer to Schedule 3).

Sewerage

46. Each allotment within the development shall contain an area of approximately 450-520m² with less than 10% slope that is capable of dedication as an effluent disposal area to cater for an on-site aerobic waste water treatment system unless otherwise approved.
47. Any accompanying on site effluent disposal system is to be retained wholly within the lot containing the house it services and is to comply with Australian Standard 1547:12 On-site Domestic Wastewater Management.

Stormwater Management and Control

48. All unlined open drains shall be turfed to a level at least 300mm above the 100 ARI flow level as soon as practicable after construction and regular watering shall occur to ensure

required establishment. The proposed schedules of turfing shall be shown on the Works Program. Additional measures to line open drains shall be required if flow velocities exceed the values shown in QUDM Table 9.05.3.

49. The 100 ARI local flood levels and 100 ARI regional flood level (if applicable) shall be determined for the development by an RPEQ with experience in flood modelling. The ground level of all new lots shall be 300mm above both the local and regional flood levels. The local Q100 ARI flood event extents shall be contained within a drainage easement. Council has information on the regional flood levels in parts of Gatton and Laidley. Please liaise with Council's Engineering Assessment Officer to access this information.
50. An RPEQ with experience in flood modelling shall provide a report which details depths of flow, velocities and also provide a flood hazard and risk assessment to assess risk to property and life.
51. The developer must provide all necessary internal and external stormwater drainage infrastructure to service the development. Such drainage works must be designed and constructed in accordance with QUDM and the Gatton Shire Planning Scheme such that the overall drainage system caters for a storm event with an ARI of 100 years.
52. All stormwater drainage structures (surface and underground) and accessories shall be designed and constructed to effectively drain all stormwater falling on and coming to the proposed subdivision to a point of satisfactory legal discharge. The legal point of discharge shall be identified for each drainage path which crosses the development site boundary.
53. All stormwater flows within and adjacent to the developments shall be confined to road reserves, drainage reserves, registered easements or parkland. The registered drainage easements if related to piped drainage shall be centrally located over such underground pipe system and shall not be less than 4m wide. In addition, the easement shall be of suitable width to contain the predicted overland flow from the stormwater event with an ARI of 100 years in that location.
54. No ponding or redirection of stormwater shall occur onto adjoining land.
55. Overland flow paths must be suitably designed to cater for the water from a storm event with an ARI of 100 years. In the case where the piped system is carrying part of the flow, the overland flow paths must be designed to cater for that volume which is represented by the difference between the predicted volume from the storm event with an ARI of 100 years and the capacity of the pipe system, noting the requirements of QUDM.
56. As part of an application for operational works, detailed stormwater management plans will be prepared by a suitably qualified professional generally in accordance with the stormwater management plan prepared by Gilbert and Sutherland titled "Stormwater Management Plan 63 Redbank Creek Road, Adare, Queensland" dated February 2010 including amendments detailed in the letter from Gilbert and Sutherland to Urbis dated 5 October 2012.
57. The developer shall be responsible for obtaining approval and bearing all costs associated with registering in favour of Council all necessary stormwater drainage easements, within

and external to the subject land, in order for drainage path to reach a legal point of discharge.

58. The peak rate of stormwater discharge from the site shall not exceed the peak rate of stormwater discharge for the site prior to development for all rainfall events (i.e. 1 year, 2 years, 5 years, 10 years, 20 years, 50 years and 100 year ARI events). This shall be achieved by appropriate detention facilities and WSUD design features, and shall be generally consistent with the SWMP provided as part of the application.
59. Lots which drain to the street shall have a standard galvanised kerb adaptor installed in the kerb at the lowest corner of the lot.
60. Stormwater drainage piping shall have a minimum diameter of 375mm with the exception of rear inter-allotment drainage
61. The developer shall provide all stormwater drainage associated with the Redbank Creek Road frontage of Stage 1 ~~1A and Stage 1B~~ at the time of construction of Stage 1, including upgrading of existing cross drainage which shall be designed in accordance with QUDM.
62. The developer shall provide all stormwater drainage associated with the Adare Road frontage of Stage 4, including upgrading of existing cross drainage which shall be designed in accordance with QUDM.
63. The developer shall provide all stormwater drainage associated with the Adare Road frontage of Stage 5, including upgrading of existing cross drainage which shall be designed in accordance with QUDM.
64. The developer shall provide all stormwater drainage associated with the Adare Road frontage of Stage 7, including upgrading of existing cross drainage which shall be designed in accordance with QUDM.

Public Utility Services

65. All above and below ground services potentially affected by the proposed subdivision works shall have alignment and level determined prior to any detailed design or construction works being undertaken. Any conflicts associated with proposed and existing services shall be forwarded to the appropriate controlling authority by the developer for decision.
66. In relation to telecommunication supply for the development:
 - (a) the developer will arrange with the service supplier(s) that operate(s) in the local area for the reticulation of external cable within the development;
 - (b) telecommunication conduits (ducts) and pits, including trenching and design, are to be provided to service the development in accordance with the NBN Co Installing Pit and Conduit Infrastructure – Guidelines for Developers. Documentary evidence shall be provided to Council which confirms the NBN Co requirements have been satisfied and the infrastructure has been installed and are fibre-ready;
 - (c) the developer will submit a 'Certificate of Supply' to Council verifying that telecommunications are available to all proposed allotments or that the developer has entered into a suitable agreement with the relevant authority for the provision of

telecommunications to the new lots prior to endorsement of the Survey Plan.

67. In relation to electricity supply for the development:
 - (a) Underground electricity is to be provided to serve all new internal allotments. Overhead power is only acceptable on external roads with an existing overhead supply;
 - (b) The developer will submit a 'Certificate of Supply' to Council verifying that electricity supply is available to all proposed allotments or that the developer has entered into a suitable agreement with the relevant authority for the supply of electricity to the new lots prior to endorsement of the Survey Plan.
68. All underground plant installed by public utility providers shall be in accordance with Council's standard detail for Footpath Allocations for Public Utilities as contained in the Council's Planning Scheme.
69. Adequate provision shall be made in all proposed road reserves, access strips and easements to cater for the public utility services to serve the development.
70. The developer will, where practical, arrange trench sharing with relevant authorities.
71. The developer must provide appropriate road crossing conduits and kerb markers shall be installed to identify the location of cross road services e.g. water, electricity and telecommunications.
72. The developer shall grant such easements for public utility services on the terms and conditions of the relevant public utility provider as are necessary to facilitate the provision of those services to the development.
73. The developer shall provide detailed design drawings for both electricity and telecommunications with the drawings approved by the relevant authority at the time of Operational Works.
74. The telecommunication and electricity layouts must also be shown on the water reticulation layout plan, stormwater layout plan and the sewerage layout plan where applicable, and all the plans are to be certified by the relevant authority.

Road Network Infrastructure - General

75. The requirements of Queensland Transport and Main Roads outlined in their Amended Concurrence Agency Response of 14 February 2013 (Reference TMR 13-005392) in relation to this proposal shall be complied with (refer Schedule 3).
76. All roadworks shall be designed and constructed in accordance with Council's standards outlined in LVRC Road Hierarchy Table unless specifically detailed otherwise in other conditions of this reconfiguration approval.
77. All roadworks shall be designed and constructed with regard to the Department of Main Roads Road Planning and Design Manual, Austroad publications and the Institute of Public Works Engineering Association Queensland Standard Drawings.

78. The design and construction of each road or street must ensure that the speed environment, geometry, sight distances, carriageway widths, lighting, bus stops, vehicle movements, on street parking other physical attributes are consistent with the function and role of the road or street in the transport network.
79. The design and construction of all roadworks is to be in accordance with the nominated design speed in LVRC Road Hierarchy Table and general accordance with Queensland Streets Design Guidelines for "Subdivisional Street Works". Appropriate intersection treatment and geometric design is required to meet this requirement. Such devices shall not restrict service vehicle access.
80. All internal roads within the development shall be sealed to a standard suitable for the designated road type and in accordance with LVRC standards.
81. All street surfacing for new road construction shall consist of an approved asphaltic concrete. Patterned, reinforced concrete, concrete pavers or segmental clay pavers shall only be used in feature areas.
82. The road pavement design details and test results are to be submitted for Council approval. Pavement design shall be undertaken in accordance with Austroads Guide to Pavement Technology Part 2: Pavement Structural Design. The minimum pavement thickness, including 30mm of AC, shall not be less than 300mm. A minimum 30mm AC surfacing is required. The total pavement thickness as determined from the design charts is not to include the thickness of AC surfacing which is deemed to be a wearing surface only unless the AC thickness is greater than 75mm.
83. Where new and old pavements meet, the join shall be of a neat standard with respect to horizontal and vertical alignments. The join shall have no significantly noticeable irregularities in the running surface at or adjacent to the join for the length of the construction. Works may be necessary on the existing pavement for a satisfactory standard to be met.
84. Where kerb and channel is proposed, the developer must establish the location of existing structures and services (including existing kerb and channel and vegetation) and take these into account in the detailed design of the kerb and channel alignment.
85. Where kerb and channel is installed, an 800mm continuous strip of turf with additional filter strips at 5.0m spacing shall be laid behind all new kerb and channel. The remaining unsealed verge area shall be filled, graded and either fully turfed or appropriately grassed seeded to achieve 80% grass coverage at off maintenance.
86. All lots must allow for the provision of vehicular access to the roadway.
87. For any stage of the development involving a battle axe allotment, the developer shall construct a vehicular access driveway from the carriageway to the allotment in accordance with Council's Property Access & Access Crossings: Design, Construction & Maintenance policy prior to the sealing of the plans for that stage. Where possible, the driveway shall join the proposed carriageway at an angle of 90 degrees to provide for suitable vehicular access to and from the allotment. Provision of conduits for underground services being water

supply, electricity, telephone cabling or other such utilities is required as part of the access driveway. Unless the access is constructed in conjunction with Operational Works, a Permit to Undertake Work on a Road Reserve is required.

88. Any terminating roads that may be extended as a part of a later stage must be constructed with a gravel turnaround area with a minimum diameter of 18m, with a two coat bitumen seal. Hazard markers and delineator posts must be erected to define the turn around.
89. All traffic signs and delineation shall be designed in accordance with MUTCD.
90. Street lighting will be designed and installed in accordance with the Australian Standard Code of practice for public lighting, AS1158, with the exception of light spacing. M50 mercury lights, or suitable approved alternatives, will be fitted at each intersection and at any problem areas as determined in consultation with Council. All street lighting will be certified by an RPEQ competent in electrical reticulation design, with the exception of the light spacing.
91. The Developer shall submit to Council a list of preferred street names for any proposed new street for consideration by Council (in accordance with Council's Policy for the naming of new streets). Street names proposed will not be the same or similar to other street names within the Lockyer Valley Regional Council area. Council retains the right to name one street within the Development.
92. The developer shall provide through road priority for the collector street nominated as a potential bus route in the Department of Transport and Main Roads Concurrence Agency Response 14.02.13 (Schedule 3). The developer shall submit an amended development plan to Council for approval prior to submission of the application for operational works such that the geometry of the road way accommodates the manoeuvre path of the bus identified in the Department of Transport and Main Concurrence Agency Response 14.02.13 (Schedule 3) and is contained within road reserve including all altered intersection priorities.

Road Network Infrastructure - Stage 1 Works

93. Existing roads shall be widened and kerbed for the frontage of subject land, as follows:-
 - Road Name Redbank Creek Road
 - Classification- Collector Street
 - Construction Standard- Road shall be widened on the northern side of Redbank Creek Road including kerb and channel for an agreed length to provide half the total road width required by the Lockyer Valley Regional Council Road Hierarchy Table (minimum 3.75m from road centreline to kerb invert). The treatment shall extend along the frontage of the subject land from western boundary of Stage 1 to the eastern boundary of Stage 1.
94. Proposed new roads shall be constructed for the entire frontage of subject land, as follows:-

<ul style="list-style-type: none"> • Lots 108, 109, 116-119 • Lots 109-111, 116, 120-123, 130-132 	<ul style="list-style-type: none"> Treatment Type 1 Treatment Type 2
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- Treatment Type 1 - Construction Standard. The Road Reserve Width is to be 20.0m and Carriageway Width 7.5m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.
- Treatment Type 2 - Construction Standard. The Road Reserve Width is to be 16.0m and Carriageway Width 6.0m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.

Road Network Infrastructure - Stage 2 Works

95. Proposed new roads shall be constructed for the entire frontage of subject land, as follows:-

- Lots 82-85, 106, 107 Treatment Type 1
- Lots 82, 86-88, 101-105, 106, 112-115, 134 Treatment Type 2
- Lots 115, 133, 134 Treatment Type 3
- Treatment Type 1 - Construction Standard. The Road Reserve Width is to be 20.0m and Carriageway Width 7.5m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.
- Treatment Type 2 - Construction Standard. The Road Reserve Width is to be 20.0m and Carriageway Width 6.0m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.
- Treatment Type 3 - Construction Standard. The Road Reserve Width is to be 16.0m and Carriageway Width 6.0m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.

Road Network Infrastructure - Stage 3 Works

96. Proposed new roads shall be constructed for the entire frontage of subject land, as follows:-

- Lots 89-100, 135-142 Treatment Type 1
- Treatment Type 1 - Construction Standard. The Road Reserve Width is to be 20.0m and Carriageway Width 6.0m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.

Road Network Infrastructure - Stage 4 Works

97. Existing roads shall be widened for the frontage of subject land, as follows:-

- Road Name Adare Road
- Classification- Collector Street
- Construction Standard- Road shall be widened on the eastern side of Adare Road to provide half the total road width required by the Lockyer Valley Regional Council Road Hierarchy Table (minimum 3.75m from road centreline to edge of bitumen). The treatment shall extend along the full frontage of the subject land from which point the bitumen edge shall taper at a minimum 1 in 10 to join neatly with the existing bitumen edge. Swales must be constructed in accordance with QUDM design standards between Adare Road and each lot fronting onto Adare Road. Constructed crossovers must also be provided for all lots fronting onto Adare Road.

98. Proposed new roads shall be constructed for the entire frontage of subject land, as follows:-

- Lots 43-45, 51, 52, 58, 68-70, 143 Treatment Type 1
- Lots 39, 46-51, 58, 68, 143 Treatment Type 2
- Treatment Type 1 - Construction Standard. The Road Reserve Width is to be 20.0m and Carriageway Width 6.0m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.
- Treatment Type 2 - Construction Standard. The Road Reserve Width is to be 16.0m and Carriageway Width 6.0m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.

Road Network Infrastructure - Stage 5 Works

99. Existing roads shall be widened for the frontage of subject land, as follows:-

- Road Name Adare Road
- Classification- Collector Street
- Construction Standard- Road shall be widened on the eastern side of Adare Road to provide half the total road width required by the Lockyer Valley Regional Council Road Hierarchy Table (minimum 3.75m from road centreline to edge of bitumen). The treatment shall extend from the intersection of Redbank Creek Road and Adare Road to the northern boundary of stage 5, from which point the bitumen edge shall taper at a minimum 1 in 10 to join neatly with the existing bitumen edge. Swales must be constructed in accordance with QUDM design standards between Adare Road and each lot fronting onto Adare Road. Constructed crossovers must also be provided for all lots fronting onto Adare Road

99(A). Existing roads shall be widened for the frontage of subject land, as follows:-

- Road Name Redbank Creek Road
- Classification- Collector Street
- Construction Standard- - Road shall be widened on the northern side of Redbank Creek Road including kerb and channel for an agreed length to provide half the total road width required by the Lockyer Valley Regional Council Road Hierarchy Table (minimum 3.75m from road centreline to kerb invert). The treatment shall extend from the intersection of Redbank Creek Road and Adare Road to the eastern boundary of Stage 5.

100. Proposed new roads shall be constructed for the entire frontage of subject land, as follows:-

- Lots 71-73 Treatment Type 1
- Lots 59-67, 71-77. Treatment Type 2
- Treatment Type 1 - Construction Standard. The Road Reserve Width is to be 20.0m and Carriageway Width 6.0m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.
- Treatment Type 2 - Construction Standard. The Road Reserve Width is to be 16.0m and Carriageway Width 6.0m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.

Road Network Infrastructure - Stage 6 Works

101. Proposed new roads shall be constructed for the entire frontage of subject land, as follows:-

- Lots 15-17, 18-19, 28-31 Treatment Type 1
- Lots 19-28, 31-37 Treatment Type 2
- Treatment Type 1 - Construction Standard. The Road Reserve Width is to be 20.0m and Carriageway Width 7.5m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.
- Treatment Type 2 - Construction Standard. The Road Reserve Width is to be 16.0m and Carriageway Width 6.0m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.

Road Network Infrastructure - Stage 7 Works

102. Existing roads shall be widened for the frontage of subject land, as follows:-

- Road Name Adare Road
- Classification- Collector Street
- Construction Standard- Road shall be widened on the eastern side of Adare Road to

provide half the total road width required by the Lockyer Valley Regional Council Road Hierarchy Table (minimum 3.75m from road centreline to edge of bitumen). The treatment shall extend from the northern boundary of stage 4 to the northern boundary of stage 7, from which point the bitumen edge shall taper at a minimum 1 in 10 to join neatly with the existing bitumen edge. Swales must be constructed in accordance with QUDM design standards between Adare Road and each lot fronting onto Adare Road. Constructed crossovers must also be provided for all lots fronting onto Adare Road.

103. Proposed new roads shall be constructed for the entire frontage of subject land, as follows:-

- Lots 1-14 Treatment Type 1
- Treatment Type 1 - Construction Standard. The Road Reserve Width is to be 20.0m and Carriageway Width 7.5m. The road must provide for kerb and channel, or as an alternative, a design that provides for a safe and sustainable solution for stormwater management having regard to slopes and soil types. Any alternative solution must be submitted to and approved by Council prior to construction. No footpath is required.

104. The developer shall provide a cul-de-sac adjacent to proposed lot 1 and at the terminating end of the internal collector street. The cul-de-sac shall be circular head type with a minimum diameter of 18.0m. The developer shall submit an amended development plan to Council for approval prior to submission of the application for operational works such that the cul-de-sac is contained within road reserve with a minimum verge width of 5.0m.

Infrastructure Charges

105. The developer is to pay Infrastructure charges for the proposed development in accordance with the LVRC Adopted Infrastructure Charges Resolution. Council will issue Infrastructure Charges Notices for the development. The charges relating to a particular stage of the development are required to be paid prior to plan sealing for that stage and can be obtained from Council at that time. The developer may pay the contributions for any or all of the stages in advance (for example, it may pay all of the infrastructure contributions for the development upfront). The amount payable will be required at the rate applicable at the time of payment.

Schedules

Schedule 1 Approved Plans and Drawings – Refer to Approved Plans and Documents Table.

Schedule 2 Approved Assessments and Reports - Refer to Approved Plans and Documents Table

Schedule 3 Concurrence, Advice and Third Party Responses

- Department of Natural Resources and Mines Amended Concurrence Agency Response dated 8 January 2014.
- Department of Transport and Main Roads Amended Concurrence Agency Response 14.02.13

- Queensland Urban Utilities advice dated 13.01.14.

REFERRAL AGENCY CONDITIONS

The referral agencies applicable to this application are:

Referral Status	Referral Agency and Address	Response
Concurrence	Department of Natural Resources and Mines	The agency provided its response on 8 January 2014. A copy of the response is attached.
Concurrence	Department of Transport and Main Roads	The agency provided its response on 14 February 2013. A copy of the response is attached.

A copy of any referral agency conditions is attached.

APPROVED PLANS/DOCUMENTS

The approved plans and / or documents for this development approval are listed in the following tables:

Approved Plans

Plan No.	Rev.	Plan Name	Date
001762_PSLP	C	Subdivision Layout Plan, prepared by B Planned & Surveyed	8/7/22
001762_INFRASTRUATURE	D	Infrastructure Plan, prepared by B Planned & Surveyed	8/7/22
001762_COVENANT PLAN	D	Covenant Plan, prepared by B Planned & Surveyed	8/7/22
001762_STAGING PLAN	C	Staging Plan, prepared by B Planned & Surveyed	8/7/22
VM.06	-	<i>Lot 1 Fire Trail Plan</i> , prepared by Yurrah	12/07/13
-	-	<i>Amended Bushfire Risk Assessment and Mitigation Plan</i> , prepared by Bushland Protection Systems	11/11/13
-	-	<i>Stormwater Management Plan 63 Redbank Creek Road, Adare, Queensland</i> , prepared by Gilbert and Sutherland and including amendments detailed in the letter from Gilbert and Sutherland to Urbis	05/10/12
-	-	<i>Water Supply Assessment Letter to DibbsBarker</i> , prepared by Gilbert and Sutherland	06/11/13

ADVISORY NOTES

The following Advisory Notes are for information purposes only and do not form conditions of approval:

The following Advisory Notes are for information purposes only and do not form conditions of approval:

Advice provided by the Assessment Manager and Referral Agencies

- (a) All works associated with this approval may not start until all subsequent approvals have been obtained, and the conditions attached to these approvals have been satisfied.
- (b) It is considered essential that any consultants engaged to prepare any subsequent reports, plans or applications, liaise with the relevant Council Officers to ensure they are prepared in accordance with the conditions of approval and all relevant standards.
- (c) Any additions or modifications to the approval may be subject to a further application for development approval. To ensure works or activities are not undertaken outside the scope of this approval please contact Council.
- (d) The entities commissioned to undertake all construction activities shall be aware of and comply with the requirements of all relevant State environmental regulations, including those relating to hours of construction.
- (e) Each further development approval required as a result of this approval must be obtained within the relevant period.
- (f) All proposed structures and works should be positioned clear of any services which traverse the subject land. To determine where existing services are located, please contact Council or the owner of the services.
- (g) In accordance with the *Plant Protection Act 1989* and the Plant Protection Regulation 1990, a quarantine notice has been issued for the State of Queensland to prevent the spread of the Red Imported Fire Ant (ant species *Solenopsis invicta*) and to eradicate it from the State.

It is the legal obligation of the land owner or any consultant or contractor employed by the land owner to report the presence or suspicion of Fire Ants to the Queensland Department of Primary Industries on 13 25 23 within 24 hours of becoming aware of the presence or suspicion, and to advise in writing within seven days to:

Director General
Department of Primary Industries GPO Box 46, Brisbane QLD 4001

It should be noted that the movement of Fire Ants is prohibited, unless under the conditions of an Inspectors Approval. More information can be obtained from the Queensland Department of Primary Industries website: www.dpi.qld.gov.au.

- (h) All persons undertaking works on the land have obligations and responsibilities under the

Aboriginal Cultural Heritage Act, 2003.

- (i) Under section 23 of the *Aboriginal Cultural Heritage Act, 2003* a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage (the "cultural heritage duty of care").
- (j) Applicants are also encouraged to undertake a search of the Aboriginal Cultural heritage Database and the Aboriginal Cultural Heritage Register, administered by the Cultural Heritage Coordination Unit, Department of Environment and Resource Management. Application forms to undertake a free search of the Cultural heritage Register and the Database may be obtained by contacting the Cultural Heritage Coordination Unit on (07) 3239 3647 or on the DERM Website: http://www.derm.qld.gov.au/cultural_heritage/index.html
- (k) Should the operator discover an item of cultural heritage significance or any evidence of heritage place the Cultural Heritage Act 1992 requires that they immediately contact the Department of Environment and Heritage Protection for direction.

Evidence of Portable Long Service Leave having been paid is required for projects over \$80,000 in contract value (Submit yellow copy to Council). This is required prior to the issue by Council of the Operational Works approval.

PROPERTY NOTES

Not Applicable.

VARIATION APPROVAL

Not Applicable.

FURTHER PERMITS REQUIRED

- Operational Works

SUBMISSIONS

Not Applicable.

REASONS / GROUNDS FOR APPROVAL DESPITE CONFLICT WITH SCHEME

Not Applicable.

RIGHTS OF APPEAL

You are entitled to appeal against this decision. A copy of the relevant appeal provisions from the *Planning Act 2016* is attached.

OTHER DETAILS

If you wish to obtain more information about Council's decision, electronic copies are available online at www.lockyer valley.qld.gov.au, or at Council Offices.

If you have any further queries in relation to the above, please contact Scott Hambleton on the above number.

Yours faithfully

Josh Leddy
COORDINATOR DEVELOPMENT ASSESSMENT

DECISION NOTICE HISTORY

ROL0573 - Original Decision Notice (Court Order) – 15 January 2014

ROL2020/0002 - Extension to Currency Period – 15 January 2022

RL2022/0017 - Changes to an Existing Approval – 28 April 2022

Encl: Adopted Infrastructure Charge Notice
 Approved Plans/Documents
 Appeal Rights

Appeal Rights

PLANNING ACT 2016 & THE PLANNING REGULATION 2017

Chapter 6 Dispute resolution

Part 1 Appeal rights

229 Appeals to tribunal or P&E Court

- (1) Schedule 1 of the [Planning Act 2016](#) states –
- (a) Matters that may be appealed to –
 - (i) either a tribunal or the P&E Court; or
 - (ii) only a tribunal; or
 - (iii) only the P&E Court; and
 - (b) The person-
 - (i) who may appeal a matter (**the appellant**); and
 - (ii) who is a respondent in an appeal of the matter; and
 - (iii) who is a co-respondent in an appeal of the matter; and
 - (iv) who may elect to be a co-respondent in an appeal of the matter.

(Refer to Schedule 1 of the Planning Act 2016)

- (2) An appellant may start an appeal within the appeal period.
- (3) The **appeal period** is –
 - (a) for an appeal by a building advisory agency – 10 business days after a decision notice for the decision is given to the agency; or
 - (b) for an appeal against a deemed refusal – at any time after the deemed refusal happens; or
 - (c) for an appeal against a decision of the Minister, under chapter 7, part 4, to register premises or to renew the registration of premises – 20 business days after a notice is published under section 269(3)(a) or (4); or
 - (d) for an appeal against an infrastructure charges notice – 20 business days after the infrastructure charges notice is given to the person; or
 - (e) for an appeal about a deemed approval of a development application for which a decision notice has not been given – 30 business days after the applicant gives the deemed approval notice to the assessment manager; or
 - (f) for any other appeal – 20 business days after a notice of the decision for the matter, including an enforcement notice, is given to the person.

Note –

See the P&E Court Act for the court's power to extend the appeal period.

- (4) Each respondent and co-respondent for an appeal may be heard in the appeal.
- (5) If an appeal is only about a referral agency's response, the assessment manager may apply to the tribunal or P&E Court to withdraw from the appeal.
- (6) To remove any doubt. It is declared that an appeal against an infrastructure charges notice must not be about-
 - (a) the adopted charge itself; or
 - (b) for a decision about an offset or refund-
 - (i) the establishment cost of trunk infrastructure identified in a LGIP; or
 - (ii) the cost of infrastructure decided using the method included in the local government's charges resolution.

230 Notice of appeal

- (1) An appellant starts an appeal by lodging, with the registrar of the tribunal or P&E Court, a notice of appeal that-
 - (a) is in the approved form; and
 - (b) succinctly states the grounds of the appeal.
- (2) The notice of appeal must be accompanied by the required fee.
- (3) The appellant or, for an appeal to a tribunal, the registrar must, within the service period, give a copy of the notice of appeal to –
 - (a) the respondent for the appeal ; and
 - (b) each co-respondent for the appeal; and
 - (c) for an appeal about a development application under schedule 1, table 1, item 1 – each principal submitter for the development application; and
 - (d) for and appeal about a change application under schedule 1, table 1, item 2 – each principal submitter for the change application; and
 - (e) each person who may elect to become a co-respondent for the appeal, other than an eligible submitter who is not a principal submitter in an appeal under paragraph (c) or (d); and
 - (f) for an appeal to the P&E Court – the chief executive; and
 - (g) for an appeal to a tribunal under another Act – any other person who the registrar considers appropriate.
- (4) The *service period* is –
 - (a) if a submitter or advice agency started the appeal in the P&E Court – 2 business days after the appeal has started; or
 - (b) otherwise – 10 business days after the appeal is started.
- (5) A notice of appeal given to a person who may elect to be a co-respondent must state the effect of subsection (6).

- (6) A person elects to be a co-respondent by filing a notice of election, in the approved form, within 10 business days after the notice of appeal is given to the person.

231 Other appeals

- (1) Subject to this chapter, schedule 1 and the P&E Court Act, unless the Supreme Court decides a decision or other matter under this Act is affected by jurisdictional error, the decision or matter is non-appealable.
- (2) The *Judicial Review Act 1991*, part 5 applies to the decision or matter to the extent it is affected by jurisdictional error.
- (3) A person who, but for subsection (1) could have made an application under the *Judicial Review Act 1991* in relation to the decision or matter, may apply under part 4 of that Act for a statement of reasons in relation to the decision or matter.
- (4) In this section –
decision includes-
 - (a) conduct engaged in for the purpose of making a decision; and
 - (b) other conduct that relates to the making of a decision; and
 - (c) the making of a decision or failure to make a decision; and
 - (d) a purported decision ; and
 - (e) a deemed refusal.*non-appealable*, for a decision or matter, means the decision or matter-
 - (a) is final and conclusive; and
 - (b) may not be challenged, appealed against, reviewed, quashed, set aside or called into question in any other way under the *Judicial Review Act 1991* or otherwise, whether by the Supreme Court, another court, a tribunal or another entity; and
 - (c) is not subject to any declaratory, injunctive or other order of the Supreme Court, another court, a tribunal or another entity on any ground.

232 Rules of the P&E Court

- (1) A person who is appealing to the P&E Court must comply with the rules of the court that apply to the appeal.
- (2) However, the P&E Court may hear and decide an appeal even if the person has not complied with the rules of the P&E Court.





Lockyer Valley Regional Council
26 Railway Street, PO Box 82, Gatton Qld 4343
All official correspondence to be addressed to the CEO
Telephone 1300 005 872 | Facsimile (07) 5462 3269
Email mailbox@lvrc.qld.gov.au | www.lockyervalley.qld.gov.au

ICN(RL2022/0017.01)

Lockyer Valley Regional Council
INFRASTRUCTURE CHARGES NOTICE
Planning Act, Section 119.

Date of Issue:	02 August 2022
Application Reference Number:	RL2022/0017.01
Application Type:	Minor Change to Approval for Reconfiguring a Lot (RL2022/0017 & ROL0573 & RL2020/0002)
Applicant:	Terence Roland Rauchle

PROPERTY DETAILS:

Infrastructure charges applicable to:

Property Description:	Lot 95 CA 311434, Lot 96 SP 225226
Situated at:	63 Redbank Creek Road ADARE QLD 4343

LEVIED CHARGE CALCULATION

STAGE 1

Charge Type	Description	Demand Units	Rate	TOTAL
PROPOSED DEMAND				
Charge	New Allotments (23 and 1 balance lot)	24	\$13,297.13	\$319,131.12
TOTAL PROPOSED DEMAND				\$319,131.12
EXISTING DEMAND				
Credit	Existing Lots	2	-\$13,297.13	-\$26,594.26
TOTAL EXISTING DEMAND CREDIT				-\$26,594.26
TOTAL PAYABLE				\$292,536.86

The maximum adopted charge does not apply. An offset or refund does not apply.

Notes:

- Credits held may not be greater than the adopted charge. Any remaining credits held may be used to offset charges relating to any future intensification of the use or, where agreed to by Council, applied to other adjoining development land under the same ownership.
- Existing demand is based on the matters specified in Section 120 of the *Planning Act 2016*.



Details of Payment

Adjusted charge rate (\$)	Infrastructure charge rates are subject to adjustments and/or indexation. The total infrastructure charge amount on this notice is current at the date of issue. The amount payable at the date of payment may be different.
	Indexation of infrastructure charge rates is undertaken in accordance with the <i>Planning Act 2016</i> .
	The amount of the infrastructure charge is to be escalated in accordance with the Consumer Price Index (CPI), All Groups Brisbane from the date of the notice to the payment date
Due date for payment	The total amount stated within the table (or as adjusted) above is to be paid prior to the sealing of the survey plan.
Payment details	Payment of the infrastructure charge must be made to Lockyer Valley Regional Council.


General Information

Authority for Charge	The infrastructure charge in this Infrastructure Charges Notice has been levied in accordance with the Lockyer Valley Regional Council's Adopted Infrastructure Charges Resolution (No. 6) 2022.
Appeals	Pursuant to section 125 of the <i>Planning Act 2016</i> a person may appeal an Infrastructure Charges Notice.
GST	The Federal Government has determined that contributions made by developers to Government for infrastructure and services under the <i>Planning Act 2016</i> are GST exempt.
Enquiries	Enquiries regarding this Infrastructure Charges Notice should be directed to the Lockyer Valley Regional Council's Planning Department on 5462 0340.

Josh Leddy

COORDINATOR DEVELOPMENT ASSESSMENT





LOCKYER VALLEY REGIONAL COUNCIL
APPROVED PLAN
 Subject to conditions of
 RL2022/0017.01
 Date of Decision: 1/8/2022

Coordinator Development Assessment

INDICATIVE YIELD

TOTAL NUMBER OF LOTS	145
MINIMUM LOT SIZE	4,000m ²
MAXIMUM LOT SIZE	27,028m ²

LEGEND

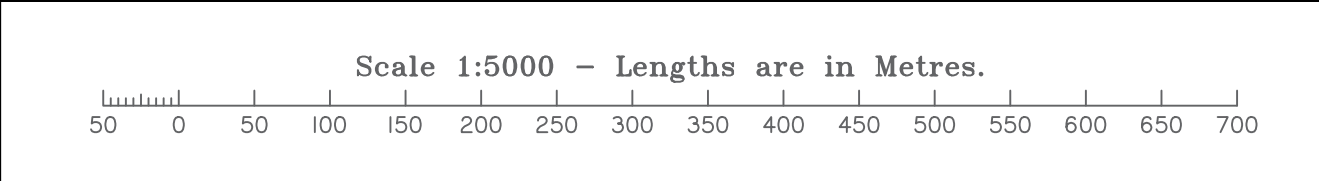
- GREEN SPACE / CONSERVATION
- LOTS
- EMERGENCY VEHICLE ACCESS EASEMENT



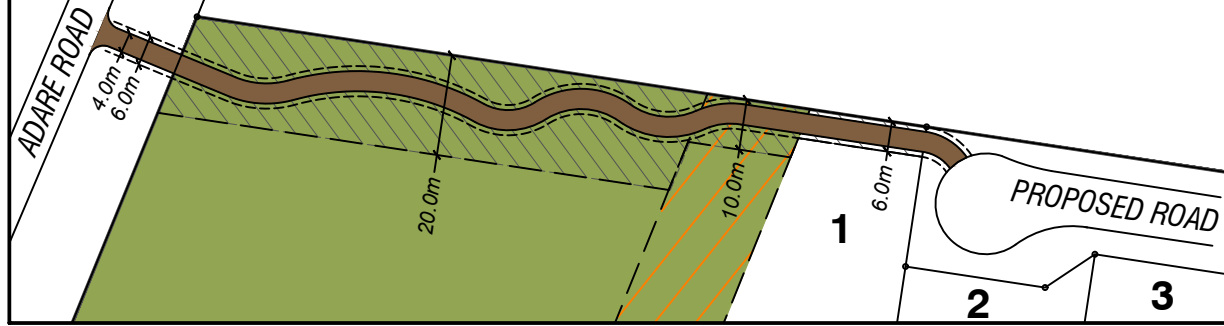
INDICATIVE YIELD

TOTAL NUMBER OF LOTS	145
MINIMUM LOT SIZE	4,000m ²
MAXIMUM LOT SIZE	27,028m ²

- STAGE BOUNDARIES
- GREEN SPACE / CONSERVATION
- LOTS
- EMERGENCY VEHICLE ACCESS EASEMENT



SEE INSET DIAGRAM FOR DETAIL



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 protection of existing ecological values and features






- Conservation Block Covenants to protect areas 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 AS4870-2009 - Protection of trees on development sites determined at the time of survey and recorded as covenant areas on the relevant survey plan. Significant Habitat Tree covenants shall be entered into with Council on terms agreed between the parties prior to the sealing of the plan of survey.
- 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.

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 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 on public land established and maintained in accordance with the Bushfire Risk Assessment and Mitigation Plan prepared by Bushland Protection Systems Pty Ltd.

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)
-  **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)
-  **EMERGENCY VEHICLE ACCESS EASEMENT**





**Bushland Protection
Systems Pty Ltd**
Specialising in
**BUSHFIRE HAZARD
PLANNING & MITIGATION**

ACN 109 667 101 ABN 97 782 336 595 Phone: 07 5546 7933 Fax: 07 5546 7988 PO Box 40, Ormeau, Qld, 4208
E-mail: admin@bpsfire.com.au

**UPDATED
BUSHFIRE HAZARD ASSESSMENT
AND MITIGATION PLAN**

ON

**LOT 95 CA311434 AND LOT 96 SP225226
NO. 63 REDBANK CREEK ROAD,
ADARE**

PREPARED BY

BUSHLAND PROTECTION SYSTEMS

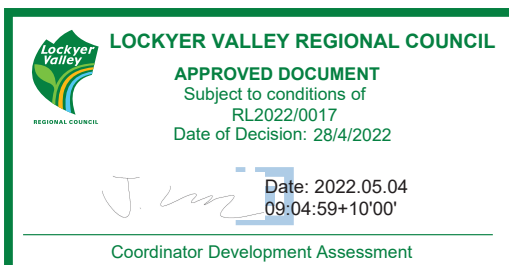
COMMISSIONED BY

URBIS

FOR

WALLANGARRA PASTROL COMPANY

DATE: 11th November, 2013.



1. Background

A Bushfire Mitigation Plan is designed to identify and minimise the potential bushfire risk to a given property and to help property owners to minimise bushfire risk to themselves, their property and their neighbours, it will not completely eliminate that risk. Ultimately it is a community responsibility to protect the environmental values, life and property in their area.

This plan is produced in accordance with the State Planning Policy 1/03, *Mitigating the Adverse Impacts of Flood, Bushfire and Landslide*, under the Queensland Sustainable Planning Act 2009 and the Gatton Shire Planning Scheme – Part 5, Division 3 – Potential Bushfire Risk Code.

This updated plan is produced to incorporate some minor amendments including a change in lot numbers from the Original Bushfire Risk Assessment and Mitigation Plan, produced by Bushland Protection Systems, dated 2/2/2010, and is consistent with the intent of that plan.

The development proposal is for Lots 95 & 96 of the property and does not include lot 101 in the north. This plan is based on the following material supplied by Urbis and the site inspection carried out, with the property owner, on 6th January, 2010.

- 1.1. A copy of the Covenant Plan, showing lot layout, and bushfire mitigation infrastructure, produced by Urbis, drawing no. PP05, Revision D, dated 11/11/13, is included as Appendix 1.

2. Site Description

At the time of inspection the property was heavily grazed by cattle, consisting of pasture grasses with scattered mature eucalypts and re-growth eucalypts. There were also some areas of lantana growth. The topography is generally level with slopes ranging up to 5%. There is no evidence of past fire history on the property.

For the development site itself in its current condition, the severity of bushfire hazard as calculated in accordance with appendix 3 of the State Planning Policy 1/03 (SPP1/03) would assign a vegetation score of 5 (open woodland), a slope score of 1 (plain >0%-5%) and an aspect score of 0 (all land under 5% slope), equating to a severity of bushfire hazard score of 6 medium (see table 1). With development, parts of the site would reduce to a low rating with the only hazard being from retained bushland corridors and external exposures.

Existing Lot 101 to the north of the proposed development, in its current condition also has a Potential Bushfire Hazard (PBH) rating of 7 medium. However if the property were to become neglected and over grown, the vegetation score could rise to 8 (eucalypt forest) and the overall hazard score rise to 9 medium PBH. A 20 metre road separation is proposed for lots 2-15 and a minimum 20 metre separation by fire trail and setbacks are proposed for lots 1, 18 and 20-25. Any buildings constructed within 50 metres of the medium hazard on Lot 101, will have a medium PBH rating, in accordance with the inclusions zones as outlined in section A3.24 and table A3.5 of the SPP 1/03 Guideline.

Properties to the east and northeast that are being used as part of a nursery or for orchards, in accordance with appendix 3 of the State Planning Policy 1/03 (SPP1/03), would be assigned a vegetation score of 2 (orchards), and therefore would be given a PBH rating of 0 low, in accordance with table A3.1 and section A3.14 of the SPP 1/03 and the SPP 1/03 guideline - errata. These neighbouring allotments would not provide a bushfire risk in their current condition.

The lots adjoining the southeast corner of the proposed development, consist of eucalypt forest. The severity of bushfire hazard as calculated in accordance with appendix 3 of the State Planning Policy 1/03 (SPP1/03) would assign a vegetation score of 8 (eucalypt forest), a slope score of 1 (plain 0-5%) and an aspect score of 0 (land under 5% slope), equating to a severity of bushfire hazard score of 9 medium (see table 1). A minimum 20 metre separation by fire trail and setbacks are proposed for lots 129, 130 and 132-142. Any buildings constructed within 50 metres of the medium hazard on the adjoining lots, will have a medium PBH rating, in accordance with the inclusions zones as outlined in section A3.24 and table A3.5 of the SPP 1/03 Guideline.

To the south of the site is road frontage to Redbank Creek Road. On the opposite side of the roadway are established well maintained rural residential allotments with the exception of a small managed portion of Council parkland. There is no bushfire hazard from the south.

To the west is road frontage with Adare Road. On the opposite side of Adare Road are a number of rural properties. There is a grazing property to the northwest which consists of open grazed grassland. The open maintained grassland areas, in accordance with appendix 3 of the State Planning Policy 1/03 (SPP1/03), would be assigned a vegetation score of 2 (grazed/slashed grass), and therefore would be given a PBH rating of 0 low, in accordance with table A3.1 and section A3.14 of the SPP 1/03 and the SPP 1/03 guideline - errata. This allotment would not pose a significant bushfire risk in its current condition. The properties to the southwest of the proposed development consist of eucalypt forest and would have a PBH rating of 9 medium. These lots are a bushfire hazard, however road separation is already in place with the presence of Adare Road. Any buildings constructed within 50 metres of the medium hazard on the opposite side of Adare Road, will have a medium PBH rating, in accordance with the inclusions zones as outlined in section A3.24 and table A3.5 of the SPP 1/03 Guideline.

As shown in appendix 1, parkland has been proposed to create core conservation and buffer conservation areas. These park areas will provide a bushland exposure to neighbouring proposed lots. The severity of bushfire hazard as calculated in accordance with appendix 3 of the State Planning Policy 1/03 (SPP1/03) would assign a vegetation score of 8 (eucalypt forest), a slope score of 1 (plain 0-5%) and an aspect score of 0 (land under 5% slope), equating to a severity of bushfire hazard score of 9 medium (see table 1). A minimum of 20 metres separation from these areas is proposed by either roadway or fire trail and setbacks. Any buildings constructed within 50 metres of the medium hazard in the parkland areas, will have a medium PBH rating, in accordance with the inclusions zones as outlined in section A3.24 and table A3.5 of the SPP 1/03 Guideline.

Conservation lots are proposed (see appendix 1) within the estate that contribute to the buffer conservation areas. These lots allow for a minimum of 20 metres separation by radiation zone between the proposed building envelopes and the retained bushland and a 6 metre wide fire trail along the rear boundary. Due to the retained bushland within the allotments, the lots will have a medium PBH rating.

A summary of PBH ratings for each lot is shown in appendix 5 of this report.

Table 1

TOTAL HAZARD SCORE	SEVERITY OF BUSHFIRE HAZARD
13 or greater	High
6 to 12.5	Medium
1 to 5.5	Low

3. Roads, Fire Trails & Driveways.

3.1. Roads

The proposed road network allows for two entry/exit points, one to Redbank Creek Road and one to Adare Road. With the many maintained properties along Redbank Creek Road it is considered unlikely the access/egress would be denied during a local bushfire event. Part of Adare Road consists of bushland and could be restricted for brief periods of time, however the likelihood of access/egress being denied is limited.

3.2. Fire Trails

A fire trail is proposed along the rear of lots 129, 130, 132, 133 and 135-142. This trail is to be outside the lots with connection to Redbank Creek Road and to the proposed roadway at lot 142. A connection trail is to be located between lots 136 & 137 for access back to the proposed roadway.

A fire trail is proposed along the rear boundaries of lots 18 and 20-27. This trail is to be outside the lots with connection to the proposed roadway at lot 18 and lot 27. A connection trail is to be located between lots 24 & 25 for access back to the proposed roadway.

A fire trail is proposed along the rear of lots 78 and 80-81. This trail is to be outside the lots with connection to the Redbank Creek Road and Adare Road.

A fire trail is proposed along the northern boundaries lots 38 & 39. This trail is to be outside the lots with connection to the Adare Road and the proposed roadway at lot 39.

A fire trail is proposed along the southern boundaries of lots 1-14 and 17. This trail is to be outside the lots with connection to the proposed roadway at lot 17 and to Adare Road. A connection trail is to be located between lots 9 & 10 for access back to the proposed roadway.

A fire trail/Emergency Egress is to be provided from the cul-de-sac at Lot 1, through Lot 1, to Adare Road as shown in Appendix 1. This trail is only to be used under the direction of Emergency Services.

The fire trails are to be 6 metres in width with 4 metres formed. All fire trails would be low impact preferably with a mowed or slashed surface which would minimise disturbance or erosion, appendix 4B on fire trails is included in this report as a guide on establishing and maintaining fire access trails. Maintenance of fire trails outside allotments will be the responsibility of Council, once off maintenance.

The fire trail network assists in providing separation for lots without road separation and also provides access to parkland areas for vegetation management and fire suppression and mitigation activities. Fire trails are to be provided with gated access with Council Locks and keys provided to the local Fire Brigade.

3.3. Driveways

The majority of driveways will be relatively short and direct, with most houses located close to roadways. Driveways to dwellings are to be designed and constructed to ensure access by large two wheel drive tankers of approximately 20 tons with a minimum 4 metres vertical clearance. Appendix 4A is included in this report to assist owners in their efforts to ensure quick and timely access to their properties in an emergency.

4. House Site Location.

Where proposed allotments adjoin bushland (i.e. northern and eastern boundaries and retained internal parkland), building envelopes are to be established on each lot that will provide for appropriate setbacks from boundaries to allow the implementation of radiation zones of a 20 metre minimum between housing and the bushland areas. These radiation zone requirements are outlined in section 6 of this report. Fire trails and roadways can be included when measuring radiation zones, e.g. 6 metre wide fire trail plus 14 metre setback equals 20 metres separation.

Dwellings on conservation lots are to have a minimum separation of 20 metres from the conservation bushland areas.

Dwellings should be located as close to roadways as practical, to provide short direct access.

5. Building Construction.

The bushfire provisions of the Building Code of Australia (BCA) are applied to Class 1, 2 & 3 buildings in designated bushfire prone areas. Bushfire Prone Areas are designated by the local government through their planning scheme.

The Gatton Shire Planning Scheme V.2, June 2007, Division 4, section 5.14 provides the following definition: “*A Potential Bushfire Risk Area is defined as High and Medium Risk Areas defined on the applicable Overlay.*”

Appendix 5 of this report summarises which allotments have a low or medium PBH rating and if assessment under AS3959-2009 is required.

Under the Gatton Shire Planning Scheme V.2, June 2007, Division 4, section 5.14, a site with a low PBH rating does not require assessment under the Building Code of Australia or under the Australian Standard (AS3959) for *Construction of Buildings in Bushfire Prone Areas* and therefore no specific level of construction would be required in relation to bushfire for the proposed allotments with a low PBH rating.

For the proposed lots with a medium PBH rating, the Gatton Shire Planning Scheme V.2, June 2007, Division 4, section 5.14 requires the Building Code of Australia (BCA) and where relevant the Australian Standard for Construction of Buildings in Bushfire-Prone Areas (AS3959) to be addressed

P2.3.4 of the BCA requires:- “A Class 1 building or a Class 10a building or deck associated with a Class 1 building that is constructed in a designated bushfire prone area must be designed and constructed to reduce the risk of ignition from a bushfire while the fire front passes.”

Section 3.7.4.0 of the BCA states:- “Performance requirement P2.3.4 is satisfied for a Class 1 building or a Class 10a building or deck associated with a Class 1 building, located in a designated bushfire prone area if it is constructed in accordance with AS 3959”.

In accordance with AS3959-2009 – Table 2.4.5 ‘*Determination of Bushfire Attack Level (BAL)-FDI 40 (1090K)*’, the vegetation class is woodland and slope is 0-5 degrees. The distance between the building and unmanaged bushland will determine the standard of construction required for medium PBH allotments. With the implementation of radiation zones and the presence of road separation all proposed dwelling should have a minimum 20 metre separation already provided.

- If the distance between the unmanaged bushland and the building is between 16 - 23 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-19. A BAL-19 level requires section 3 and 6 of AS3959-2009 to be applied.
- If the distance between the unmanaged bushland and the building is between 23 - 50 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-12.5. A BAL-12.5 level requires section 3 and 5 of AS3959-2009 to be applied.
- If the distance between the unmanaged bushland and the building is greater than 50 metres, then the building would have a low PBH rating and assessment under AS3959-2009 would not be required. (Section A3.24 and table A3.5 of the SPP 1/03 Guideline).

Section 3.5 of AS3959-2009 states “*The construction requirements for the next lower BAL than that determined for the site may be applied to an elevation of the building where the elevation is not exposed to the source of bushfire attack.*” Therefore elevations of buildings facing away from the bushland, sheltered by the rest of the building, can be discounted one BAL level, (e.g. The rural residential lots 134-136 would have the east elevation discounted). The BAL for sheltered elevations can not be discounted to less than BAL-12.5.

These levels of construction are reliant on the recommendations of this report being implemented and maintained.

6. Clearing and Landscaping.

As a minimum all dwellings should be provided with a 10 metre inner radiation zone around the building as outlined in appendix 2 of this report, with a further 10 metre outer radiation zone where ground fuel is managed and mid storey fuel is thinned. Radiation zones can overlap with neighbouring radiation zones where housing is located close enough to provide each other protection. Fire trails and roadways can form part of a radiation zones.

Quality trees and habitat trees can be retained or planted within these buffer zones provided they do not provide a continuous canopy cover or pose a threat to persons or property.

Non-endemic grass and weed growth should be managed over the entire allotment, including conservation lots, to ensure low ground fuel levels.

Driveways are to be maintained with low ground fuel to minimise the potential for localised bushfire hindering access or egress. Low branches along driveways should be removed to a height of 2 metres to assist in preventing fire from climbing into treetops. Branches overhanging driveways should be removed to a minimum height of 4 metres to ensure access by medium and heavy fire vehicles. Appendix 4A on long driveways will assist owners with the maintenance of their driveways to prevent delays in attending to an emergency by fire services.

All timber, foliage and rubbish previously cleared or accumulated as a result of the implementation of this report would need to be removed from the site or mulched and not simply moved to one side as this would result in a concentrated area of fuel loading which would increase the PBH from that direction.

Owners of land with covenanted areas are to maintain the covenanted area by the removal of non-endemic grass and weed species within the covenanted area to reduce the risk of bushfire damage to their properties or the local ecosystems.

Added protection from bushfire can be achieved by establishing green fire breaks which include green lawns, trees arranged to create a shield to catch sparks or fire brands or the expanding of rainforest species. Trees and shrubs not subject to drought stress will cope better during bushfires. The higher the moisture content in the plant the slower it burns. Therefore by keeping the surrounding area green and low in dry ground fuel, the intensity of an approaching fire will be reduced and the risk of spot fires minimised. Waste water may possibly be utilised to achieve this outcome.

Parkland areas should be managed by the removal of non-endemic grass and weed species within the parkland to reduce the risk of bushfire damage to properties or the local ecosystems.

If the development is to take place in stages, care should be exercised to ensure the developed stages are not threatened by bushfire from the undeveloped stages, by providing a minimum 20 metre managed vegetation buffer.

7. Water Supplies.

The proposed development is to be serviced by reticulated water supplies. However the reticulated water supply will be a trickle feed system providing a minimum 10 metre pressure and 8 litres per minute, with onsite tank storage. This does not meet the minimum requirement for fire fighting water supply.

Therefore it is recommended that a permanent reserve of 5000 litres per dwelling be retained at each dwelling at all times to provide a water supply in the event of a structural or bushfire. This can be achieved by either drawing day to day water from a higher point in the tank or a dedicated tank for fire fighting purposes with fittings suitable for connection to fire appliances. The standard fitting is a 50mm male camlock fitting and should be located at a point remote from structures to ensure accessibility in the event of a structural fire and within 4 metres of a hardstand area or the driveway turnaround. With the trickle feed top up system, this should be ample water supply for fire fighting purposes and meets the requirements of Acceptable Solution 1.3 of the State Planning Policy 1/03 Guidelines.

This remote water access point may take the form of a galvanised pipe suitably supported to provide a stand pipe with the appropriate 50mm male camlock fitting and stop cock attached. This stand pipe should be fed water from the storage system via piping that is buried or suitably protected against flame or radiant heat damage and be clearly visible or appropriately signed to make it readily identifiable to attending fire suppression agencies. Water tanks with a direct exposure to bushland should be constructed of a non-combustible material.

In areas where domestic water pressure is supplied by electrically powered pressure systems consideration should be given to the loss of water pressure or supply due to a failure in the electrical power supply.

8. Provision of Fire Fighting Infrastructure.

Where a house may have a direct exposure to an approaching bushfire it should have external hose cocks and hoses that are positioned so water supply is capable of reaching to all parts of the building. All water lines are to be covered by at least 300mm of soil. Residents should maintain good access around their homes for fire suppression activities by fire authorities.

The possible acquisition of a motor driven fire fighting pump (or generator to power the electrical pump) with a suitable length hose, nozzle and connections would ensure water supply in the event of an electrical power failure.

9. Local Fire Brigades.

The subject property is currently in the Gatton Springdale Rural Fire Brigade district and they would be responded on a 000 emergency call. Urban fire appliances would be responded in the event of a structural fire or specialised structural protection being required.

10. Improved Community Awareness.

Minimising ground fuel and regrowth is the easiest way of reducing bushfire hazard on rural lots. Owners can assist in the mitigation of these bushfires by the removal of ground fuels prior to the bushfire season.

It would be recommended that a copy of the fire management plan be placed on display at any sales office, and a copy of the plan including appendix 3 be given to the purchasers of lots to provide them with the necessary information required for the management of their property and the building application process.

A copy of the plan should be retained by residents and passed on to future residents including Appendix 3 on “being prepared” to assist them in minimising the risk of bushfire damage. It is recommended that regular liaison with the local fire brigade takes place as a way of being informed of danger periods.

The Bushland open space is a very sensitive ecosystem and could be altered drastically if not cared for properly. Residents can assist in maintaining this fragile ecosystem by preventing unwanted fires from encroaching into the parkland, ensure that dumping of rubbish does not degrade the area and that exotic plant species do not invade the bushland. Hot fires on a regular basis will degrade the bushlands biodiversity.

It would be recommended that residents prepare a ‘Bushfire Survival Plan’, which is available from the Queensland Rural Fire Service website at www.ruralfire.qld.gov.au. The ‘Bushfire Survival Plan’ document provides information on Bushfire Danger Ratings, Community Warning Information, how to prepare your property, what to do in the event of a bushfire and what to expect. The Bushfire Survival Plan should be updated annually. Further information is also available through the Prepare•Act•Survive brochure also available on the Rural Fire Service website. For further information contact your local Fire Brigade for assistance or phone 1300 369 003.

11. Summary of Recommendations.

- The fire trails are to be 6 metres in width with 4 metres formed. All fire trails would be low impact preferably with a mowed or slashed surface which would minimise disturbance or erosion.
- Driveways to dwellings are to be designed and constructed to ensure access by large two wheel drive tankers of approximately 20 tons with a minimum 4 metres vertical clearance.
- Where proposed allotments adjoin bushland (i.e. northern and eastern boundaries and retained internal parkland), building envelopes are to be established on each lot that will provide for appropriate setbacks from boundaries to allow the implementation of radiation zones of a 20 metre minimum between housing and the bushland areas.
- Dwellings on conservation lots are to have a minimum separation of 20 metres from the conservation bushland areas.

- Dwellings should be located as close to roadways as practical, to provide short direct access.
- Appendix 5 of this report summarises which allotments have a low or medium PBH rating and if assessment under AS3959-2009 is required.
- As a minimum all dwellings should be provided with a 10 metre inner radiation zone around the building as outlined in appendix 2 of this report, with a further 10 metre outer radiation zone where ground fuel is managed and mid storey fuel is thinned.
- Non-endemic grass and weed growth should be managed over the entire allotment, including conservation lots, to ensure low ground fuel levels.
- Driveways are to be maintained with low ground, low branches along driveways should be removed to a height of 2 metres and branches overhanging driveways should be removed to a minimum height of 4 metres.
- All timber, foliage and rubbish previously cleared or accumulated as a result of the implementation of this report would need to be removed from the site or mulched.
- Owners of land with covenanted areas are to maintain the covenanted area by the removal of non-endemic grass and weed species within the covenanted area.
- Added protection from bushfire can be achieved by establishing green fire breaks which include green lawns, trees arranged to create a shield to catch sparks or fire brands or the expanding of rainforest species. Trees and shrubs not subject to drought stress will cope better during bushfires. The higher the moisture content in the plant the slower it burns. Therefore by keeping the surrounding area green and low in dry ground fuel, the intensity of an approaching fire will be reduced and the risk of spot fires minimised. Waste water may possibly be utilised to achieve this outcome.
- Parkland areas should be managed by the removal of non-endemic grass and weed species within the parkland.
- If the development is to take place in stages, care should be exercised to ensure the developed stages are not threatened by bushfire from the undeveloped stages, by providing a minimum 20 metre managed vegetation buffer.
- The area of the proposed development is to be serviced by reticulated water supplies with the inclusion of fire hydrants for fire fighting purposes. These services are to comply with the relevant standards as required by the local authorities.
- Where a house may have a direct exposure to an approaching bushfire it should have external hose cocks and hoses that are positioned so water supply is capable of reaching to all parts of the building. All water lines are to be covered by at least 300mm of soil. Residents should maintain good access around their homes for fire suppression activities by fire authorities.

- It would be recommended that a copy of the fire management plan be placed on display at any sales office, and a copy of the plan including appendix 3 be given to the purchasers of lots to provide them with the necessary information required for the management of their property and the building application process.
- A copy of the plan should be retained by residents and passed on to future residents including appendix 3 on “being prepared” to assist them in minimising the risk of bushfire damage. It is recommended that regular liaison with the local fire brigade takes place as a way of being informed of danger periods.

12. Conclusion.

With the appropriate radiation zones as outlined in appendix 2 and section 6, adequate water supply, good access provisions and minimising of ground fuels, the risk of bushfire damage can be managed and improve the safety of residents and fire services in attending to a bushfire threat.

This bushfire Risk Assessment and Mitigation Plan complies fully with the intent and objectives of the SPP 1/03 Guidelines

An individual lot assessment and building constraints required is included as Appendix 5 in this report for use in building application assessment.

This plan should remain current for a period of 5 years, until 2018, at which time it should be subject to review to take account of changing land use and vegetation patterns. Any major bush fire event affecting the subject site should also trigger a review in order to determine effectiveness of protection measures and annual hazard reduction initiatives.

Ultimately, persons living in a bushfire prone area must take the precautions necessary to protect themselves, their families and their homes if Brigades are stretched and are unable to attend immediately.

If you require any further assistance please do not hesitate to contact this office.



C. L. Bain
Principal Consultant.

LEGEND

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

PRIVATE LAND

COVERMANT 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. Meas 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 meas and bounds of which shall be based on Tree Protection Zones (TPZ) 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.

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 in the Department's standard terms and conditions.

Existing buildings to be retained on site

PUBLIC LAND

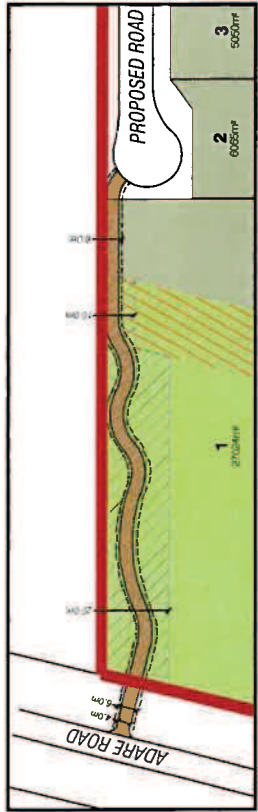
Public open space areas will be dedicated progressively to Council in stages and will be subject to an Open Space Management Plan prepared at the operational works stage. The Open Space Management Plan will provide an overarching management tool for Council to follow when managing the public open space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



SEE INSET DIAGRAM FOR DETAIL

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DATE: 11/11/13
DRAWING NO: PPO5
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Scale 1:5,000 @ A3
0 50 100 250m

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APPENDIX 2

Fire Radiation Zones

Appendix 2 on Radiation Zones is included in this report as a guide for owners on how to implement and maintain radiation zones, however the dimensions required for these zones are those stipulated in the report, not the generalised examples stated in this appendix.

Buildings located in medium and high Potential Bushfire Hazard Areas would require the establishment of an inner and outer fire radiation zones around the buildings.

Radiation Zones is the terminology that has been applied to the recommended area separating a building from an area of identified potential bushfire hazard.

A building's Radiation Zone is generally separated into two sections 'Inner Fire Radiation Zone' & 'Outer Fire Radiation Zone'.

The management of fuel levels within these zones is designed to reduce the intensity of wild fires before they impact on assets such as buildings and property. The correct and continued maintenance of fuel levels within a buildings radiation zones may result (depending on factors such as terrain, fuel types and climatic conditions) in reduced flame height, a slowing of the rate of spread of the fire and a reduced risk of direct or radiant heat attack on building and other property assets.

The accepted methods of fuel level reduction within a property's radiation zones are;

- hand or mechanical removal of fuel and litter,
- slashing and mulching of under-growth,
- selective clearing of the tree understorey and saplings,
- strategic removal of selected hazardous trees.

The dimensions of a property's Radiation Zones are the result of the property's aspect (compass direction), and the slope of the surrounding terrain keeping the building as a central point.

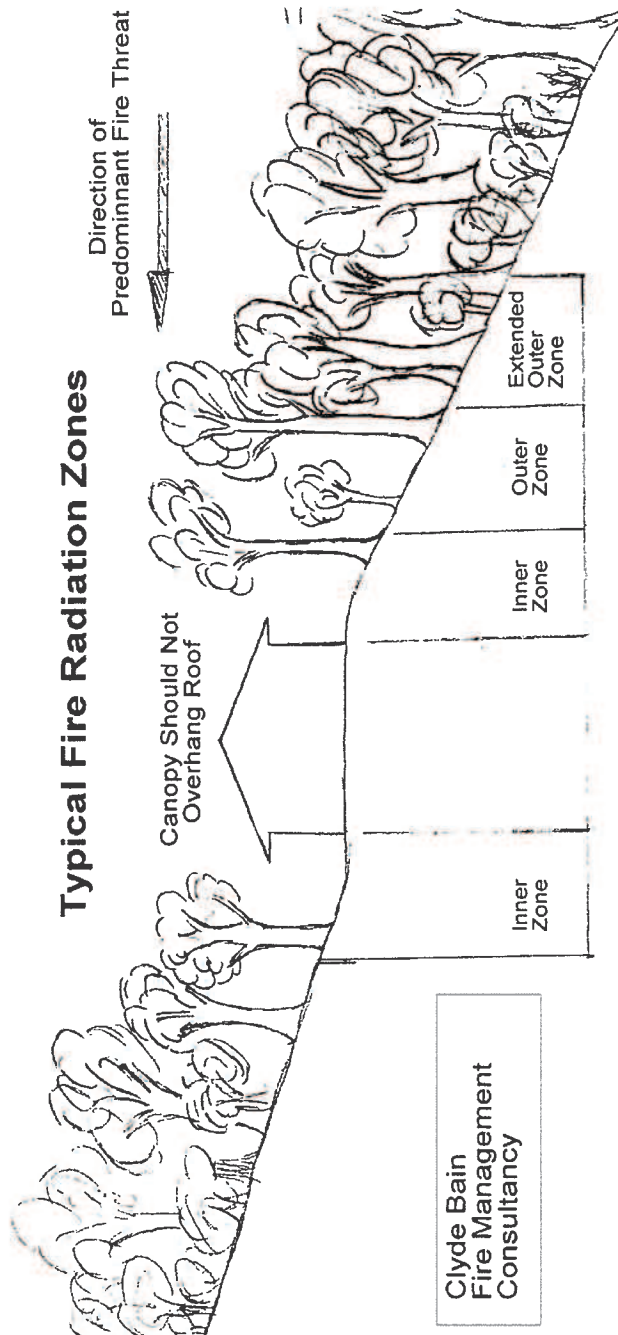
A general rule of thumb is a 10metre wide Inner Radiation Zone, where ground fuel levels are kept low so as not to be able to support a ground fire. Mature quality trees may be retained within the inner radiation zone provided they do not form continuous canopy coverage. Low branches should be removed to a height of 2 metres above ground level and hanging bark and accumulated debris should be removed prior to fire season. Dead or hazardous trees that may pose a threat to life and property or could trap and accumulate air- bourn embers should be removed.

The establishment of lawns and the use of fire retardant species in landscaping are recommended within inner radiation zones.

Outer Radiation Zones should be a further 10metres in width where low ground fuel is maintained and mid-storey saplings are thinned-out. A property's outer radiation zone should be increased an extra metre of width for every degree of down-slope of the property.

The area recommended for a buildings radiation zones may vary with regard to the direction of the perceived potential bushfire hazard.

For example : A building may require a 10metre inner radiation zone completely around the structure however the outer radiation zone may only be required in a semi-circular direction with respect to the potential bushfire hazard from that direction. This outer radiation zone may also be extended in width taking into consideration the slope of the subject property.



APPENDIX 3

Being Prepared

Knowing how to prepare your property for bush fire, both pre-fire and during a fire, can assist in protecting people and property. It can also alleviate a lot of the stress and panic and the feeling of helplessness that is commonly felt by the inexperienced and by the ill prepared.

It is generally accepted that South East Queensland does not experience the same degree of extreme fire conditions as the southern states of New South Wales, Victoria and South Australia. Having said this it is also accepted that this States bushland experiences a relatively regular fire regime. From time to time conditions may occur that will institute a serious and potentially destructive fire. These conditions can be recognised and precautions taken. It must be remembered that during extreme fire conditions the fire services may be stretched to the limit and may not be able to respond immediately to your particular emergency. So it would be desirable to be as prepared and self-reliant as possible to protect yourself, your family and your assets. It is not difficult, and the following information is provided to be of some assistance.

1. Conditions of Serious Fire:

- 1.1. Higher than average air temperatures for prolonged periods.
- 1.2. Large and very dry fuel loads.
- 1.3. Prolonged dry spell with little or no rain resulting in low soil moisture content.
- 1.4. Very low relative humidity, ie. there is very little moisture in the air.
- 1.5. Strong and gusty winds, usually from the north through to the west contribute to increased fire hazard. The longer these winds continue the drier the conditions become, and the higher the risk of serious fire.

Observation of local weather conditions past and present will give the best indication of the potential intensity of a fire at any given time or place.

2. Fire Intensities.

Having some idea of what a fire is likely to do in your local area, will help you make the right decisions and give you the confidence to deal with an approaching fire if necessary. Following are some basic fire behaviours.

- 2.1. Fire will travel faster and hotter uphill. The steeper the slope the faster the rate of spread, allowing little time to react.
- 2.2. Fire will travel relatively slow down hill even with reasonably high fuel loads, which will give more time to prepare.

2.3. A fire will generally travel faster and at higher intensities with a wind behind it. Again the stronger the wind faster the rate of spread. While a fire will slow considerably when burning against the wind in some cases may even go out.

2.4. The fire will usually burn at a higher intensity and spread faster during the hottest times of the day and tend to slow down considerably as the evening approaches and air temperatures drop.

2.5. The greater the supply of dry ground fuel available to the fire, ie. grass, dry leaf litter, hanging bark and twigs, the greater the intensity of the fire. If the ground fuel is minimised the intensity of the fire reduces considerably and so does the personal risk and the potential for damage.

2.6. If the ground fuels are kept relatively low the chances of a fire progressing into the treetops (crown fire) would be considerably reduced within the Queensland coastal bushlands.

3. Preparing for the bushfire season.

Most cases of damage to property are caused by radiated heat, direct flame contact or most commonly by burning debris or sparks landing in, on, or around buildings and starting small spot fires which if not attended to may destroy the property long after a fire front has passed. There are many steps that should be taken prior to the onset of a fire season to help protect your property.

3.1. Keep ground fuel cleared from around buildings such as long dry grass, branches, dead leaves, hanging bark and thick undergrowth.

3.2. Firebreaks checked and maintained, even a well-watered lawn can be an effective firebreak.

3.3. Flammable material around buildings should be kept well clear, such as firewood piles, plant pots, patio and garden furniture.

3.4. Making sure that rainwater gutters are kept clear of leaf litter build-up. Maybe a method of blocking off down pipes so gutters can be filled with water during a fire to extinguish sparks landing in gutters.

3.5. Make sure that the roofing is well secured, as winds created during a fire may lift roofing and allow the entry of burning embers into the roof space. Also clear any leaf litter or debris build-up from roof areas.

3.6. All windows and vents should be screened with fine wire mesh and all roof areas closed in to prevent entry by sparks.

3.7. Gas tanks are vented away from the house.

3.8. Make sure of reserve water supplies. Power frequently fails during a fire. If petrol or diesel pumps are available make sure they and associated hoses and fittings are in good working order.

4. Green Fire Breaks

Added protection from bushfire can be achieved by establishing green fire breaks which include green lawns, trees arranged to create a shield to catch sparks or fire brands or the expanding of rainforest species. Excess rainwater or tertiary treated waste water could be stored and used for this purpose during dry periods to maintain the green fire breaks. Trees and shrubs not subject to drought stress will cope better during bushfires. The higher the moisture content in the plant the slower it burns. Therefore by keeping the surrounding area green and low in dry ground fuel, the intensity of an approaching fire will be reduced and the risk of spot fires minimised.

5. Personal Protection

5.1. If you plan to evacuate, make sure you do so early, long before the fire front arrives. People remaining to fight the fire need to be physically and mentally fit to do so.

5.2. Those staying to protect the property should make sure they protect themselves from radiant heat, flying embers, smoke and most importantly heat stress. Protection measures should include the following:

- Long trousers and long sleeve shirt made of wool or cotton (no synthetics)
- Woollen socks and good leather boots for foot protection
- Goggles for eye protection
- A good pair of gloves to protect hands
- A handkerchief to tie over nose and mouth
- A wet towel can also be helpful hung around the back of the neck, this will lower the risk of heat stress.
- Have plenty of drinking water available to protect against dehydration (not refrigerated as this can cause cramping).

5.3. During the fire

When a fire is approaching and given that you have already carried out your pre-fire precautions, and established the degree of risk to your property, protection from the actual fire should be relatively straightforward.

5.3.1. Dress in the appropriate clothing and be sure to drink water regularly

5.3.2. Fill up bathtubs, sinks, buckets, laundry tubs etc. in case of blackouts.

5.3.3. Close doors, windows and curtains.

5.3.4. Close gaps under doors and windows with wet towels.

5.3.5. Block up down pipes, wet down roof, walls and gardens, paying particular attention to the side the fire is approaching from.

5.3.6. Have a battery-powered radio on hand to listen for information about the fires progress from local radio stations.

5.3.7. Patrol your property while the fire is approaching and for many hours after it has passed, to ensure that any spot fires or smouldering debris does not get a chance to develop into a major fire, paying particular attention to the roof cavity of your buildings. Smouldering embers have been known to start fires hours or even days after the original event.

6. Want to know more?

The local fire brigade is a good source of local district knowledge, they also have pamphlets and literature produced by the Queensland Fire and Rescue Service available. Most brigades will also be happy to advise local residents.

APPENDIX 4A

Recommendations for a long driveway

Long and/or steep driveways can pose a number of problems in relation to access for fire services or the evacuation of residents when a bushfire threatens. Steep sites can be difficult for large fully loaded tankers to negotiate in a timely manner during an emergency, which may occur at any time of the day or night. Therefore some consideration to the requirements of emergency services needs to be implemented during the planning and construction stages of long, winding or steep driveways.

- 1.1. Driveways should preferably be constructed to a minimum of 4 meters wide, be able to be negotiated by up to a 20 ton, 2 wheel drive vehicle, with relatively low ground clearance.
- 1.2. To assist access for urban fire appliances in the event of a structural fire, gradients should be no greater than 1 in 8, 12.5%, which may increase to 1 in 5 20% over a maximum distance of 50m at a time. The driveway should have a maximum cross slope of 3%. Where a driveway gradient exceeds 1 in 5 (20%), a bitumen or concrete surface should be used. These are Queensland Fire and Rescue Service, Southeast Region guidelines only, and Queensland Streets is the official criteria.
- 1.3. A clearance height from overhanging trees or other obstacles should be at least 4 meters.
- 1.4. The ground fuel should be kept to a minimum along each side of the driveway in particular on the down slope side, to minimise the risks posed to services trying to access your property during an emergency situation. Ideally ground fuel should be reduced for a minimum of 3 metres to the down slope side of the driveway and 2 metres to the upslope side. This fuel reduction zone should be maintained within the property boundary.
- 1.5. If the driveway is especially long, clear areas for passing should be established at a maximum of 200 metre intervals and at the top and bottom of any steep slopes.
- 1.6. Turning areas should be established at the residence. A minimum turning circle should have a 20 metre diameter or equivalent Y, T or hammerhead area for the steeper or restricted sites where a turning circle is not possible.
- 1.7. Good access and safety areas around buildings should be established, for use in the event of driveway access and egress being denied during a fire event.
- 1.8. Driveways of a long nature should also be well identified and kept in good condition, as time saved in an emergency may save lives.
- 1.9. Where emergency water supplies are located on a property, uninterrupted access should be maintained at all times and be clearly marked for quick identification by fire services in times of emergency.
- 1.10. Care should be exercised in the construction of driveways to prevent erosion as this may restrict the movement of heavy vehicles.

APPENDIX 4B

Recommendations for Fire Trails

Fire trails can be a very effective tool in the management of bushland, for weed control, hazard reduction requirements, prescribed burns and fire suppression activities. A good well maintained trail network can effectively enhance and maintain desired ecosystems, while providing added safety for the protection of life and property. The following is some ways in which fire trails can be constructed and maintained to improve their viability.

1. Fire trails should preferably be constructed to a minimum width of 4 metres, be able to be negotiated by light and medium 4 wheel drive fire appliances.
2. They should preferably have a maximum gradient of 25%, a maximum cross slope of 5%, avoid large cut and fill and avoid sharp corners.
3. Fire trails up to 25% can be of compacted earth surface designed with water shedding devices, such as pipes under trail, woa boys or change of gradients, to prevent washouts or gouging of slopes. It would also be advantageous in some cases if grass coverage can be established, which with periodic slashing or mowing will assist in preventing washouts.
4. Fire trails should have access at each end and multiple access/egress points where possible.
5. Fire trails are to have passing and turn around areas at maximum intervals of 400 metres.
6. Periodic management of ground fuel levels along the edges of fire trails should be implemented to at least one metre each side to improve accessibility during a fire event.
7. Trees alongside fire trails should have low branches removed to a height of 2 metres to assist in preventing fire from climbing into treetops. Branches overhanging fire trails should be removed to a minimum height of 4 metres to ensure access by fire vehicles.
8. Fire trails should be inspected each year prior to fire season, to ensure their condition and carry out remedial work if required.
9. Dead or dying trees that are close to fire trails and may pose a risk to fire services should be removed.
10. Fire trails should not be seen as fire breaks. They are an aid in the management of fuel levels and fire suppression activities.
11. Fire trails should be identifiable to land managers and fire services by signage and map records. Where a fire trail network exists, intersections should also be identifiable.

APPENDIX 5

Individual Lot Assessment

Lot No.	PBH Rating	AS3959-2009 Required Y/N
1	Medium PBH	YES
2	Medium PBH	YES
3	Medium PBH	YES
4	Medium PBH	YES
5	Medium PBH	YES
6	Medium PBH	YES
7	Medium PBH	YES
8	Medium PBH	YES
9	Medium PBH	YES
10	Medium PBH	YES
11	Medium PBH	YES
12	Medium PBH	YES
13	Medium PBH	YES
14	Medium PBH	YES
15	Medium PBH	YES
16	Medium PBH	YES
17	Medium PBH	YES
18	Medium PBH	YES
19	Low PBH	NO
20	Medium PBH	YES
21	Medium PBH	YES
22	Medium PBH	YES
23	Medium PBH	YES
24	Medium PBH	YES
25	Medium PBH	YES
26	Medium PBH	YES
27	Medium PBH	YES
28	Low PBH	NO
29	Medium PBH	YES
30	Medium PBH	YES
31	Medium PBH	YES
32	Low PBH	NO
33	Medium PBH	YES
34	Low PBH	NO
35	Low PBH	NO
36	Low PBH	NO
37	Medium PBH	YES
38	Medium PBH	YES
39	Medium PBH	YES
40	Medium PBH	YES
41	Medium PBH	YES
42	Medium PBH	YES
43	Medium PBH	YES
44	Low PBH	NO
45	Low PBH	NO

Lot No.	PBH Rating	AS3959-2009 Required Y/N
46	Medium PBH	YES
47	Medium PBH	YES
48	Medium PBH	YES
49	Medium PBH	YES
50	Medium PBH	YES
51	Medium PBH	YES
52	Medium PBH	YES
53	Medium PBH	YES
54	Medium PBH	YES
55	Medium PBH	YES
56	Medium PBH	YES
57	Medium PBH	YES
58	Low PBH	NO
59	Low PBH	NO
60	Low PBH	NO
61	Low PBH	NO
62	Low PBH	NO
63	Low PBH	NO
64	Medium PBH	YES
65	Medium PBH	YES
66	Low PBH	NO
67	Low PBH	NO
68	Low PBH	NO
69	Low PBH	NO
70	Medium PBH	YES
71	Medium PBH	YES
72	Medium PBH	YES
73	Medium PBH	YES
74	Medium PBH	YES
75	Medium PBH	YES
76	Medium PBH	YES
77	Medium PBH	YES
78	Medium PBH	YES
79	Medium PBH	YES
80	Medium PBH	YES
81	Medium PBH	YES
82	Medium PBH	YES
83	Medium PBH	YES
84	Medium PBH	YES
85	Medium PBH	YES
86	Medium PBH	YES
87	Medium PBH	YES
88	Medium PBH	YES
89	Medium PBH	YES
90	Medium PBH	YES

Lot No.	PBH Rating	AS3959-2009 Required Y/N
91	Medium PBH	YES
92	Medium PBH	YES
93	Medium PBH	YES
94	Medium PBH	YES
95	Medium PBH	YES
96	Low PBH	NO
97	Low PBH	NO
98	Low PBH	NO
99	Low PBH	NO
100	Low PBH	NO
101	Low PBH	NO
102	Low PBH	NO
103	Low PBH	NO
104	Low PBH	NO
105	Low PBH	NO
106	Medium PBH	YES
107	Medium PBH	YES
108	Medium PBH	YES
109	Medium PBH	YES
110	Low PBH	NO
111	Low PBH	NO
112	Low PBH	NO
113	Low PBH	NO
114	Low PBH	NO
115	Low PBH	NO
116	Medium PBH	YES
117	Medium PBH	YES
118	Medium PBH	YES
119	Medium PBH	YES

Lot No.	PBH Rating	AS3959-2009 Required Y/N
120	Low PBH	NO
121	Low PBH	NO
122	Low PBH	NO
123	Low PBH	NO
124	Low PBH	NO
125	Low PBH	NO
126	Low PBH	NO
127	Low PBH	NO
128	Low PBH	NO
129	Medium PBH	YES
130	Medium PBH	YES
131	Low PBH	NO
132	Medium PBH	YES
133	Medium PBH	YES
134	Medium PBH	YES
135	Medium PBH	YES
136	Medium PBH	YES
137	Medium PBH	YES
138	Medium PBH	YES
139	Medium PBH	YES
140	Medium PBH	YES
141	Medium PBH	YES
142	Medium PBH	YES
143	Medium PBH	YES

For allotments requiring assessment under AS3959-2009, please refer to section 5 of this report.



**Bushland Protection
Systems Pty Ltd**
Specialising in
**BUSHFIRE HAZARD
PLANNING & MITIGATION**

ACN 109 667 101 ABN 97 782 336 595 Phone: 07 5546 7933 Fax: 07 5546 7988 PO Box 40, Ormeau, Qld, 4208
E-mail: admin@bpsfire.com.au

Fire is a part of nature. Its effects can be catastrophic and fire can never be totally eliminated, however there are steps that can be taken to reduce the chances of uncontrolled fires occurring and the risk to life, property and the environment, in the event of uncontrolled fires. This is what we concentrate on, how the threats from bushfire can be minimised. There are many methods to do so, however deciding which method/s is best to use can be a complex decision to make. There are so many factors to consider such as ecological values, biodiversity, fire history, availability of resources, cost effectiveness and public awareness just to name a few. No guarantees can ever be given when dealing with Mother Nature, with ever increasing complexities it has now become a specialist field to be able to create plans to try and minimise the risk from bushfire. Ultimately it is a community responsibility to protect the environmental values, life and property in their area

COMPANY PROFILE

Bushland Protection Systems Pty Ltd (BPS) is a leading Bushfire Management Consultancy firm in Queensland, with many clients, ranging from private landowners to multi-national companies and government bodies.

BPS consultants began operating as Bushfire Management Consultants with the introduction of the Gold Coast Bushfire Management Strategy in 1998 and spread their operations across the state with the implementation in 2003 of the State Planning Policy for mitigating the adverse impacts of flood, bushfire and landslide.

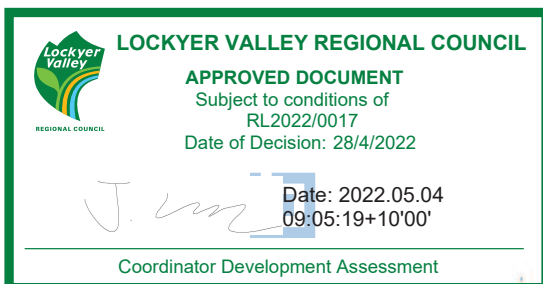
During that time over 1900 projects have been successfully completed, including large residential estates such as Coomera Waters, Spring Mountain, Pacific Pines, Coomera Springs, Highland Reserve & Delfin Woodlands as well as commercial or Government project sites such as Paradise Country, Wacol Police Academy, Numinbah Correctional Facility, Silkwood Steiner School, Canon Hill Community Links Project & Griffith University. Clyde Bain, the Principal Consultant, is also one of the two most highly sought after expert witnesses for Land and Environment Court Appeals, in Queensland, having worked as the Bushfire Expert for several Regional and City Councils throughout the state on a number of various projects before the Land and Environment Court.

With a strong background in bush fire fighting and involvement with numerous industry bodies, Bushland Protection Systems continues to deliver realistic and cost effective advice, solutions to provide higher levels of safety for the community, improve wildfire suppression and mitigation options for emergency services and land managers, while maintaining and improving environmental values for the future. All our Consultants are members of the Rural Fire Association of Queensland.

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 Originating Office: Brisbane Cathedral Village 20/115 Wickham Street PO Box 694 Fortitude Valley Q4006 Telephone 07 3852 3999 Facsimile 07 3852 3933 gsbne@groupgs.com Also at Kawana and Robina
Title:	Stormwater Management Plan 63 Redbank Creek Road Adare, Queensland	
Project Manager:	Chris Anderson	
Author:	Kate Smith	
Client:	Wallangarra Pastoral Company	
Client Contact:	C/- Kris Krpan, Urbis Pty Ltd	
Client Reference:		
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

Distribution	Revision Number									
	1	2	3	4	5	6	7	8	9	10
Wallangarra Pastoral Company c/- Urbis Pty Ltd	5									
G&S Library and File	2									

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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.

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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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> 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 <i>Best Practice Erosion & Sediment Control Guidelines</i>, 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.

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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	<p>All controlled discharges of water from the site during the construction phase should comply with the following criteria:</p> <table border="1"> <thead> <tr> <th>Water Quality Parameter</th> <th>Release Criteria</th> <th>Criteria Type</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>6.5 – 9.0</td> <td>Range</td> </tr> <tr> <td>Dissolved oxygen</td> <td>>6.0mg/L</td> <td>Minimum</td> </tr> <tr> <td>Turbidity</td> <td><50NTU</td> <td>Maximum</td> </tr> <tr> <td>Suspended Solids</td> <td><50mg/L</td> <td>Maximum</td> </tr> </tbody> </table>	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
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	<ul style="list-style-type: none"> 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	<p>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.</p> <p>Samples collected for suspended solids analysis should be analysed at a NATA registered laboratory.</p>															
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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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/100m³). 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	<ul style="list-style-type: none"> • 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.

V\0112-1_SWMP_RKS1F.doc

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	<p>The median of all discharges from the permanent treatment measures (local bioretention basins) must comply with the following water quality objectives.</p> <table border="1"> <thead> <tr> <th>Water Quality Parameter</th> <th>Water Quality Objective</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>6.5 to 9.0</td> </tr> <tr> <td>Dissolved oxygen</td> <td>>6.0mg/L</td> </tr> <tr> <td>Total phosphorous</td> <td><1.0mg/L</td> </tr> <tr> <td>Total nitrogen</td> <td><0.75mg/L</td> </tr> <tr> <td>Suspended solids</td> <td><50mg/L</td> </tr> <tr> <td>Litter and gross pollutants</td> <td>No anthropogenic (man-made) material >5mm in any dimension</td> </tr> <tr> <td>Oil and grease</td> <td>No visible films or odour</td> </tr> </tbody> </table>	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
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																
Implementation strategy	Routine surface water quality monitoring to be undertaken.																
Monitoring	<ul style="list-style-type: none"> • 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 <i>Australian Guidelines for Water Quality Monitoring and Reporting – Summary, October 2000</i> (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	<ul style="list-style-type: none"> • Exceedence of the water quality objectives. • Failure to implement the recommendations given to improve water quality. 																
Corrective action	<ul style="list-style-type: none"> • Improve/maintain permanent and temporary erosion and sediment controls. • Install additional control methods. • Implement recommendations given in water quality reports. 																

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

VJ0112-1_SWMP_RKSTIF.doc

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	<ul style="list-style-type: none"> • 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	<p>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.</p> <p>Water quality monitoring to be conducted in accordance with Table 3.3.</p> <p>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.</p>
Auditing	Management to carry out quarterly inspections to verify that the control measures are properly maintained.
Reporting of monitoring results	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Blockage of stormwater system. • Re-entrainment of trapped sediments. • Deterioration of water quality within or downstream of control structure. • Death of vegetation.
Corrective action	<p>Clean or maintain stormwater control structure as appropriate.</p> <p>Take necessary steps to address the problem to prevent a recurrence.</p>

Commitment 9

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

VJ0112-1_SWMP_RKS1F.doc

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	<ul style="list-style-type: none"> • 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	<p>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.</p> <p>Water quality monitoring to be conducted in accordance with Table 3.3.</p> <p>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.</p>
Auditing	Management to carry out quarterly inspections to verify that the control measures are properly maintained.
Reporting of monitoring results	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.

V\10112-1_SWMP_RKSTF.doc

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	<ul style="list-style-type: none"> • 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	<p>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.</p> <p>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.</p>
Auditing	Management to carry out quarterly inspections to verify that the control measures are properly maintained.
Reporting of monitoring results	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.

V10112-1_SWMP_RKS1F.doc

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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.

V:\0112-1_SWMP_RKSTF.doc

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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Blockage of stormwater system. • Re-entrainment of trapped sediments. • Deterioration of water quality within or downstream of control structure. • Death of vegetation.
Corrective action	<p>Clean or maintain stormwater control structure as appropriate.</p> <p>Take necessary steps to address the problem to prevent a recurrence.</p>

VJ0112-1_SWMP_RK51F.doc

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	<ul style="list-style-type: none"> • 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.

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 2,800m² 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 m² 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 bioretention 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



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

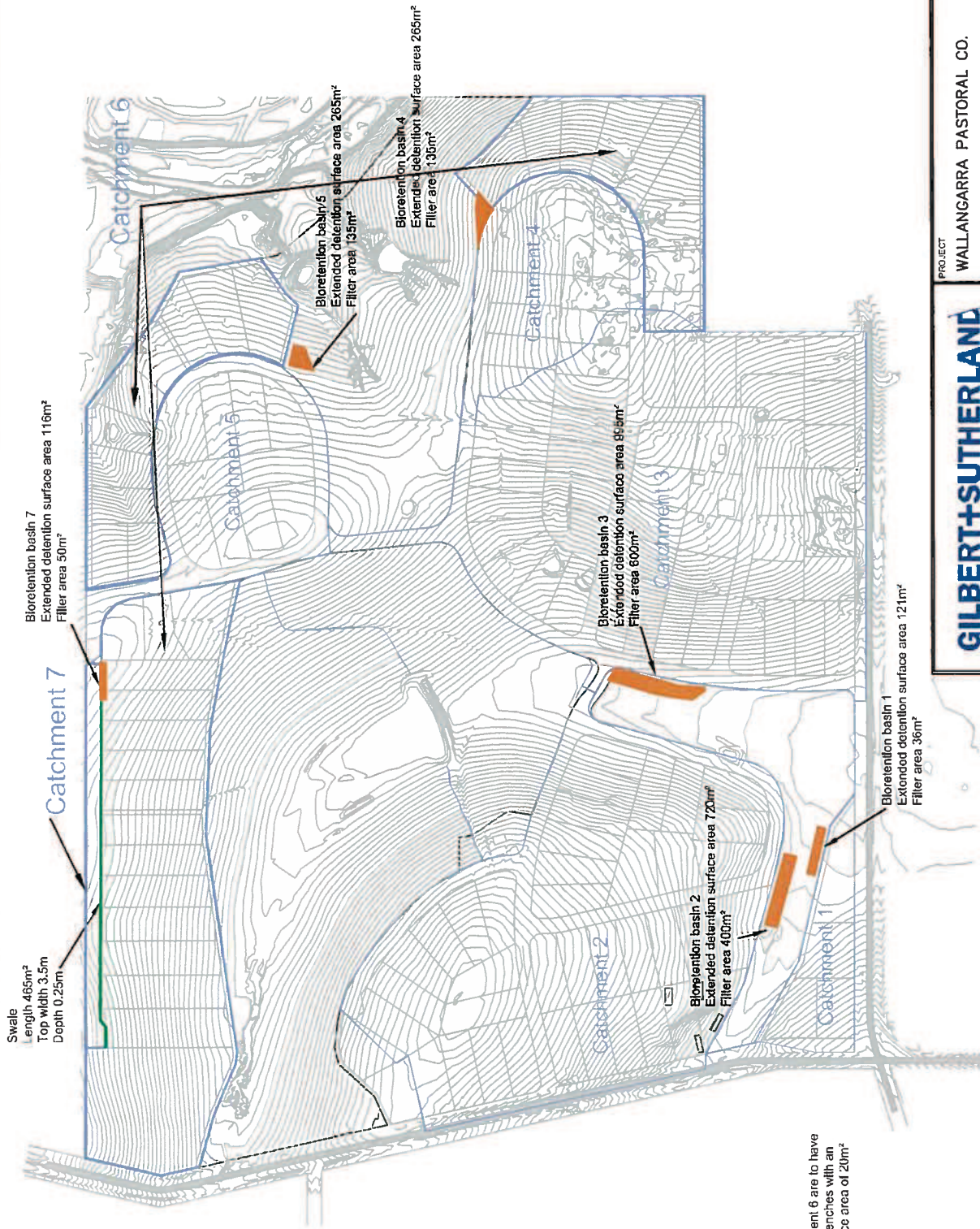
LEGEND	
●	Derived Reference Points for GPS
□	Subject Lot(s)
▨	Area A1 & A2 - specific conditions apply - see Referral Agency Response 2006/012107 for details
▩	Area B1, B2, B3, B4, & B5 - specific conditions apply - see Referral Agency Response 2006/012107 for details
▧	Area C1, C2, C3, C4 & C5 - specific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

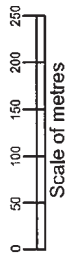



Queensland Government

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



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

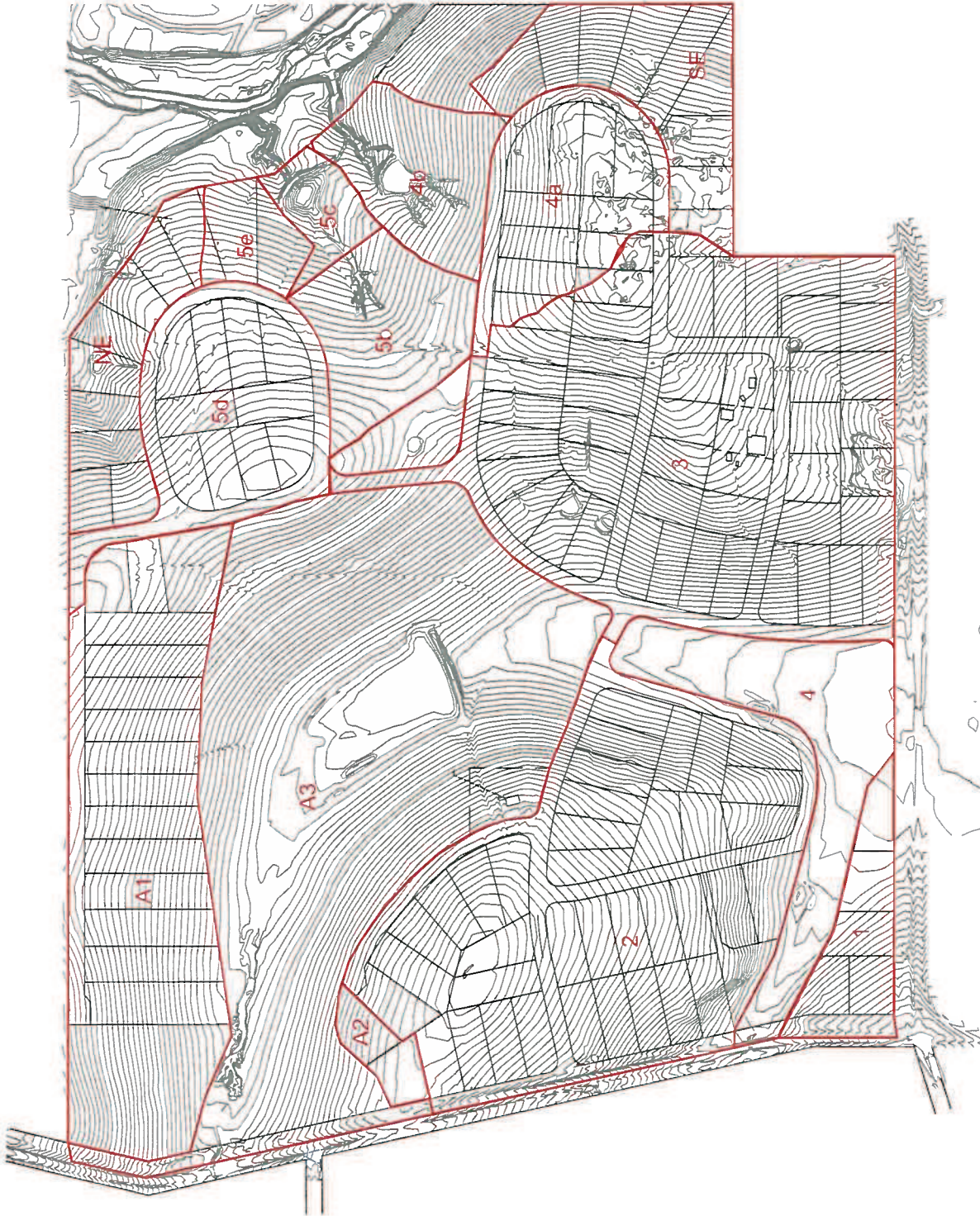
FIGURED DIMENSIONS TO
 FACE UNLESS SPECIFIED
 TO SCALING.

APPROVED

SCALE AS SHOWN
 DATE 28/01/10

DRAWING No.
 VJ0112.1.4

Base plan provided by Unis and Yumth



ORIENTATION
N

SCALE
1:100

ROBINA
P.O. Box 4115 Robina QLD 4220
Email: robina@access.gp

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
1:5 000 @ A3

DATE
04/10/2012

DRAWN
BMS

CHECKED
RHS

PROJECT NO
10390

DRAWING NO
8601

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)



PROJECT NO: BA2155
DATE: 23.10.12
DRAWING NO: PFD2
REV: A

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Scale: 1:500 @ A3
0 50 100 250m

WALLANGARRA
PROPOSED INFRASTRUCTURE PLAN WITH PREVIOUS DETENTION BASIN DETAIL

Bidders:
Level 7, 123 Albert Street
Brisbane QLD 4000
Urban Pty Ltd ABN 59 06 266 228



6 November 2013

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

Attention: Danyelle Kelson – Special Counsel

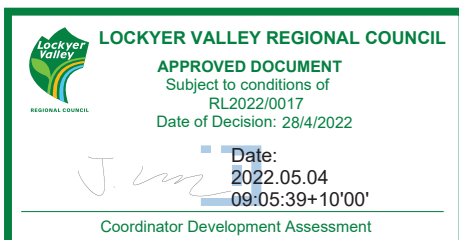
Dear Danyelle,

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



Brisbane Sydney Melbourne and regions

20/115 Wickham Street Fortitude Valley Brisbane QLD 4006 | GPO Box 9856, Brisbane QLD 4001
Phone 07 3852 3999 | Email brisbane@access.gs | www.access.gs

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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 proviso 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 from 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



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.



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

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

8 January 2014

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:	<i>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.</i>
Jurisdiction:	<i>Integrated Planning Regulation 1998 - Schedule 2, table 2, item 4.</i>

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.

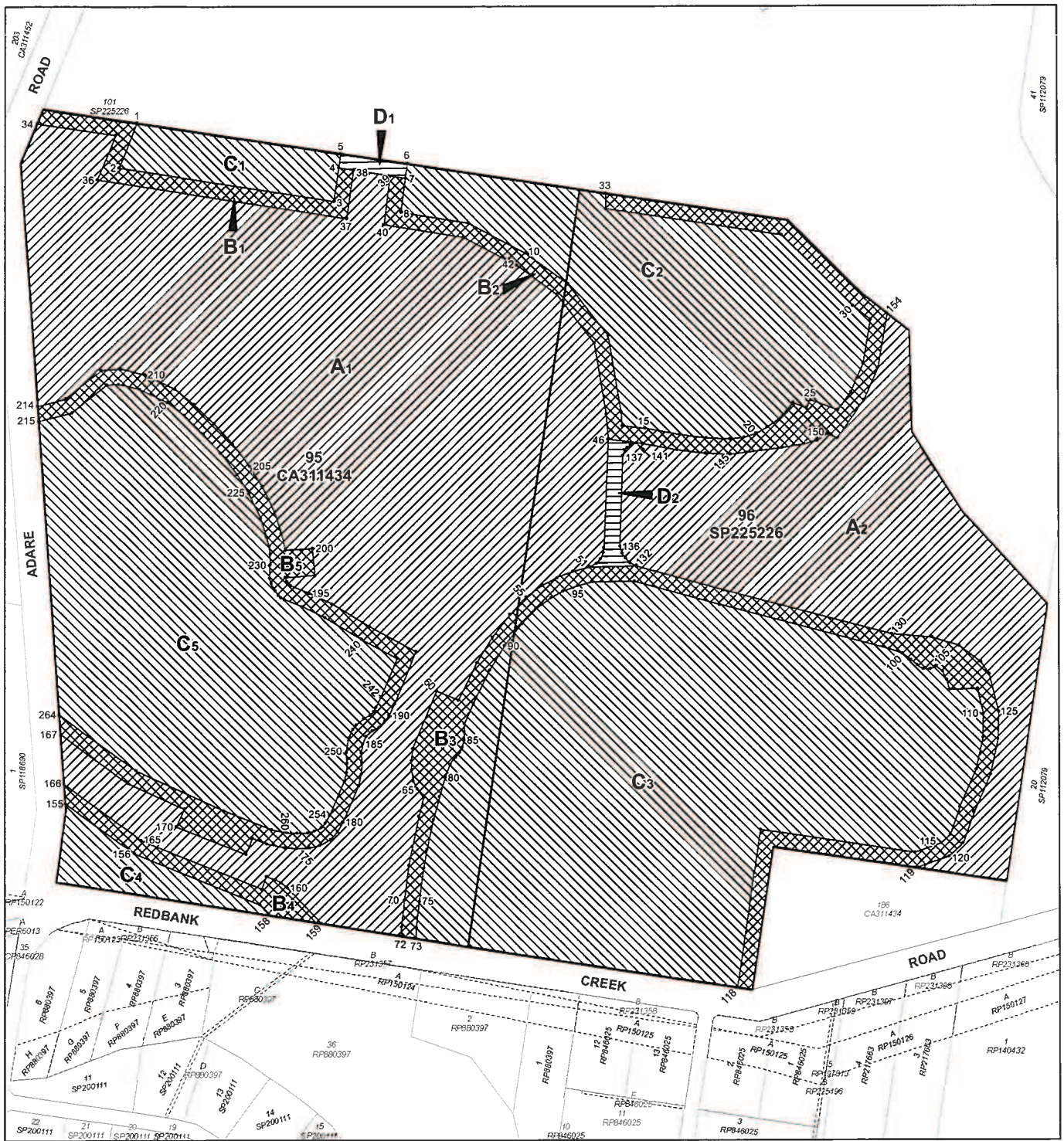
END OF CONDITIONS

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. IC11061PS0007		 Amended RARP 2006/012107/2 Sheet 1 of 2
CENTRE: GYMPIE LOCALITY OF ADARE Map Reference: 9342 File Reference: 2006/012107	REGION: SOUTH EAST LOCAL GOVT: LOCKYER VALLEY Compiled from: DCDB, PVMP & VMO Notes Prepared by: LMO Date: 20 September 2013	

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	Point	Easting	Northing	Parcel	Point	Easting	Northing	Parcel	Point	Easting	Northing	Parcel
1	429519	6955135	C1	71	429870	6954068	A1	141	430184	6954711	A2	211	429497	6954809	A1
2	429496	6955076	C1	72	429870	6954056	A1	142	430192	6954710	A2	212	429473	6954807	A1
3	429781	6955031	C1	73	429890	6954053	C3	143	430238	6954701	A2	213	429426	6954769	A1
4	429788	6955077	C1	74	429890	6954066	C3	144	430275	6954697	A2	214	429389	6954759	A1
5	429791	6955094	C1	75	429893	6954101	C3	145	430309	6954695	A2	215	429391	6954740	C5
6	429879	6955081	C2	76	429899	6954146	C3	146	430331	6954698	A2	216	429435	6954751	C5
7	429876	6955062	C2	77	429904	6954170	C3	147	430377	6954704	A2	217	429480	6954788	C5
8	429870	6955017	C2	78	429912	6954210	C3	148	430406	6954709	A2	218	429495	6954789	C5
9	429961	6955003	C2	79	429921	6954241	C3	149	430425	6954713	A2	219	429523	6954783	C5
10	430037	6954963	C2	80	429928	6954266	C3	150	430438	6954722	A2	220	429560	6954765	C5
11	430092	6954922	C2	81	429935	6954283	C3	151	430452	6954716	A2	221	429582	6954747	C5
12	430146	6954853	C2	82	429942	6954293	C3	152	430487	6954768	A2	222	429608	6954722	C5
13	430164	6954752	C2	83	429947	6954299	C3	153	430505	6954809	A2	223	429632	6954697	C5
14	430165	6954733	C2	84	429951	6954306	C3	154	430517	6954882	A2	224	429653	6954668	C5
15	430195	6954730	C2	85	429954	6954316	C3	155	429426	6954232	C4	225	429669	6954644	C5
16	430241	6954721	C2	86	429954	6954327	C3	156	429515	6954165	C4	226	429684	6954612	C5
17	430277	6954717	C2	87	429954	6954338	C3	157	429683	6954097	C4	227	429692	6954585	C5
18	430308	6954715	C2	88	429966	6954365	C3	158	429695	6954063	C4	228	429695	6954573	C5
19	430327	6954717	C2	89	429988	6954409	C3	159	429784	6954072	A1	229	429697	6954563	C5
20	430344	6954723	C2	90	430008	6954441	C3	160	429719	6954119	A1	230	429697	6954549	C5
21	430358	6954731	C2	91	430030	6954470	C3	161	429710	6954126	A1	231	429696	6954532	C5
22	430379	6954747	C2	92	430050	6954490	C3	162	429703	6954130	A1	232	429698	6954524	C5
23	430392	6954763	C2	93	430070	6954505	C3	163	429692	6954135	A1	233	429700	6954519	C5
24	430410	6954756	C2	94	430086	6954513	C3	164	429685	6954118	A1	234	429703	6954514	C5
25	430416	6954766	C2	95	430105	6954521	C3	165	429525	6954183	A1	235	429707	6954509	C5
26	430452	6954753	C2	96	430125	6954526	C3	166	429424	6954258	A1	236	429711	6954505	C5
27	430469	6954777	C2	97	430181	6954527	C3	167	429420	6954323	A1	237	429715	6954503	C5
28	430486	6954815	C2	98	430294	6954495	C3	168	429507	6954258	A1	238	429740	6954493	C5
29	430496	6954873	C2	99	430519	6954436	C3	169	429582	6954224	A1	239	429769	6954479	C5
30	430472	6954892	C2	100	430536	6954430	C3	170	429572	6954201	A1	240	429817	6954450	C5
31	430377	6954986	C2	101	430548	6954422	C3	171	429685	6954164	A1	241	429864	6954424	C5
32	430144	6955021	C2	102	430557	6954414	C3	172	429673	6954185	A1	242	429843	6954372	C5
33	430144	6955042	C2	103	430565	6954410	C3	173	429693	6954178	A1	243	429836	6954359	C5
34	429388	6955134	A1	104	430574	6954409	C3	174	429715	6954173	A1	244	429833	6954354	C5
35	429492	6955119	A1	105	430582	6954413	C3	175	429731	6954172	A1	245	429828	6954349	C5
36	429468	6955060	A1	106	430590	6954406	C3	176	429748	6954172	A1	246	429820	6954344	C5
37	429798	6955009	A1	107	430596	6954395	C3	177	429762	6954176	A1	247	429810	6954336	C5
38	429807	6955073	A1	108	430600	6954382	C3	178	429776	6954184	A1	248	429805	6954330	C5
39	429856	6955065	A1	109	430636	6954383	C3	179	429785	6954194	A1	249	429800	6954319	C5
40	429848	6955001	A1	110	430644	6954350	C3	180	429793	6954207	A1	250	429797	6954300	C5
41	429954	6954984	A1	111	430644	6954318	C3	181	429814	6954255	A1	251	429796	6954285	C5
42	430026	6954946	A1	112	430634	6954275	C3	182	429817	6954270	A1	252	429797	6954273	C5
43	430078	6954908	A1	113	430613	6954226	C3	183	429818	6954285	A1	253	429795	6954262	C5
44	430128	6954844	A1	114	430600	6954189	C3	184	429817	6954299	A1	254	429775	6954216	C5
45	430144	6954749	A1	115	430588	6954178	C3	185	429818	6954310	A1	255	429769	6954206	C5
46	430146	6954715	A1	116	430553	6954165	C3	186	429823	6954321	A1	256	429764	6954200	C5
47	430140	6954571	A1	117	430348	6954196	C3	187	429831	6954328	A1	257	429754	6954195	C5
48	430140	6954564	A1	118	430316	6953986	C3	188	429840	6954333	A1	258	429745	6954192	C5
49	430136	6954556	A1	119	430555	6954145	A2	189	429848	6954341	A1	259	429731	6954192	C5
50	430130	6954551	A1	120	430598	6954160	A2	190	429854	6954349	A1	260	429718	6954193	C5
51	430122	6954546	A1	121	430617	6954178	A2	191	429861	6954364	A1	261	429698	6954197	C5
52	430099	6954540	A1	122	430631	6954218	A2	192	429890	6954434	A1	262	429635	6954222	C5
53	430078	6954531	A1	123	430654	6954269	A2	193	429828	6954467	A1	263	429518	6954276	C5
54	430059	6954522	A1	124	430664	6954316	A2	194	429778	6954497	A1	264	429418	6954350	C5
55	430037	6954506	A1	125	430664	6954352	A2	195	429748	6954511	A1				
56	430015	6954483	A1	126	430652	6954403	A2	196	429723	6954521	A1				
57	429992	6954453	A1	127	430641	6954419	A2	197	429719	6954526	A1				
58	429970	6954419	A1	128	430612	6954440	A2	198	429716	6954532	A1				
59	429946	6954369	A1	129	430577	6954451	A2	199	429756	6954535	A1				
60	429917	6954381	A1	130	430523	6954456	A2	200	429753	6954571	A1				
61	429885	6954304	A1	131	430299	6954515	A2	201	429716	6954568	A1				
62	429884	6954289	A1	132	430183	6954547	A2	202	429711	6954591	A1				
63	429883	6954276	A1	133	430175	6954551	A2	203	429703	6954619	A1				
64	429886	6954261	A1	134	430169	6954557	A2	204	429686	6954653	A1				
65	429891	6954251	A1	135	430164	6954564	A2	205	429670	6954680	A1				
66	429900	6954239	A1	136	430161	6954573	A2	206	429647	6954710	A1				
67	429893	6954215	A1	137	430165	6954694	A2	207	429623	6954736	A1				
68	429885	6954174	A1	138	430168	6954701	A2	208	429595	6954762	A1				
69	429880	6954149	A1	139	430171	6954704	A2	209	429571	6954782	A1				
70	429874	6954103	A1	140	430176	6954708	A2	210	429530	6954801	A1				

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

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
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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:

Title Reference

- (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.

<input checked="" type="checkbox"/> Weeds Please identify (e.g. Camphor Laurel, Chinese Celtis)	<input checked="" type="checkbox"/> Vegetation management Please identify (e.g. clearing of vegetation)	<input checked="" type="checkbox"/> Land degradation Please identify (e.g. gully erosion)
<input checked="" type="checkbox"/> Fire Please identify (e.g. wildfire)	<input checked="" type="checkbox"/> Development Please identify (e.g. material change of use (rezoning), reconfiguring a lot (subdivision))	<input type="checkbox"/> Pest animals Please identify (e.g. goats, pigs, deer)
<input type="checkbox"/> Grazing Please identify (e.g. cattle, sheep)	<input type="checkbox"/> Restoration revegetation / Please identify (e.g. poor restoration)	<input type="checkbox"/> Drought Please identify (e.g. lack of permanent water)
<input type="checkbox"/> Disturbance damage / Please identify (e.g. activities affecting nests/burrows, or modification of banks of waterways/wetlands)	<input type="checkbox"/> Unauthorised access or use Please identify (unauthorised entry to management area)	<input type="checkbox"/> 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 entity/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.

- Lot on Plan property description and postal address.
- Photo monitoring if required.
- 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.
- Annexure A - Management Activities Schedule with the progress section completed.
- Other monitoring requirements to address management outcomes.
- 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.
- 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.
- 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.

- 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

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. Meets 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 remitted 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 meets and bounds of which shall be based on Tree Protection Zones (TPZ) 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 this plan of survey.



Asset Protection Zones: Areas which are subject to the 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 the 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 Area: Areas which contain 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.



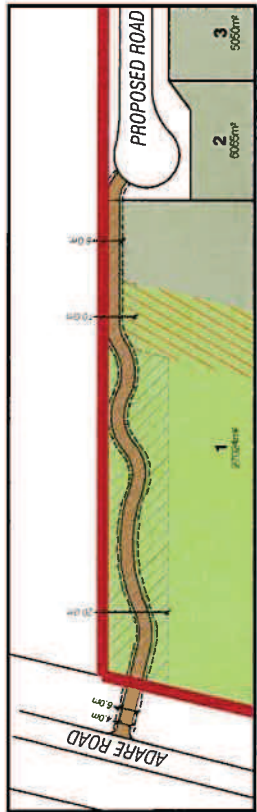
Buffer Conservation Area: Areas are intended to support the Core Conservation Area and include areas identified as General Use Zones.



General Use Zones: are located within the Buffer Conservation Areas and 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.



DETAIL OF EMERGENCY ACCESS
1:1,500 @ A3





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



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

A handwritten signature in black ink, appearing to read "Stephen Smaha".

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).

Transport and Main Roads

No. Conditions of Development	Jurisdiction and Reasons
<p>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.</p> <p>AND</p> <p>(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.</p>	<p>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.</p> <p>Comments or additional information: The Transport Planning and Coordination Regulation 2005 is available at: www.legislation.qld.gov.au</p>



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>

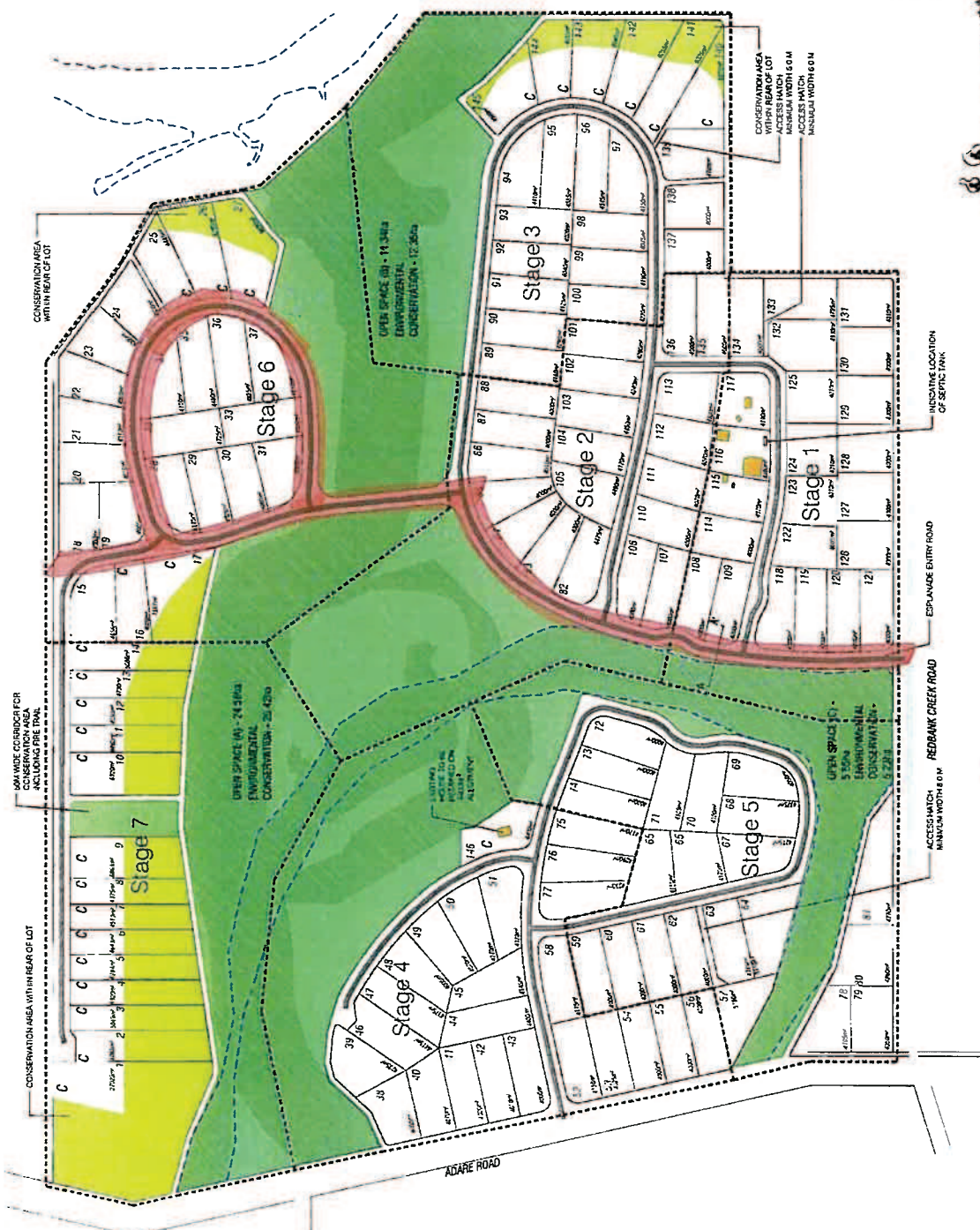
The *Transport Planning and Coordination Regulation 2005* is available at: www.legislation.qld.gov.au

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
- [-] 0100 FLOOD LINE
- [-] PUBLIC OPEN SPACE AREA ABOVE 0100 31.7 HA
- [-] DEVELOPABLE AREA ABOVE 0100 AND CORE CONSERVATION AREA 31.7 HA
- [-] PUBLIC OPEN SPACE/CONSERVATION (Comparing core conservation & buffer conservation)
- [-] BUFFER CONSERVATION AREA WITH PUBLIC OPEN SPACE
- [-] CORE CONSERVATION WITH PUBLIC OPEN SPACE
- [-] CONSERVATION LOTS/PRIVATE CONSERVATION AREA (NON DEVELOPABLE AREA)
- [-] BUFFER CONSERVATION AREA AREAS TO BE RETAINED
- [-] EXISTING BUILDINGS TO BE RETAINED PREFER TO SETBACK PLAN FOR SETBACK DIMENSIONS TO SIDE AND REAR PROPERTY BOUNDARIES
- [-] INDICATIVE BIoretention BASIN LOCATIONS
- [-] STAGING LINE

- [-] DEVELOPMENT STATISTICS
- [-] TOTAL NUMBERS OF LOTS 146
- [-] CONSERVATION LOTS (WH 4000P) 26 (BUILDING LOCATION ENVELOPE MIN 1000MM; 6M FRONT AND 1.5M SIDE SETBACK)
- [-] RURAL RESIDENTIAL LOTS (WH 4000P) 121 (BUILDING LOCATION ENVELOPE MIN 1000MM; 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 20
- [-] STAGE 2 20
- [-] STAGE 3 20
- [-] STAGE 4 24
- [-] STAGE 5 21
- [-] STAGE 6 23
- [-] STAGE 7 14
- [-] ACCESS HANDLE OF MATCH LOTS
- [-] LOT NUMBER 57 MIN 8.0 M
- [-] LOT NUMBER 133 MIN 6.0 M
- [-] LOT NUMBER 140 MIN 5.0 M



Potential Bus Route
 Modified by T.M.S. on 14/2/13
 J.H. Kass

63 REDBANK CREEK ROAD
 PUBLIC

PROPOSAL PLAN
 DATE: 15.12.2010

PROJECT NO: B00156
 DRAWING NO: 01

SCALE: 1:2500 @ A1, 1:5000 @ A3

DATE: 15.12.2010

PROJECT: WALLANGARRA PASTORAL COMPANY
 LOCATION: ADORE

SCALE: 1:2500 @ A1, 1:5000 @ A3

DATE: 15.12.2010

PROJECT: WALLANGARRA PASTORAL COMPANY
 LOCATION: ADORE



THE CITY OF ADORE
 100 WILSON ROAD
 ADORE VIC 3208
 PHONE: (03) 9422 2222
 FAX: (03) 9422 2223
 WWW.ADORE.VIC.GOV.AU



SECTION A-A'
 1:100

CONSERVATION AREAS WITH PUBLIC OPEN SPACE
 ACCESS HANDLE WITHIN 1000MM FROM MATCH LOTS
 ACCESS HANDLE WITHIN 1000MM FROM MATCH LOTS

INDICATIVE LOCATION OF SEPTIC TANK

ESPLANADE ENTRY ROAD

REDBANK CREEK ROAD

ADARE ROAD

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



PROJECT NO: BAK106
 DATE: 07/2013
 DRAWING NO: P001
 REV: E

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Scale 1:4,000 @ A3
 0 10 50 100 200m

WALLANGARRA
 SUBDIVISION PLAN

URBIS
 133 Abbot Street
 Brisbane QLD 4000
 137 2007 3800
 URBIS Pty Ltd ABN 51 110 256 224